DEPARTMENT OF AGROECOLOGY
AARHUS UNIVERSITY

Slutrapport over GEP forsøg 20426, 20427-1-2, 20428, 20430, 20431 og 20441

UKRUDTSBEKÆMPELSE I HAVEFRØ
- Herbicidafprøvning ved AU Flakkebjerg 2020

Andrius Hansen Kemezys
Peter Hartvig

Januar 2022

Rapport til Frøafgiftsfonden Danmark

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INDHOLD

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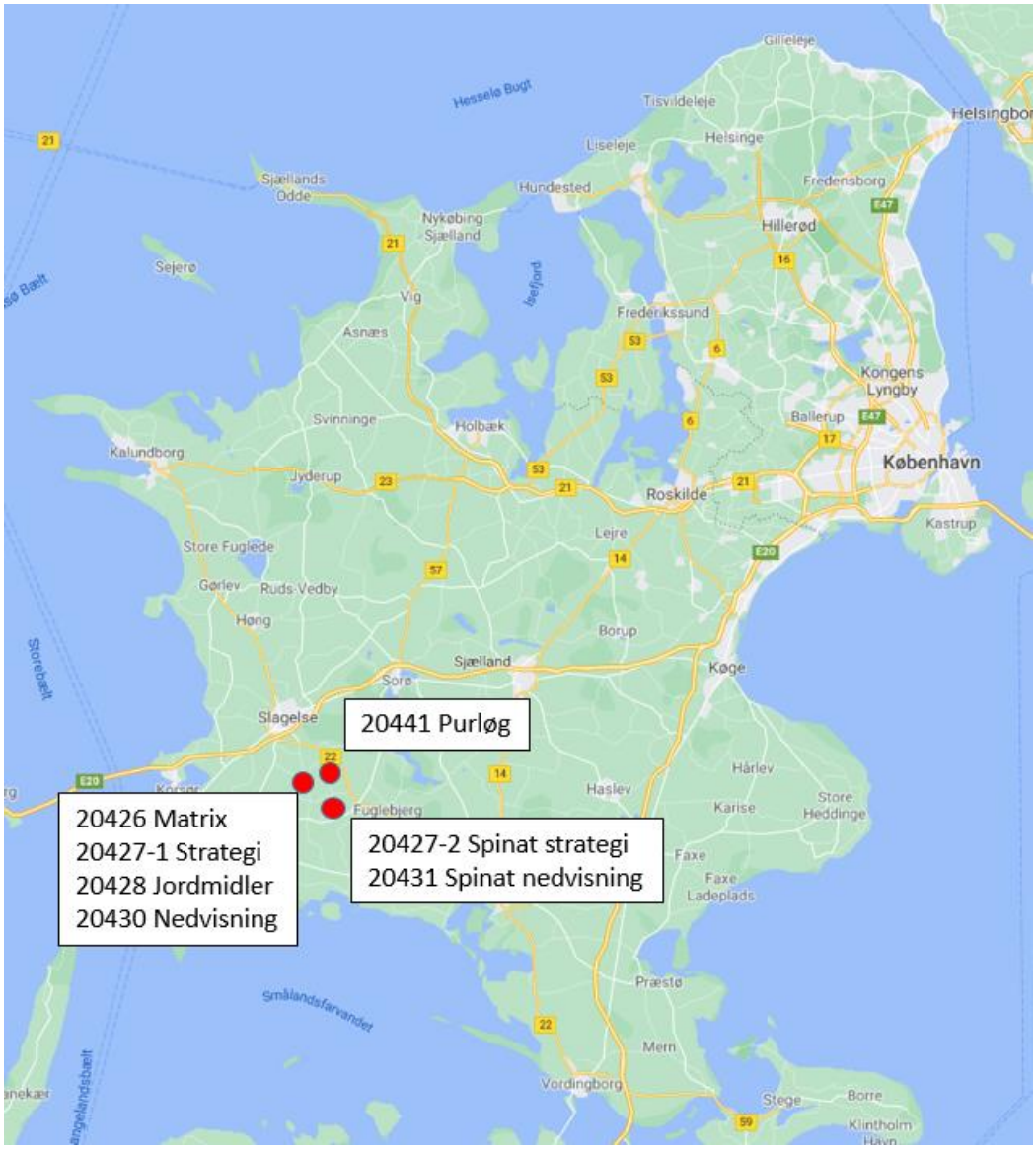
Titelblad

Titel:	Ukrudtsbekæmpelse i havefrø – herbicidafprøvning ved AU Flakkebjerg 2020
Forsøgs nr:	20426, 20427-1-2, 20428, 20430, 20431 og 20441
Antal sider:	100
Lokalitet:	20426, 20427-1, 20428 og 20430 hos AU Flakkebjerg 20427-2 og 20431 i Flakkebjerg 20441 i Vollerup



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Udført af:	Aarhus Universitet Department of Agroecology AU Flakkebjerg Forsøgsvej 1 DK-4200 Slagelse
Forsøgsperiode:	Marts 2020 – August 2020
Rapport forfatter:	Andrius Hansen Kemezys
Fagfællebedømmer:	Peter Hartvig
Forsøgsleder:	Peter Hartvig
Mark teknikere:	Anja Lunn og Andrius Hansen Kemezys
Laboratorie tekniker:	Lena Christensen
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Publicering:	Offentliggørelse er kun tilladt med kildeangivelse, og kun efter aftale med forfatteren
Rådata:	Kan rekvireres hos forfatteren

Det bekræftes hermed, at forsøg i denne forsøgsserie er gennemført i overensstemmelse med principperne for GEP:

31. Januar 2022 _____
Dato Peter Hartvig

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Samlet konklusion

Ukrudtsbekæmpelse i spinat til frø – strategiforsøg

Der blev i 2020 udført 2 markforsøg med strategier til ukrudtsbekæmpelse i spinat til frø.

Der blev generelt observeret meget god effekt overfor tokimbladet ukrudt i de testede strategier, og der var næsten ingen signifikante forskelle mellem de testede led. De testede strategier med bladsprøjtning af Proman og Pixxaro har bidraget til forholdsvis høje effekter overfor ager stedmoder og hvidmelet gåsefod, især når de blev udbragt forholdsvis sent og i højere doseringer. De testede strategier viste generelt forholdsvis lav effekt overfor spildraps.

Skadesbedømmelser viste, at især strategier med bladsprøjtninger af Pixxaro og Proman ved forholdsvis høje doseringer var medvirkende til forholdsvis store skader på spinat. De testede led 9-12, som var alle med forskellige kombinationer af Pixxaro og Proman, synes at være risikable.

Udbytteresultater i begge strategiforsøg viste ikke signifikant nedgang i udbytte af de testede herbicidstrategier på trods af de forholdsvis høje skader. Tilsvarende viste spiringsanalyser ikke signifikant forskel i spirehastighed eller spireevne mellem ubehandlet og de testede led.

Ukrudtsbekæmpelse i spinat til frø – matrix forsøg med Pixxaro

Forsøget blev anlagt som matrix forsøg, hvor spinat blev sået ved 3 forskellige tidspunkter. Desuden blev der sået ukrudt (raps og hvidmelet gåsefod) i et bed. Ved tidspunkt 2 blev der yderligere sået en ekstra bane med spinat (sort 2), som er kendt for følsomhed for at slå om (sex-reverse).

Generelt blev der observeret meget god effekt af Pixxaro overfor hvidmelet gåsefod, og meget lav eller ingen effekt overfor spildraps. Der blev observeret en tydelig dosis-respons af Pixxaro. Split sprøjtninger med Pixxaro synes at have øget effekten overfor hvidmelet gåsefod.

Tydelig dosis-respons på skade af spinat blev observeret. Generelt synes Pixxaro i samlet dosering til og med 0,125 l/ha kunne betragtes som acceptabel uanset om det er udbragt som solo sprøjtning eller som split sprøjtning. Ved bedømmelse 8 dage efter A sprøjtning og 6 dage efter B sprøjtning synes spinaten at være skadet på samme niveau uanset hvilke udviklingsstadie de var ved sprøjtningen. Ved bedømmelse 8 dage efter C sprøjtning blev det tydeligt, at de spinat, som var sået ved tidspunkt 1 (som var de største på sprøjtetidspunktet) synes at kunne komme sig hurtigere end dem, der var sået på et senere tidspunkt.Dette indikerer, at anvendelsen af Pixxaro i små spinat giver større risiko for skader. Split sprøjtninger synes at skade spinat på samme niveau som solo sprøjtninger med samme mængde Pixxaro. Der blev også observeret, at sort 2 er meget mere følsom overfor Pixxaro end sort 1, selv om begge sorter blev sået på samme tidspunkt.

Bedømmelse for VIGOR (vitalitet/kvalitet) den 29. juni viste, at alle led med sort 1 ikke var signifikant forskelligt fra ubehandlet uanset dosering eller tidspunkt for behandling med Pixxaro. Sort 2 var dog meget mere følsom især ved doseringer af 0,125 og 0,25 l/ha, som blev sprøjtet på små spinat (BBCH 12 ved sprøjtetidspunkt A). Spinaten synes at være meget påvirket og var næsten ikke i stand til at sætte frø. Samme dosering af Pixxaro ved B sprøjtning (BBCH 14 af spinat) synes ikke at kunne skade spinat sort 2 i samme omfang. Ved sammenligning af led 20 og led 32 kunne man se, at spinaten i denne følsomme sort var i stand til at kunne tåle 0,125 l/ha Pixxaro sprøjtet på spinat, som var i BBCH 14, mens samme dosering, som blev sprøjtet på spinat i BBCH 12 har forårsaget meget store skader. Der kan anses, at spinatens udviklingsstadiet på sprøjtetidspunkt er meget vigtig for dens tålsomhed, og den følsomme sort bør derfor ikke sprøjtes før BBCH 14.

Ved blomstring blev spinat sort 2observeret for eventuelle sex-reverse ved ugentlige besigtigelser, men der blev ikke konstateret noget sex-revers i forsøget.

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Ukrudtsbekæmpelse i spinat til frø – jordmiddelforsøg

I dette forsøg blev der undersøgt effektivitet og selektivitet af jordmiddel Centium i kombinationer med Venzar, Proman og DFF.

Der blev generelt observeret meget høj effekt af alle led overfor alle bedømte ukrudtsarter ved første effekt registrering den 1. maj og der var ingen signifikant forskel mellem led. De efterfølgende registreringer for effekt har vist generelt lavt effekt af jordmidlerne, som sandsynligvis skyldes senere fremspiring af nyt ukrudt. Effekt registrering den 15. maj har vist, at led 10 med tankblanding af 0,2 l/ha Centium og 0,05 l/ha DFF viste god effekt (67,5%) overfor agerstedmoder og var signifikant højere end de øvrige led (0-23,8%). De testede jordmidler alene synes ikke at have skadet spinat i dette forsøg.

Nedvisning i spinat og purløg

Der blev i alt udført tre forsøg med nedvisning i havefrø i 2020 – to af forsøgene blev udført i spinat, og et forsøg i purløg. I det ene spinat forsøg og purløg forsøg blev der testet midlerne TopGun Finalsan Koncentrat, Beloukha, Gozai, Spotlight Plus og Roundup Bio (sidstnævnte middel blev kun afprøvet i purløg). TopGun ved 120 l/ha synes at have vist meget høj effekt, som var på niveau med Reglone for nedvisning i spinat forsøg, mens midlerne Beloukha 16 l/ha og Gozai 0,8 l/ha viste god effekt for nedvisning af spinat. Midlerne TopGun og Beloukha var, som Reglone – forholdsvis hurtigvirkende, mens effekt af Gozai og Spotlight kunne først ses ca. 1 uge efter sprøjtning. I purløg forsøg var der kun referenceled med Reglone, der viste god effekt for nedvisning – de testede midler TopGun, Beloukha, Gozai, Spotlight Plus og Roundup Bio synes ikke at kunne vise noget tilstrækkelig effekt for nedvisning af purløg.

Det andet forsøg i spinat havde til formål at teste effekt af flydende N gødning NS 30-2 sammen med forskellige additiver og med reduceret dosering af Reglone og Beloukha. Blanding af NS 30-2 og Reglone ved den lave dosering af 0,5 l/ha viste meget høje effekt for nedvisning (92-98%), som var på samme signifikans niveau som den normale dosering af 2,0 l/ha Reglone. Flydende NS 30-2 alene eller i blandinger med de forskellige additiver Agropol, Renol og Silwet Gold og pelargonsyre produkt Beloukha viste ikke signifikant effekt på nedvisning af spinat ved de sidste bedømmelser.

Der blev udført spiringsanalyse af frøprøver for alle tre nedvisningsforsøg. Spiringsanalyser af nedvisningsforsøg viste ikke signifikant forskel i spirehastighed eller spireevne mellem ubehandlet og de testede led.

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Ukrudtsbekæmpelse i spinat uden Betanal. Screening i matrix forsøg.

Trial ID:	20426	Location:	Flakkebjerg	Trial Year:	2020
Protocol ID:	20426	Investigator:	Andrius Hansen Kemezys		
Project ID:		Study Director:	Peter Hartvig		
		Sponsor Contact:			

Conducted Under GEP: Yes

General Trial Information

Study Director: Peter Hartvig **Title:** Study director
Investigator: Andrius Hansen Kemezys **Title:** Research project staff

Discipline: H herbicide
Trial Status: I one-year/interim
Trial Status Date: 01-09-2020 **Last Changed By:** Andrius Hansen Kemezys
ARM Trial Created On: 25-03-2020
Initiation Date: 04-05-2020
Completion Date: 29-06-2020 **Protocol Revision Date:** 23-03-2020

Trial Location

City: Slagelse **Country:** DNK Denmark
State/Prov.: AU Flakkebjrg
Postal Code: 4200 **Climate Zone:** EPOMAR EPPO Maritime

Latitude of LL Corner °: 55,32128
Longitude of LL Corner °: 11,395881
Time Zone: Europe/Copenhagen

Conducted Under GLP: No
Conducted Under GEP: Yes

Conclusions:

Forsøget blev udført ved forskningscentret AU Flakkebjerg. Forsøget har til formål at undersøge effektivitet og selektivitet af Pixxaro EC i spinat. Forsøget blev anlagt som matrix forsøg, hvor spinat blev sået ved 3 forskellige tidspunkter, desuden blev der sået ukrudt i den ene bane. Ved tidspunkt 2 blev der yderligere sået en ekstra bane med spinat (sort 2), som er kendt for følsomhed for sex-reverse.

Forsøget blev behandlet ved tre forskellige tidspunkter den 4. maj (behandling A), den 13. maj (behandling B) og den 19. maj (behandling C). Tre forskellige doseringer af Pixxaro af henholdsvis 0,05 – 0,125 og 0,25 l/ha blev sprøjtet på tværs af bedene med spinat og ukrudt ved hhv. A og B sprøjtninger som solo. Der blev desuden afprøvet to led med split sprøjtning af henholdsvis 2 x 0,05 l/ha og 0,05 + 0,075 l/ha ved A og C sprøjtninger. Spinat var ved BBCH vækststadie 14, 12 og 10 i henholdsvis såtid 1, såtid 2 og såtid 3 ved behandling A, ved henholdsvis stadie 16, 14 og 12 ved behandling B, og ved stadie 18, 16 og 14 ved behandling C. Vejret i forsøgsperioden kan beskrives som normalt.

Forsøget blev bedømt for effekt og skade den 12. maj, 8 dage efter A sprøjtning (8 DA-A), 19. maj (6 DA-B), 27. maj (23 DA-A), samt 8. juni (35 DA-A). Der blev bedømt vitalitet af spinatplanter (VIGOR) den 29. juni. Desuden blev der også udført ugentlig kontrol af spinaten ved frøsætning for at bedømme eventuel sex-reverse på den følsomme spinat sort.

To forskellige ukrudtsarter blev bedømt ved effektregistrering på såede ukrudtsrækker: hvidmelet gåsefod (CHEAL, *Chenopodium album*) og raps (BRSNN, *Brassica napus*). Der blev kun observeret meget lav effekt overfor raps, mens der blev observeret høj effekt af Pixxaro overfor hvidmelet gåsefod og tydelig dosis-respons. Ved bedømmelse 8 dage efter A sprøjtning blev der observeret, at sprøjtninger med 0,125 og 0,25 l/ha Pixxaro viste høj effekt (74-80%) overfor hvidmelet gåsefod i kimbladsstadiet, mens sprøjtninger med 0,05 l/ha synes ikke at være tilstrækkelig selv på de små hvidmelet gåsefod (35-48% effekt). Ved bedømmelse 6 dage efter B sprøjtning blev der observeret tydelig dosis-respons ved led 4-6. Større hvidmelet gåsefod (stadie 12 ved B sprøjtning) var lidt mindre sensitiv til Pixxaro, men effekten synes at komme i fuldt kraft ved den sidste bedømmelse den 8. juni. Der blev observeret tydelig dosis respons af de led, som blev sprøjtet ved B sprøjtning (led 7-9), og led 10 og 11 med split sprøjtningerne. Split sprøjtning i led 11 synes at vise den højeste effekt, og var på samme niveau som led 9 (0,25 l/ha Pixxaro ved B sprøjtning), selv om samlet mængde af Pixxaro var kun halvt så stor.

Tydelig dosis-respons på skade af spinat blev observeret. Generelt synes Pixxaro i samlet dosering til og med 0,125 l/ha kan betragtes som acceptabelt uanset om det er udbragt som solo sprøjtning eller som split sprøjtning. Ved bedømmelse 8 dage efter A sprøjtning og 6 dage efter B sprøjtning spinaten synes at være skadet på samme niveau uanset hvilke udviklingsstadie de var i ved sprøjtning. Ved bedømmelse 8 dage efter C sprøjtning blev det tydeligt, at de spinat, som var sået ved tidspunkt 1 (som var de

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største ved sprøjtetidspunkt) synes at kunne komme sig hurtigere end dem der er sået på et senere tidspunkt – det fortæller, at tidlig anvendelse af Pixxaro i spinat giver risiko for skader. Split sprøjtninger synes at skade spinat på samme niveau som solo sprøjtninger med samme mængde Pixxaro. Der blev også observeret, at sort 2 er meget mere følsom overfor Pixxaro end sort 1, selv om begge sort blev sået på samme tidspunkt.

Bedømmelse for VIGOR (vitalitet/kvalitet) den 29. juni har vist, at alle led med sort 1 ikke var signifikant forskellig fra ubehandlet uanset dosering eller tidspunkt for behandling med Pixxaro. Sort 2 var dog meget mere følsom især ved doseringer af 0,125 og 0,25 l/ha, som blev sprøjtet på små spinat (BBCH 12 ved sprøjtetidspunkt A) - spinaten synes at være meget påvirket og var næsten ikke i stand til at sætte frø. Samme dosering af Pixxaro ved B sprøjtning (BBCH 14 af spinat) synes ikke at kunne skade spinat sort 2 i samme omfang. Ved sammenligning af led 20 og led 32 i kunne man se, at spinat i denne følsomme sort var i stand til at kunne tåle 0,125 l/ha Pixxaro sprøjtet på spinat, som var i BBCH 14, mens samme dosering, som blev sprøjtet på spinat i BBCH 12 har forårsaget meget store skader. Der kan anses, at spinatens udviklingsstadiet på sprøjtetidspunkt er meget vigtig for dens tålsomhed, og den følsomme sort bør derfor ikke sprøjtes før BBCH 14.

Ved blomstring blev spinat sort 2 blev observeret for eventuelle sex-reverse ved ugentlige besigtigelser, men der blev ikke konstateret noget sex-revers i forsøget.

Contacts

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Country: DNK Denmark

Investigator: Andrius Hansen Kemezys **Title:** Research project staff
Organization: Aarhus University, Department of Agroecology
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City+State/Prov: Slagelse **Mobile No.:** +4526796484
Postal Code: 4200 **E-mail:** ahk@agro.au.dk
Country: DNK Denmark

Crop Description

Crop 1: SPQOL Spinacia oleracea Spinach
Stage Scale: BBCH
Entry Date: 31-08-2020
Planting Date: 30-03-2020

Pest Description

Pest 1 Type: W **Code:** BBBBB Broad-leaved plants
Common Name: Broad-leaved plants **Entry Date:** 31-08-2020

Pest 2 Type: W **Code:** BRSNN Brassica napus
Common Name: Rapeseed **Entry Date:** 31-08-2020

Pest 3 Type: W **Code:** CHEAL Chenopodium album
Common Name: Common lambsquarters **Entry Date:** 31-08-2020

Site and Design

Treated Plot Width: 2,5 m **Site Type:** FIELD field
Treated Plot Length: 12,5 m
Treated Plot Area: 31,25 m2 **Treatments:** 11
Replications: 4 **Study Design:** RACOBL Randomized Complete Block (RCB)

Soil Description

Description Name: JB6
% Sand: 70,8 **% OM:** 3,2
% Silt: 12,6 **pH:** 6,3
% Clay: 13,4

Moisture and Weather Conditions

Overall Moisture Conditions: NORMAL normal
Closest Weather Station: AU Flakkebjerg **Distance, Unit:** 500 m

Application Description

	A	B	C
Application Date:	04-05-2020	13-05-2020	19-05-2020
Appl. Start Time:	12:00	13:40	07:50
Appl. Stop Time:	12:45	13:55	08:05
Interval to Prev. Appl., Unit:		9 DAYS	6 DAYS
Application Method:	SPRAY	SPRAY	SPRAY
Application Placement:	FOLIAR	FOLIAR	FOLIAR
Applied By:	AHK	AHK	AHK
Appl. Entry Date:	28-05-2020	28-05-2020	28-05-2020
Air Temperature Start, Stop:	11 C	14 C	11,7 C
% Relative Humidity Start, Stop:	68,3	28,7	86,1
Wind Velocity+Dir., Start:	3,1 MPS NW	1,3 MPS N	0,9 MPS W
Wet Leaves (Y/N):	N no	N no	Y yes
Soil Temperature, Unit:	13 C	14,7 C	12,5 C
Soil Moisture:	SLIDRY	DRY	DRY
Soil Surface Condition:	FINTRA	FINTRA	FINTRA
% Cloud Cover:	15	70	100
Next Moisture Occurred On:	05-05-2020	15-05-2020	22-05-2020
Time to Next Moisture:	1 DAY	2 DAY	3 DAY

Crop Stage At Each Application

	A	B	C
Crop 1 Code, BBCH Scale:	SPQOL BVNH	SPQOL BVNH	SPQOL BVNH
Stage Scale Used:	BBCH	BBCH	BBCH
Stage Majority, Percent:	10-12-14	12-14-16	14-16-18

Pest Stage At Each Application

	A	B	C
Pest 1 Code, Type, Scale:	BBBBB W BBCH	BBBBB W BBCH	BBBBB W BBCH
Pest 2 Code, Type, Scale:	BRSNN W BBCH	BRSNN W BBCH	BRSNN W BBCH
Pest 3 Code, Type, Scale:	CHEAL W BBCH	CHEAL W BBCH	CHEAL W BBCH

Application Equipment

	A	B	C
Appl. Equipment:	Selvkørende	Selvkørende	Selvkørende
Equipment Type:	SPRAYE	SPRAYE	SPRAYE
Operation Pressure:	3,9 BAR	3,9 BAR	3,9 BAR
Nozzle Type:	Hardi	Hardi	Hardi
Nozzle Size:	LD015-110	LD015-110	LD015-110
Nozzle Spacing:	50 cm	50 cm	50 cm
Nozzles/Row:	5	4	5
Band Width:	50 cm	50 cm	50 cm
Boom Length:	2,5 m	2,0 m	2,5 m
Boom Height:	45 cm	50 cm	50 cm
Ground Speed:	3,6 KPH	3,6 KPH	3,6 KPH
Carrier:	WATER	WATER	WATER
Minimum Mix/Treatment:	2,5 Liters	2,5 Liters	2,5 Liters
Mix Size:	4 Liters	4 Liters	4 Liters

Date	By	Context	Notes
25-03-2020	Andrius Hansen Kemezys	STATUS	Automatically added by ARM: Trial Status updated to 'S' during trial creation.
11-05-2020	Anja Lunn	STATUS	Automatically added by ARM: Trial Status updated to 'E' when Rating Date entered.

Geographic Area/Environmental Considerations:
Forsøg udføres på et dampbehandlet, ukrudtsfri areal.
Cropping Considerations:
Forsøg udføres som matrix forsøg på 5 bede:

Bed nr:	Sort	Væksstadie ved A
1	Sort 1	kimblade (BBCH10)
2	Sort 1	2 blade
3	Sort 1	4-6 blade
4	Sort 2	2 blade
5	Ukrudt	

11 behandlinger x 5 bede x 4 blokke = 220 parceller.

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Ukrudtsbekæmpelse i spinat uden Betanal. Screening i matrix forsøg.

Trial ID:20426 Location:Flakkebjerg Trial Year:2020
Protocol ID:20426 Investigator:Andrius Hansen Kemezys
Project ID: Study Director:Peter Hartvig
Sponsor Contact:
Conducted Under GEP:Yes

Trt No.	Type	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Appl Code	Spray Volume	Volume Unit
1	CHK	Untreated Check								
2	HERB	Betanal	160	gA/L	SC	1	L/ha	A	200	L/ha
3	HERB	Betanal	160	gA/L	SC	1	L/ha	AB	200	L/ha
4	HERB	Pixxaro EC	305	gA/L	EC	0,05	L/ha	A	200	L/ha
5	HERB	Pixxaro EC	305	gA/L	EC	0,125	L/ha	A	200	L/ha
6	HERB	Pixxaro EC	305	gA/L	EC	0,25	L/ha	A	200	L/ha
7	HERB	Pixxaro EC	305	gA/L	EC	0,05	L/ha	B	200	L/ha
8	HERB	Pixxaro EC	305	gA/L	EC	0,125	L/ha	B	200	L/ha
9	HERB	Pixxaro EC	305	gA/L	EC	0,25	L/ha	B	200	L/ha
10	HERB	Pixxaro EC	305	gA/L	EC	0,05	L/ha	AC	200	L/ha
11	HERB	Pixxaro EC	305	gA/L	EC	0,05	L/ha	A	200	L/ha
	HERB	Pixxaro EC	305	gA/L	EC	0,075	L/ha	C	200	L/ha

Additional Treatment Information

Type
CHK = Check or Untreated
HERB = Herbicide

Treatment Name
Untreated Check, , , = Not treated|
Betanal, 160, gA/L, SC = phenmedipham|160|
Pixxaro EC, 305, gA/L, EC = fluroxypyr+halauxifen-methyl+cloquintocet-mexyl|280+12,5+12,5|

Form Unit
gA/L = grams active ingredient per liter formulated product

Form Type
SC = suspension concentrate (= flowable concentrate)|Liquid||A stable suspension of active ingredient(s) in water, intended for dilution with water before use.
EC = emulsifiable concentrate|Liquid||A liquid, homogeneous formulation to be applied as an emulsion after dilution in water.

Rate Unit
L/ha = Liters Product per Hectare (US=GAL/A)|T

Volume Unit
L/ha = litres per hectare

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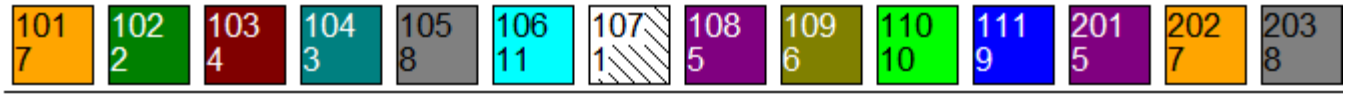
Ukrudtsbekæmpelse i spinat uden Betanal. Screening i matrix forsøg.

Trial ID:20426 Location:Flakkebjerg Trial Year:2020
Protocol ID:20426 Investigator:Andrius Hansen Kemezys
Project ID: Study Director:Peter Hartvig
Sponsor Contact:
Conducted Under GEP:Yes

Trial Map Treatment Description

Trt	Code	Description
1	CHK	Untreated Check
2		Betanal 1 L/ha
3		Betanal 1 L/ha
4		Pixxaro EC 0.05 L/ha
5		Pixxaro EC 0.125 L/ha
6		Pixxaro EC 0.25 L/ha
7		Pixxaro EC 0.05 L/ha
8		Pixxaro EC 0.125 L/ha
9		Pixxaro EC 0.25 L/ha
10		Pixxaro EC 0.05 L/ha
11		Pixxaro EC 0.05 L/ha;Pixxaro EC 0.075 L/ha



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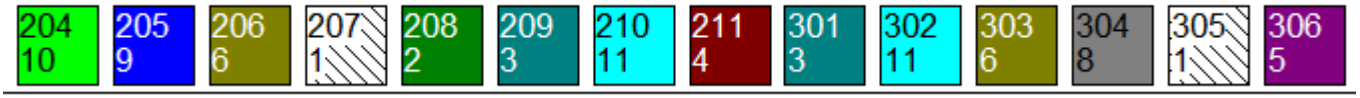

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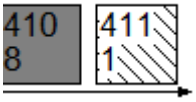

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Ukrudtsbekæmpelse i spinat uden Betanal. Screening i matrix forsøg.

Trial ID: 20426 Location: Flakkebjerg Trial Year: 2020
Protocol ID: 20426 Investigator: Andrius Hansen Kemezys
Project ID: Study Director: Peter Hartvig
Sponsor Contact:
Conducted Under GEP: Yes

Pest Type		W Weed	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code		BRSNN	BRSNN	BRSNN	BRSNN	CHEAL	CHEAL
Pest Scientific Name		Brassica napus	Brassica napus	Brassica napus	Brassica napus	Chenopodium album	Chenopodium album
Pest Name		Rapeseed	Rapeseed	Rapeseed	Rapeseed	common lambsquarters	common lambsquarters
Crop Code		SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL
BBCH Scale		BVNH	BVNH	BVNH	BVNH	BVNH	BVNH
Crop Name		Spinach	Spinach	Spinach	Spinach	Spinach	Spinach
Description							
Rating Date		12-05-2020	19-05-2020	27-05-2020	08-06-2020	12-05-2020	19-05-2020
SE Group No.		2	11	17	23	6	12
SE Name		W003	W003	W003	W003	W003	W003
SE Description		% weed control	% weed control	% weed control	% weed control	% weed control	% weed control
Part Rated		PLANT P	PLANT P	PLANT P	PLANT P	PLANT P	PLANT P
Rating Type		CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit		%	%	%	%	%	%
Calculation		NC	NC	NC	NC	NC	NC
Sample Size, Unit		1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis, Unit		1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Reporting Basis, Unit		1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples		1	1	1	1	1	1
Crop Stage Scale							BBCH
Crop Stage Majority							
Assessed By							
Data Entry Date		12-05-2020	28-05-2020	28-05-2020	10-06-2020	12-05-2020	28-05-2020
Days After First/Last Applic.		8 8	15 6	23 8	35 20	8 8	15 6
Trt-Eval Interval		8 DA-A	15 DA-A	23 DA-A	35 DA-A	8 DA-A	15 DA-A
Number of Decimals							
Trt No.	Treatment Name	Rate Unit Appl Code	5	11	17	23	6	12
1	Untreated Check							
2	Betanal	1L/ha A	8,8a	17,5b	12,5ab	8,8a	76,3a	67,5a
3	Betanal	1L/ha AB	13,8a	3,8cd	3,8ab	7,5a	78,8a	23,8cd
4	Pixxaro EC	0,05L/ha A	8,8a	0,0d	10,0ab	12,5a	35,0b	16,3cd
5	Pixxaro EC	0,125L/ha A	26,3a	5,0cd	5,0ab	5,0a	73,8a	52,5b
6	Pixxaro EC	0,25L/ha A	27,5a	2,5cd	11,3ab	3,8a	80,0a	62,5a
7	Pixxaro EC	0,05L/ha B		6,3cd	6,3ab	8,8a		11,3d
8	Pixxaro EC	0,125L/ha B		11,3bc	0,0b	2,5a		21,3cd
9	Pixxaro EC	0,25L/ha B		25,0a	16,3a	10,0a		27,5c
10	Pixxaro EC	0,05L/ha AC	11,3a	0,0d	7,5ab	8,8a	47,5b	17,5cd
11	Pixxaro EC Pixxaro EC	0,05L/ha A 0,075L/ha C	12,5a	0,0d	8,8ab	10,0a	41,3b	17,5cd
LSD P=.05			13,33	6,95	8,15	10,59	19,75	9,80
Standard Deviation			8,97	4,79	5,62	7,30	13,30	6,76
CV			57,74	67,22	69,13	94,15	21,52	21,28
Grand Mean			15,54	7,13	8,13	7,75	61,79	31,75
Levene's F			3,128	1,47	0,675	0,763	0,711	4,121
Levene's Prob(F)			0,024*	0,204	0,725	0,65	0,645	0,002*
Rank X2			.	.	.	.	.	.
P(Rank X2)			.	.	.	.	.	.
Replicate F			0,603	1,262	4,140	4,148	1,542	1,041
Replicate Prob(F)			0,6215	0,3070	0,0155	0,0154	0,2380	0,3905
Treatment F			3,155	12,294	2,784	0,725	8,731	38,099
Treatment Prob(F)			0,0271	0,0001	0,0190	0,6821	0,0002	0,0001

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Pest Type	W Weed	W Weed
Pest Code	CHEAL	CHEAL
Pest Scientific Name	Chenopodium album	Chenopodium album
Pest Name	common lambsquarters	common lambsquarters
Crop Code	SPQOL	SPQOL
BBCH Scale	BVNH	BVNH
Crop Name	Spinach	Spinach
Description		
Rating Date	27-05-2020	08-06-2020
SE Group No.	18	24
SE Name	W003	W003
SE Description	% weed control	% weed control
Part Rated	PLANT P	PLANT P
Rating Type	CONTRO	CONTRO
Rating Unit	%	%
Calculation	NC	NC
Sample Size, Unit	1 PLOT	1 PLOT
Collection Basis, Unit	1 PLOT	1 PLOT
Reporting Basis, Unit	1 PLOT	1 PLOT
Number of Subsamples	1	1
Crop Stage Scale		
Crop Stage Majority		
Assessed By		
Data Entry Date	28-05-2020	10-06-2020
Days After First/Last Applic.	23 8	35 20
Trt-Eval Interval	23 DA-A	35 DA-A
Number of Decimals		

Trt No.	Treatment Name	Rate	Unit	Appl Code	18	24
1	Untreated Check					
2	Betanal	1	L/ha	A	40,0bc	36,3cd
3	Betanal	1	L/ha	AB	28,8cd	18,8e
4	Pixxaro EC	0,05	L/ha	A	32,5cd	42,5c
5	Pixxaro EC	0,125	L/ha	A	36,3bcd	47,5c
6	Pixxaro EC	0,25	L/ha	A	38,8bcd	45,0c
7	Pixxaro EC	0,05	L/ha	B	26,3d	31,3d
8	Pixxaro EC	0,125	L/ha	B	37,5bcd	61,3b
9	Pixxaro EC	0,25	L/ha	B	46,3ab	76,3a
10	Pixxaro EC	0,05	L/ha	AC	48,8ab	67,5ab
11	Pixxaro EC	0,05	L/ha	A	53,8a	77,5a
	Pixxaro EC	0,075	L/ha	C		

LSD P=.05	8,80	9,27
Standard Deviation	6,07	6,39
CV	15,61	12,68
Grand Mean	38,88	50,38
Levene's F	0,818	1,071
Levene's Prob(F)	0,604	0,411
Rank X2	.	.
P(Rank X2)	.	.
Replicate F	4,859	0,750
Replicate Prob(F)	0,0079	0,5317
Treatment F	8,276	37,914
Treatment Prob(F)	0,0001	0,0001

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Ukrudtsbekæmpelse i spinat uden Betanal. Screening i matrix forsøg.

Trial ID: 20426 Location: Flakkebjerg Trial Year: 2020
Protocol ID: 20426 Investigator: Andrius Hansen Kemezys
Project ID: Study Director: Peter Hartvig
Sponsor Contact:
Conducted Under GEP: Yes

Pest Type
W, Weed = Weed or volunteer crop
Pest Code
BRSNN, Brassica napus, Rapeseed = US
CHEAL, Chenopodium album, common lambsquarters = US
Crop Code
SPQOL, BVNH, Spinacia oleracea, Spinach = US
Part Rated
PLANT = plant
P = Pest is Part Rated
Rating Type
CONTRO = control / burndown or knockdown
Rating Unit
% = percent
Calculation
NC = no calculation

PLOT = total plot

PLOT = total plot

PLOT = total plot
Crop Stage Scale
BBCH = BBCH uniform plant stages

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Ukrudtsbekæmpelse i spinat uden Betanal. Screening i matrix forsøg.

Trial ID: 20426_44led Location: Flakkebjerg Trial Year: 2020
Protocol ID: 20426 Investigator: Anja Lunn
Project ID: Study Director: Peter Hartvig
Sponsor Contact:
Conducted Under GEP: Yes

Trt No.	Treatment Name	Rate	Unit	Appl Code	1	2	3	4	5
	Crop Code				SPQOL	SPQOL	SPQOL	SPQOL	SPQOL
	BBCH Scale				BVNH	BVNH	BVNH	BVNH	BVNH
	Crop Scientific Name				Spinacia oleracea	Spinacia oleracea	Spinacia oleracea	Spinacia oleracea	Spinacia oleracea
	Crop Name				Spinach	Spinach	Spinach	Spinach	Spinach
	Rating Date				12-05-2020	19-05-2020	27-05-2020	08-06-2020	29-06-2020
	SE Group No.				1	2	3	4	5
	Part Rated				PLANT C	PLANT C	PLANT C	PLANT C	PLANT C
	Rating Type				PHYGEN	PHYGEN	PHYGEN	PHYGEN	VIGOR
	Rating Unit				%	%	%	%	
	Calculation				NC	NC	NC	NC	NC
	Sample Size, Unit				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
	Collection Basis, Unit				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
	Reporting Basis, Unit				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
	Number of Subsamples				1	1	1	1	1
	Data Entry Date				28-01-2021	28-01-2021	28-01-2021	28-01-2021	28-01-2021
	Days After First/Last Applic.				8 8	15 6	23 8	35 20	56 41
	Trt-Eval Interval				-1 DA-B	6 DA-B	8 DA-C	20 DA-C	41 DA-C
1	Untreated Check 1. såtid								98,3a
2	Untreated Check 2. såtid (sort 1)								99,3a
3	Untreated Check 3. såtid								98,5a
4	Untreated Check 2. såtid (sort 2)								99,5a
5	Betanal 1. såtid	1	L/ha	A	3,8d	11,3e-h	13,8b-j	10,0d-g	98,8a
6	Betanal 2. såtid (sort 1)	1	L/ha	A	16,3c	11,3e-h	12,5c-j	0,0g	98,8a
7	Betanal 3. såtid	1	L/ha	A	0,0d	11,3e-h	10,0e-j	10,0d-g	96,3a
8	Betanal 2. såtid (sort 2)	1	L/ha	A	3,8d	15,0d-g	6,3g-j	11,3d-g	98,8a
9	Betanal 1. såtid	1	L/ha	AB	8,8d	2,5h	6,3g-j	10,0d-g	96,8a
10	Betanal 2. såtid (sort 1)	1	L/ha	AB	17,5c	0,0h	0,0j	5,0efg	97,3a
11	Betanal 3. såtid	1	L/ha	AB	0,0d	0,0h	2,5ij	10,0d-g	95,5a
12	Betanal 2. såtid (sort 2)	1	L/ha	AB	8,8d	0,0h	0,0j	3,8fg	97,0a
13	Pixxaro EC 1. såtid	0,05	L/ha	A	0,0d	0,0h	2,5ij	0,0g	98,3a
14	Pixxaro EC 2. såtid (sort 1)	0,05	L/ha	A	3,8d	0,0h	8,8f-j	0,0g	98,8a
15	Pixxaro EC 3. såtid	0,05	L/ha	A	0,0d	0,0h	6,3g-j	3,8fg	95,3a
16	Pixxaro EC 2. såtid (sort 2)	0,05	L/ha	A	0,0d	0,0h	17,5b-i	16,3c-g	90,8ab
17	Pixxaro EC 1. såtid	0,125	L/ha	A	21,3bc	5,0gh	8,8f-j	8,8d-g	96,0a
18	Pixxaro EC 2. såtid (sort 1)	0,125	L/ha	A	25,0bc	7,5fgh	21,3b-h	6,3d-g	94,5a
19	Pixxaro EC 3. såtid	0,125	L/ha	A	22,5bc	10,0e-h	13,8b-j	10,0d-g	94,3a
20	Pixxaro EC 2. såtid (sort 2)	0,125	L/ha	A	25,0bc	11,3e-h	25,0b-e	26,3a-d	28,8d
21	Pixxaro EC 1. såtid	0,25	L/ha	A	23,8bc	10,0e-h	17,5b-i	10,0d-g	95,5a

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
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Crop Code				SPQOL	SPQOL	SPQOL	SPQOL	SPQOL
BBCH Scale				BVNH	BVNH	BVNH	BVNH	BVNH
Crop Scientific Name				Spinacia oleracea	Spinacia oleracea	Spinacia oleracea	Spinacia oleracea	Spinacia oleracea
Crop Name				Spinach	Spinach	Spinach	Spinach	Spinach
Rating Date				12-05-2020	19-05-2020	27-05-2020	08-06-2020	29-06-2020
SE Group No.				1	2	3	4	5
Part Rated				PLANT C	PLANT C	PLANT C	PLANT C	PLANT C
Rating Type				PHYGEN	PHYGEN	PHYGEN	PHYGEN	VIGOR
Rating Unit				%	%	%	%	
Calculation				NC	NC	NC	NC	NC
Sample Size, Unit				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis, Unit				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Reporting Basis, Unit				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples				1	1	1	1	1
Data Entry Date				28-01-2021	28-01-2021	28-01-2021	28-01-2021	28-01-2021
Days After First/Last Applic.				8 8	15 6	23 8	35 20	56 41
Trt-Eval Interval				-1 DA-B	6 DA-B	8 DA-C	20 DA-C	41 DA-C
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	1	2	3	4	5
22	Pixxaro EC 2. såtid (sort 1)	0,25	L/ha	A	27,5ab	17,5c-f	28,8b	15,0c-g	91,0ab
23	Pixxaro EC 3. såtid	0,25	L/ha	A	27,5ab	10,0e-h	23,8b-f	21,3b-g	83,8ab
24	Pixxaro EC 2. såtid (sort 2)	0,25	L/ha	A	33,8a	12,5d-h	41,3a	38,8a	16,3e
25	Pixxaro EC 1. såtid	0,05	L/ha	B		8,8fgh	2,5ij	3,8fg	97,3a
26	Pixxaro EC 2. såtid (sort 1)	0,05	L/ha	B		2,5h	2,5ij	8,8d-g	97,5a
27	Pixxaro EC 3. såtid	0,05	L/ha	B		0,0h	5,0hij	12,5d-g	96,8a
28	Pixxaro EC 2. såtid (sort 2)	0,05	L/ha	B		7,5fgh	6,3g-j	16,3c-g	98,3a
29	Pixxaro EC 1. såtid	0,125	L/ha	B		17,5c-f	5,0hij	11,3d-g	96,3a
30	Pixxaro EC 2. såtid (sort 1)	0,125	L/ha	B		18,8c-f	5,0hij	2,5g	98,8a
31	Pixxaro EC 3. såtid	0,125	L/ha	B		21,3b-e	18,8b-i	17,5c-g	98,3a
32	Pixxaro EC 2. såtid (sort 2)	0,125	L/ha	B		22,5a-d	12,5c-j	23,8a-f	98,8a
33	Pixxaro EC 1. såtid	0,25	L/ha	B		26,3abc	15,0b-j	21,3b-g	97,5a
34	Pixxaro EC 2. såtid (sort 1)	0,25	L/ha	B		28,8ab	22,5b-g	25,0a-e	98,8a
35	Pixxaro EC 3. såtid	0,25	L/ha	B		31,3a	27,5bc	32,5abc	89,8ab
36	Pixxaro EC 2. såtid (sort 2)	0,25	L/ha	B		30,0ab	26,3bcd	37,5ab	60,3c
37	Pixxaro EC 1. såtid	0,05	L/ha	AC	6,3d	0,0h	7,5g-j	0,0g	99,8a
38	Pixxaro EC 2. såtid (sort 1)	0,05	L/ha	AC	5,0d	0,0h	11,3d-j	0,0g	99,3a
39	Pixxaro EC 3. såtid	0,05	L/ha	AC	0,0d	0,0h	15,0b-j	12,5d-g	96,3a
40	Pixxaro EC 2. såtid (sort 2)	0,05	L/ha	AC	2,5d	0,0h	20,0b-h	20,0c-g	81,3b
41	Pixxaro EC Pixxaro EC 1. såtid	0,05 0,075	L/ha L/ha	A C	0,0d	0,0h	5,0hij	0,0g	99,0a
42	Pixxaro EC Pixxaro EC 2. såtid (sort 1)	0,05 0,075	L/ha L/ha	A C	2,5d	0,0h	13,8b-j	0,0g	98,8a
43	Pixxaro EC Pixxaro EC 3. såtid	0,05 0,075	L/ha L/ha	A C	0,0d	3,8gh	16,3b-j	6,3d-g	96,8a
44	Pixxaro EC Pixxaro EC 2. såtid (sort 2)	0,05 0,075	L/ha L/ha	A C	5,0d	5,0gh	26,3bcd	16,3c-g	91,3ab
LSD P=.05					6,21	6,71	8,73	10,78	8,48

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Standard Deviation	4,42	4,79	6,23	7,70	6,07
CV	42,63	53,44	47,04	63,69	6,59
Grand Mean	10,36	8,97	13,25	12,09	91,99
Levene's F	1,593	2,431	0,865	1,446	3,168
Levene's Prob(F)	0,056	0,001*	0,693	0,067	0,001*
Rank X2	.	.	.	.	.
P(Rank X2)	.	.	.	.	.
Treatment F	24,980	15,851	9,138	7,069	30,590
Treatment Prob(F)	0,0001	0,0001	0,0001	0,0001	0,0001

Crop Code
SPQOL, BVNH, Spinacia oleracea, Spinach = US
Part Rated
PLANT = plant
C = Crop is Part Rated
Rating Type
PHYGEN = phytotoxicity - general / injury
VIGOR = vigor
Rating Unit
% = percent
Calculation
NC = no calculation

PLOT = total plot

PLOT = total plot

PLOT = total plot

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Ukrudtsbekæmpelse i spinat uden Betanal. Screening i matrix forsøg.

Trial ID:20426 Location:Flakkebjerg Trial Year:2020
Protocol ID:20426 Investigator:Andrius Hansen Kemezys
Project ID: Study Director:Peter Hartvig
Sponsor Contact:

Conducted Under GEP:Yes

Pest Type								
Pest Code								
Pest Scientific Name								
Pest Name								
Crop Code					SPQOL	SPQOL	SPQOL	SPQOL
BBCH Scale					BVNH	BVNH	BVNH	BVNH
Crop Name					Spinach	Spinach	Spinach	Spinach
Description					1. såtid	2. såtid(sort1)	3. såtid	2. såtid(sort2)
Rating Date					May-12-2020	May-12-2020	May-12-2020	May-12-2020
SE Group No.					1	3	4	5
SE Name					X001	X001	X001	X001
SE Description					% General phyto on plants (all symptoms)	% General phyto on plants (all symptoms)	% General phyto on plants (all symptoms)	% General phyto on plants (all symptoms)
Part Rated					PLANT C	PLANT C	PLANT C	PLANT C
Rating Type					PHYGEN	PHYGEN	PHYGEN	PHYGEN
Rating Unit					%	%	%	%
Calculation					NC	NC	NC	NC
Sample Size, Unit					1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis, Unit					1 PLOT	1 PLOT	1 PLOT	1 PLOT
Reporting Basis, Unit					1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples					1	1	1	1
Crop Stage Majority					12	14	16	14
Assessed By								
Data Entry Date					May-12-2020	May-12-2020	May-12-2020	May-12-2020
Days After First/Last Applic.					8 8	8 8	8 8	8 8
Trt-Eval Interval					8 DA-A	8 DA-A	8 DA-A	8 DA-A
Number of Decimals								
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	Plot	1	2	3	4
1	Untreated Check				107				
					207				
					305				
					411				
					Mean =	.	.	.	.
2	Betanal	1	L/ha	A	102	0	20	0	0
					208	0	20	0	0
					309	10	15	0	0
					406	5	10	0	15
					Mean =	4	16	0	4
3	Betanal	1	L/ha	AB	104	15	25	0	15
					209	5	10	0	0
					301	10	20	0	10
					403	5	15	0	10
					Mean =	9	18	0	9
4	Pixxaro EC	0,05	L/ha	A	103	0	0	0	0
					211	0	0	0	0
					311	0	5	0	0
					404	0	10	0	0
					Mean =	0	4	0	0
5	Pixxaro EC	0,125	L/ha	A	108	20	25	20	25
					201	20	25	25	25
					306	25	25	25	25
					409	20	25	20	25
					Mean =	21	25	23	25
6	Pixxaro EC	0,25	L/ha	A	109	25	30	30	35
					206	25	25	20	35
					303	20	25	25	30
					408	25	30	35	35
					Mean =	24	28	28	34
7	Pixxaro EC	0,05	L/ha	B	101				
					202				
					310				
					401				
					Mean =	.	.	.	.
8	Pixxaro EC	0,125	L/ha	B	105				
					203				
					304				
					410				
					Mean =	.	.	.	.
9	Pixxaro EC	0,25	L/ha	B	111				
					205				
					308				
					405				
					Mean =	.	.	.	.
10	Pixxaro EC	0,05	L/ha	AC	110	10	0	0	0
					204	0	0	0	10
					307	15	10	0	0
					402	0	10	0	0
					Mean =	6	5	0	3
11	Pixxaro EC	0,05	L/ha	A	106	0	0	0	0
	Pixxaro EC	0,075	L/ha	C	210	0	0	0	0
					302	0	0	0	0
					407	0	10	0	20
					Mean =	0	3	0	5

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Pest Type	W Weed	W Weed			
Pest Code	BRSNN	CHEAL			
Pest Scientific Name	Brassica napus	Chenopodium album			
Pest Name	rapeseed	lambsquarters, common			
Crop Code	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL
BBCH Scale	BVNH	BVNH	BVNH	BVNH	BVNH
Crop Name	Spinach	Spinach	Spinach	Spinach	Spinach
Description			1. såtid	2. såtid(sort1)	3. såtid
Rating Date	May-12-2020	May-12-2020	May-19-2020	May-19-2020	May-19-2020
SE Group No.	2	6	7	8	9
SE Name	W003	W003	X001	X001	X001
SE Description	% weed control	% weed control	% General phyto on plants (all symptoms)	% General phyto on plants (all symptoms)	% General phyto on plants (all symptoms)
Part Rated	PLANT -	PLANT -	PLANT C	PLANT C	PLANT C
Rating Type	CONTRO	CONTRO	PHYGEN	PHYGEN	PHYGEN
Rating Unit	%	%	%	%	%
Calculation	NC	NC	NC	NC	NC
Sample Size, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Reporting Basis, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1	1
Crop Stage Majority			14	16	18
Assessed By					
Data Entry Date	May-12-2020	May-12-2020	May-28-2020	May-28-2020	May-28-2020
Days After First/Last Applic.	8 8	8 8	15 6	15 6	15 6
Trt-Eval Interval	8 DA-A	8 DA-A	15 DA-A	15 DA-A	15 DA-A
Number of Decimals					

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	Plot	5	6	7	8	9
1	Untreated Check				107					
					207					
					305					
					411					
					Mean =	.	.	.	.	.
2	Betanal	1	L/ha	A	102	0	70	15	15	15
					208	0	70	15	20	20
					309	15	80	10	10	10
					406	20	85	5	0	0
					Mean =	9	76	11	11	11
3	Betanal	1	L/ha	AB	104	10	80	10	0	0
					209	20	80	0	0	0
					301	15	85	0	0	0
					403	10	70	0	0	0
					Mean =	14	79	3	0	0
4	Pixxaro EC	0,05	L/ha	A	103	0	40	0	0	0
					211	20	0	0	0	0
					311	15	40	0	0	0
					404	0	60	0	0	0
					Mean =	9	35	0	0	0
5	Pixxaro EC	0,125	L/ha	A	108	20	80	10	10	15
					201	25	80	0	0	0
					306	25	65	0	0	15
					409	35	70	10	20	10
					Mean =	26	74	5	8	10
6	Pixxaro EC	0,25	L/ha	A	109	30	90	15	15	10
					206	25	70	10	20	10
					303	25	85	0	10	10
					408	30	75	15	25	10
					Mean =	28	80	10	18	10
7	Pixxaro EC	0,05	L/ha	B	101			10	10	0
					202			0	0	0
					310			10	0	0
					401			15	0	0
					Mean =	.	.	9	3	0
8	Pixxaro EC	0,125	L/ha	B	105			20	15	15
					203			10	20	15
					304			25	20	25
					410			15	20	30
					Mean =	.	.	18	19	21
9	Pixxaro EC	0,25	L/ha	B	111			25	30	35
					205			30	30	35
					308			25	30	30
					405			25	25	25
					Mean =	.	.	26	29	31
10	Pixxaro EC	0,05	L/ha	AC	110	25	70	0	0	0
					204	20	50	0	0	0
					307	0	45	0	0	0
					402	0	25	0	0	0
					Mean =	11	48	0	0	0
11	Pixxaro EC	0,05	L/ha	A	106	0	50	0	0	0
	Pixxaro EC	0,075	L/ha	C	210	20	25	0	0	10
					302	15	45	0	0	0
					407	15	45	0	0	5
					Mean =	13	41	0	0	4

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Pest Type						W Weed		W Weed					
Pest Code						BRSNN		CHEAL					
Pest Scientific Name						Brassica napus		Chenopodium album					
Pest Name						rapeseed		lambsquarters, common					
Crop Code						SPQOL		SPQOL		SPQOL		SPQOL	
BBCH Scale						BVNH		BVNH		BVNH		BVNH	
Crop Name						Spinach		Spinach		Spinach		Spinach	
Description						2. såtid(sort2)				1. såtid		2. såtid(sort1)	
Rating Date						May-19-2020		May-19-2020		May-19-2020		May-27-2020	
SE Group No.						10		11		12		13	
SE Name						X001		W003		W003		X001	
SE Description						% General phyto on plants (all symptoms)		% weed control		% weed control		% General phyto on plants (all symptoms)	
Part Rated						PLANT C		PLANT -		PLANT -		PLANT C	
Rating Type						PHYGEN		CONTRO		CONTRO		PHYGEN	
Rating Unit						%		%		%		%	
Calculation						NC		NC		NC		NC	
Sample Size, Unit						1	PLOT	1	PLOT	1	PLOT	1	PLOT
Collection Basis, Unit						1	PLOT	1	PLOT	1	PLOT	1	PLOT
Reporting Basis, Unit						1	PLOT	1	PLOT	1	PLOT	1	PLOT
Number of Subsamples						1		1		1		1	
Crop Stage Majority						16						16	
Assessed By													
Data Entry Date						May-28-2020		May-28-2020		May-28-2020		May-28-2020	
Days After First/Last Applic.						15	6	15	6	15	6	23	8
Trt-Eval Interval						15 DA-A		15 DA-A		15 DA-A		23 DA-A	
Number of Decimals						1						1	
Trt No.	Treatment Name	Rate	Unit	Appl Code	Plot	10		11		12		13	14
1	Untreated Check				107								
					207								
					305								
					411								
					Mean =	.		.		.		.	.
2	Betanal	1	L/ha	A	102	15,0		20		65		15,0	15,0
					208	20,0		20		50		15,0	10,0
					309	10,0		20		80		15,0	15,0
					406	15,0		10		75		10,0	10,0
					Mean =	15,0		18		68		13,8	12,5
3	Betanal	1	L/ha	AB	104	0,0		0		25		15,0	0,0
					209	0,0		0		20		0,0	0,0
					301	0,0		10		30		0,0	0,0
					403	0,0		5		20		10,0	0,0
					Mean =	0,0		4		24		6,3	0,0
4	Pixxaro EC	0,05	L/ha	A	103	0,0		0		20		0,0	0,0
					211	0,0		0		15		10,0	15,0
					311	0,0		0		20		0,0	10,0
					404	0,0		0		10		0,0	10,0
					Mean =	0,0		0		16		2,5	8,8
5	Pixxaro EC	0,125	L/ha	A	108	10,0		10		60		10,0	20,0
					201	0,0		0		65		15,0	25,0
					306	10,0		10		45		10,0	20,0
					409	25,0		0		40		0,0	20,0
					Mean =	11,3		5		53		8,8	21,3
6	Pixxaro EC	0,25	L/ha	A	109	10,0		0		60		30,0	40,0
					206	10,0		10		65		15,0	30,0
					303	10,0		0		65		15,0	20,0
					408	20,0		0		60		10,0	25,0
					Mean =	12,5		3		63		17,5	28,8
7	Pixxaro EC	0,05	L/ha	B	101	10,0		15		10		0,0	0,0
					202	0,0		0		10		0,0	0,0
					310	10,0		0		15		10,0	10,0
					401	10,0		10		10		0,0	0,0
					Mean =	7,5		6		11		2,5	2,5
8	Pixxaro EC	0,125	L/ha	B	105	20,0		15		20		10,0	10,0
					203	20,0		15		15		10,0	10,0
					304	25,0		15		25		0,0	0,0
					410	25,0		0		25		0,0	0,0
					Mean =	22,5		11		21		5,0	5,0
9	Pixxaro EC	0,25	L/ha	B	111	25,0		25		30		20,0	40,0
					205	30,0		20		30		15,0	15,0
					308	35,0		30		25		15,0	15,0
					405	30,0		25		25		10,0	20,0
					Mean =	30,0		25		28		15,0	22,5
10	Pixxaro EC	0,05	L/ha	AC	110	0,0		0		20		0,0	10,0
					204	0,0		0		20		10,0	10,0
					307	0,0		0		15		10,0	15,0
					402	0,0		0		15		10,0	10,0
					Mean =	0,0		0		18		7,5	11,3
11	Pixxaro EC	0,05	L/ha	A	106	10,0		0		15		0,0	10,0
	Pixxaro EC	0,075	L/ha	C	210	0,0		0		10		10,0	25,0
					302	10,0		0		25		10,0	10,0
					407	0,0		0		20		0,0	10,0
					Mean =	5,0		0		18		5,0	13,8

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Pest Type			W Weed	W Weed	
Pest Code			BRSNN	CHEAL	
Pest Scientific Name			Brassica napus	Chenopodium album	
Pest Name			rapeseed	lambsquarters, common	
Crop Code	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL
BBCH Scale	BVNH	BVNH	BVNH	BVNH	BVNH
Crop Name	Spinach	Spinach	Spinach	Spinach	Spinach
Description	3. såtid	2. såtid(sort2)			1. såtid
Rating Date	May-27-2020	May-27-2020	May-27-2020	May-27-2020	Jun-8-2020
SE Group No.	15	16	17	18	19
SE Name	X001	X001	W003	W003	X001
SE Description	% General phyto on plants (all symptoms)	% General phyto on plants (all symptoms)	% weed control	% weed control	% General phyto on plants (all symptoms)
Part Rated	PLANT C	PLANT C	PLANT -	PLANT -	PLANT C
Rating Type	PHYGEN	PHYGEN	CONTRO	CONTRO	PHYGEN
Rating Unit	%	%	%	%	%
Calculation	NC	NC	NC	NC	NC
Sample Size, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Reporting Basis, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1	1
Crop Stage Majority	18	18			
Assessed By					1.
Data Entry Date	May-28-2020	May-28-2020	May-28-2020	May-28-2020	Jun-10-2020
Days After First/Last Applic.	23 8	23 8	23 8	23 8	35 20
Trt-Eval Interval	23 DA-A	23 DA-A	23 DA-A	23 DA-A	
Number of Decimals	1	1			1

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	Plot	15	16	17	18	19
1	Untreated Check				107					
					207					
					305					
					411					
					Mean =	.	.	.	.	.
2	Betanal	1	L/ha	A	102	10,0	0,0	10	40	20,0
					208	10,0	0,0	10	30	0,0
					309	10,0	10,0	15	45	20,0
					406	10,0	15,0	15	45	0,0
					Mean =	10,0	6,3	13	40	10,0
3	Betanal	1	L/ha	AB	104	0,0	0,0	0	25	20,0
					209	0,0	0,0	0	25	0,0
					301	0,0	0,0	0	30	10,0
					403	10,0	0,0	15	35	10,0
					Mean =	2,5	0,0	4	29	10,0
4	Pixxaro EC	0,05	L/ha	A	103	0,0	10,0	0	30	0,0
					211	10,0	20,0	10	35	0,0
					311	0,0	20,0	15	25	0,0
					404	15,0	20,0	15	40	0,0
					Mean =	6,3	17,5	10	33	0,0
5	Pixxaro EC	0,125	L/ha	A	108	0,0	20,0	0	40	15,0
					201	15,0	25,0	0	30	20,0
					306	20,0	25,0	15	45	0,0
					409	20,0	30,0	5	30	0,0
					Mean =	13,8	25,0	5	36	8,8
6	Pixxaro EC	0,25	L/ha	A	109	20,0	50,0	10	40	20,0
					206	25,0	35,0	15	45	0,0
					303	25,0	40,0	10	35	10,0
					408	25,0	40,0	10	35	10,0
					Mean =	23,8	41,3	11	39	10,0
7	Pixxaro EC	0,05	L/ha	B	101	0,0	0,0	0	20	15,0
					202	0,0	0,0	0	20	0,0
					310	10,0	15,0	10	35	0,0
					401	10,0	10,0	15	30	0,0
					Mean =	5,0	6,3	6	26	3,8
8	Pixxaro EC	0,125	L/ha	B	105	15,0	0,0	0	30	10,0
					203	30,0	10,0	0	30	20,0
					304	15,0	10,0	0	45	0,0
					410	15,0	30,0	0	45	15,0
					Mean =	18,8	12,5	0	38	11,3
9	Pixxaro EC	0,25	L/ha	B	111	20,0	25,0	20	50	25,0
					205	30,0	15,0	0	30	15,0
					308	25,0	40,0	25	50	30,0
					405	35,0	25,0	20	55	15,0
					Mean =	27,5	26,3	16	46	21,3
10	Pixxaro EC	0,05	L/ha	AC	110	10,0	25,0	10	50	0,0
					204	15,0	15,0	0	45	0,0
					307	20,0	20,0	10	50	0,0
					402	15,0	20,0	10	50	0,0
					Mean =	15,0	20,0	8	49	0,0
11	Pixxaro EC	0,05	L/ha	A	106	10,0	25,0	0	50	0,0
	Pixxaro EC	0,075	L/ha	C	210	15,0	25,0	15	45	0,0
					302	20,0	30,0	10	60	0,0
					407	20,0	25,0	10	60	0,0
					Mean =	16,3	26,3	9	54	0,0

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Pest Type					W Weed	W Weed
Pest Code					BRSNN	CHEAL
Pest Scientific Name					Brassica napus	Chenopodium album
Pest Name					rapeseed	lambsquarters, common
Crop Code	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	
BBCH Scale	BVNH	BVNH	BVNH	BVNH	BVNH	
Crop Name	Spinach	Spinach	Spinach	Spinach	Spinach	
Description	2. såtid(sort1)	3. såtid	2. såtid(sort2)			
Rating Date	Jun-8-2020	Jun-8-2020	Jun-8-2020	Jun-8-2020	Jun-8-2020	
SE Group No.	20	21	22	23	24	
SE Name	X001	X001	X001	W003	W003	
SE Description	% General phyto on plants (all symptoms)	% General phyto on plants (all symptoms)	% General phyto on plants (all symptoms)	% weed control	% weed control	
Part Rated	PLANT C	PLANT C	PLANT C	PLANT -	PLANT -	
Rating Type	PHYGEN	PHYGEN	PHYGEN	CONTRO	CONTRO	
Rating Unit	%	%	%	%	%	
Calculation	NC	NC	NC	NC	NC	
Sample Size, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	
Collection Basis, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	
Reporting Basis, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	
Number of Subsamples	1	1	1	1	1	
Crop Stage Majority						
Assessed By	2.	3.	2.			
Data Entry Date	Jun-10-2020	Jun-10-2020	Jun-10-2020	Jun-10-2020	Jun-10-2020	
Days After First/Last Applic.	35 20	35 20	35 20	35 20	35 20	
Trt-Eval Interval						
Number of Decimals	1	1	1			

Trt No.	Treatment Name	Rate	Unit	Appl Code	Plot	20	21	22	23	24
1	Untreated Check				107					
					207					
					305					
					411					
					Mean =	.	.	.	.	.
2	Betanal	1	L/ha	A	102	0,0	0,0	0,0	0	30
					208	0,0	15,0	10,0	0	30
					309	0,0	15,0	15,0	20	50
					406	0,0	10,0	20,0	15	35
					Mean =	0,0	10,0	11,3	9	36
3	Betanal	1	L/ha	AB	104	0,0	0,0	0,0	0	15
					209	0,0	10,0	15,0	0	15
					301	10,0	15,0	0,0	15	25
					403	10,0	15,0	0,0	15	20
					Mean =	5,0	10,0	3,8	8	19
4	Pixxaro EC	0,05	L/ha	A	103	0,0	0,0	0,0	0	40
					211	0,0	0,0	15,0	20	45
					311	0,0	15,0	25,0	20	45
					404	0,0	0,0	25,0	10	40
					Mean =	0,0	3,8	16,3	13	43
5	Pixxaro EC	0,125	L/ha	A	108	25,0	0,0	30,0	0	50
					201	0,0	10,0	20,0	10	50
					306	0,0	20,0	25,0	10	55
					409	0,0	10,0	30,0	0	35
					Mean =	6,3	10,0	26,3	5	48
6	Pixxaro EC	0,25	L/ha	A	109	20,0	15,0	35,0	0	50
					206	10,0	35,0	40,0	0	55
					303	15,0	10,0	40,0	15	35
					408	15,0	25,0	40,0	0	40
					Mean =	15,0	21,3	38,8	4	45
7	Pixxaro EC	0,05	L/ha	B	101	10,0	20,0	10,0	0	30
					202	15,0	10,0	10,0	0	30
					310	10,0	10,0	20,0	10	30
					401	0,0	10,0	25,0	25	35
					Mean =	8,8	12,5	16,3	9	31
8	Pixxaro EC	0,125	L/ha	B	105	0,0	20,0	30,0	0	50
					203	10,0	20,0	30,0	10	60
					304	0,0	10,0	15,0	0	65
					410	0,0	20,0	20,0	0	70
					Mean =	2,5	17,5	23,8	3	61
9	Pixxaro EC	0,25	L/ha	B	111	40,0	35,0	35,0	20	80
					205	30,0	25,0	35,0	0	80
					308	30,0	35,0	40,0	10	70
					405	0,0	35,0	40,0	10	75
					Mean =	25,0	32,5	37,5	10	76
10	Pixxaro EC	0,05	L/ha	AC	110	0,0	15,0	15,0	10	65
					204	0,0	0,0	0,0	0	70
					307	0,0	20,0	30,0	15	70
					402	0,0	15,0	35,0	10	65
					Mean =	0,0	12,5	20,0	9	68
11	Pixxaro EC	0,05	L/ha	A	106	0,0	0,0	15,0	0	75
	Pixxaro EC	0,075	L/ha	C	210	0,0	0,0	10,0	10	75
					302	0,0	10,0	20,0	20	80
					407	0,0	15,0	20,0	10	80
					Mean =	0,0	6,3	16,3	10	78

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Pest Type							
Pest Code							
Pest Scientific Name							
Pest Name							
Crop Code				SPQOL	SPQOL	SPQOL	SPQOL
BBCH Scale				BVNH	BVNH	BVNH	BVNH
Crop Name				Spinach	Spinach	Spinach	Spinach
Description				1. såtid	2. såtid(sort1)	3. såtid	2. såtid(sort2)
Rating Date				Jun-29-2020	Jun-29-2020	Jun-29-2020	Jun-29-2020
SE Group No.				25	26	27	28
SE Name							
SE Description							
Part Rated				PLANT C	PLANT C	PLANT C	PLANT C
Rating Type				VIGOR	VIGOR	VIGOR	VIGOR
Rating Unit							
Calculation				NC	NC	NC	NC
Sample Size, Unit				1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis, Unit				1 PLOT	1 PLOT	1 PLOT	1 PLOT
Reporting Basis, Unit				1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples				1	1	1	1
Crop Stage Majority							
Assessed By				1.	2.	3.	2.
Data Entry Date				Jul-27-2020	Jul-27-2020	Jul-27-2020	Jul-27-2020
Days After First/Last Applic.				56 41	56 41	56 41	56 41
Trt-Eval Interval							
Number of Decimals				1	1	1	1
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	Plot	25	26	27	28
1	Untreated Check				107	98,0	100,0	99,0	100,0
					207	95,0	100,0	100,0	100,0
					305	100,0	100,0	98,0	99,0
					411	100,0	97,0	97,0	99,0
					Mean =	98,3	99,3	98,5	99,5
2	Betanal		1L/ha	A	102	97,0	98,0	95,0	100,0
					208	100,0	100,0	98,0	100,0
					309	99,0	100,0	97,0	100,0
					406	99,0	97,0	95,0	95,0
					Mean =	98,8	98,8	96,3	98,8
3	Betanal		1L/ha	AB	104	95,0	96,0	93,0	99,0
					209	99,0	100,0	96,0	98,0
					301	98,0	98,0	98,0	98,0
					403	95,0	95,0	95,0	93,0
					Mean =	96,8	97,3	95,5	97,0
4	Pixxaro EC		0,05L/ha	A	103	98,0	98,0	95,0	98,0
					211	96,0	99,0	95,0	90,0
					311	99,0	99,0	96,0	95,0
					404	100,0	99,0	95,0	80,0
					Mean =	98,3	98,8	95,3	90,8
5	Pixxaro EC		0,125L/ha	A	108	90,0	90,0	97,0	30,0
					201	95,0	95,0	98,0	25,0
					306	100,0	95,0	92,0	25,0
					409	99,0	98,0	90,0	35,0
					Mean =	96,0	94,5	94,3	28,8
6	Pixxaro EC		0,25L/ha	A	109	92,0	92,0	85,0	10,0
					206	95,0	85,0	85,0	15,0
					303	99,0	92,0	85,0	10,0
					408	96,0	95,0	80,0	30,0
					Mean =	95,5	91,0	83,8	16,3
7	Pixxaro EC		0,05L/ha	B	101	98,0	96,0	95,0	100,0
					202	93,0	96,0	98,0	100,0
					310	98,0	98,0	97,0	98,0
					401	100,0	100,0	97,0	95,0
					Mean =	97,3	97,5	96,8	98,3
8	Pixxaro EC		0,125L/ha	B	105	95,0	98,0	98,0	99,0
					203	93,0	99,0	98,0	99,0
					304	99,0	98,0	100,0	100,0
					410	98,0	100,0	97,0	97,0
					Mean =	96,3	98,8	98,3	98,8
9	Pixxaro EC		0,25L/ha	B	111	98,0	97,0	80,0	50,0
					205	98,0	100,0	98,0	96,0
					308	96,0	98,0	88,0	35,0
					405	98,0	100,0	93,0	60,0
					Mean =	97,5	98,8	89,8	60,3
10	Pixxaro EC		0,05L/ha	AC	110	99,0	99,0	99,0	99,0
					204	100,0	100,0	98,0	96,0
					307	100,0	100,0	92,0	50,0
					402	100,0	98,0	96,0	80,0
					Mean =	99,8	99,3	96,3	81,3
11	Pixxaro EC		0,05L/ha	A	106	100,0	99,0	100,0	95,0
	Pixxaro EC		0,075L/ha	C	210	99,0	98,0	95,0	95,0
					302	97,0	98,0	99,0	90,0
					407	100,0	100,0	93,0	85,0
					Mean =	99,0	98,8	96,8	91,3

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Ukrudtsbekæmpelse i spinat uden Betanal. Screening i matrix forsøg.

Trial ID:20426 Location:Flakkebjerg Trial Year:2020
Protocol ID:20426 Investigator:Andrius Hansen Kemezys
Project ID: Study Director:Peter Hartvig
Sponsor Contact:
Conducted Under GEP:Yes

Pest Type
W, Weed = Weed or volunteer crop
Pest Code
BRSNN, Brassica napus, rapeseed = US
CHEAL, Chenopodium album, lambsquarters, common = US
Crop Code
SPQOL, BVNH, Spinacia oleracea, Spinach = US
Part Rated
PLANT = plant
C = Crop is Part Rated
Rating Type
PHYGEN = phytotoxicity - general / injury
CONTRO = control / burndown or knockdown
VIGOR = vigor
Rating Unit
% = percent
Calculation
NC = no calculation

PLOT = total plot

PLOT = total plot

PLOT = total plot
Crop Stage Majority
12 = 2nd true leaf unfolded|BVNH
14 = 4th true leaf unfolded|BVNH
16 = 6th true leaf unfolded|BVNH
18 = 8th true leaf unfolded|BVNH

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Strategier til ukrudtsbekæmpelse i spinat.

Trial ID: 20427-1 Location: Trial Year: 2020
Protocol ID: 20427 Investigator: Anja Lunn
Project ID: Study Director:
Sponsor Contact:
Conducted Under GEP: Yes

General Trial Information

Study Director: Peter Hartvig **Title:** Study director
Investigator: Andrius Hansen Kemezys **Title:** Academic employee

Discipline: H herbicide
Trial Status: I one-year/interim
ARM Trial Created On: 19-01-2021
Initiation Date: 31-03-2020
Completion Date: 04-08-2020 **Protocol Revision Date:** 27-03-2020

Trial Location

City: AU Flakkebjerg **Country:** DNK Denmark
State/Prov.: Slagelse
Postal Code: 4200 **Climate Zone:** EPOMAR EPPO Maritime

Latitude of LL Corner °: 55,3202 N
Longitude of LL Corner °: 11,395902 E

Conducted Under GLP: No
Conducted Under GEP: Yes

Conclusions:

Forsøget blev udført ved forskningscentret AU Flakkebjerg. Forsøget har til formål at undersøge effektivitet og selektivitet af forskellige ukrudtsstrategier til spinat til frø. Vejret i forsøgsperioden kan beskrives som normalt, dog med meget kold maj måned, som har sandsynligvis bidraget til de generelt høje skader, som blev observeret i forsøgsarealet. Forsøget blev etableret med todelte parceller, hvor den ene del blev dampbehandlet for at undgå konkurrence fra ukrudt, mens den ikke dampet del af parcellet blev anvendt til registrering af ukrudt.

Forsøget blev sprøjtet 5 gange: behandling A lige efter såning blev udført den 31. marts; og bladsprøjtninger C, D, E og F blev udført henholdsvis den 20. og den 27. april og den 4. og 13. maj. Sprøjtning med Roundup Bio lige inden fremspiring af spinat blev ikke udført, da der ikke kom noget ukrudt på det tidspunkt.

Forsøget blev bedømt for effekt og skade den 4. maj, lige inden E sprøjtning (0 DA-E), den 12. maj (1 dag inden F) og 14 dage efter F sprøjtning den 28. maj. Forsøget blev i øvrigt bedømt for skade den 24. april (4 DA-C), derudover blev der udført bedømmelse for nedvisning den 21. juli. Forsøget blev høstet den 28. august og spiringsanalyse blev udført i efteråret 2020.

Tre forskellige ukrudtsarter blev bedømt ved effektregistrering: hvidmelet gåsefod (CHEAL, *Chenopodium album*), spildraps (BRSNN, *Brassica napus*), og agerstedmoder (VIOAR, *Viola arvensis*), desuden blev der bedømt andet 2-kimbladet ukrudt (BBBBB).

Resultaterne fra effektbedømmelsen lige inden E sprøjtning viser, at næsten alle strategier har virket godt over for ukrudt, især over for hvidmelet gåsefod og agerstedmoder, hvor der generelt blev opnået ukrudtskontrol af ca. 80-90% i alle testede led på nær led 7 og 12. Led 7 var kun sprøjtet med jordmidler på det tidspunkt, og led 12 var slet ikke sprøjtet, hvilket forklarer de observerede effekter.

Bedømmelsen 14 dage efter sidste sprøjtning viste, at led 2-4 med Betanal og led 9-12 med bladsprøjtninger af Proman viste moderat til god effekt overfor ager stedmoder (55-85%). Bladsprøjtning af Proman og Pixxaro har også bidraget til de høje effekter overfor hvidmelet gåsefod, især når de blev udbragt forholdsvis sent og i højere doseringer. Der synes til gengæld, at effekt på spildraps var på forholdsvis lavt niveau, og var generelt ikke tilstrækkelig ved nogle af strategier ved bedømmelsen 14 DA-F.

Skadesbedømmelser viste, at led 9 med Pixxaro 0,05 l/ha og Proman 0,5 l/ha ved henholdsvis D og E tidspunkter har skadet spinat i alvorlig grad (64% skade 7 dage efter E sprøjtning; 26% skade 14 dage efter F sprøjtning). Led 12 med Proman 0,5 l/ha og Pixxaro 0,1 l/ha ved henholdsvis E og F tidspunkter har også skadet spinat i høj grad (40 % skade 14 dage efter F sprøjtning). De øvrige led synes ikke at har medvirket til nogle varige skader.

Bedømmelse for nedvisning af spinat ca 3 uger inden høst viste ingen signifikant forskel mellem de testede led. Udbytteresultater kunne ikke vise noget signifikant forskel. Der blev hellere ikke observeret noget signifikant forskel i spirehastighed eller spireevne mellem nogle af led.

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Investigator: Andrius Hansen Kemezys **Title:** Academic employee
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City+State/Prov: Slagelse **Mobile No.:** +4526796484
Postal Code: 4200 **E-mail:** ahk@agro.au.dk
Country: DNK Denmark

Crop Description

Crop 1: SPQOL Spinacia oleracea Spinach
Entry Date: 01-09-2020
Planting Date: 30-03-2020
Harvest Date: 04-08-2020
Harvested Width: 2,5 m
Harvested Length: 9 m

Pest Description

Pest 1 Type: W **Code:** BBBBB Broad-leaved plants
Common Name: Broad-leaved plants **Entry Date:** 30-07-2020

Pest 2 Type: W **Code:** BRSNN Brassica napus
Common Name: Rapeseed **Entry Date:** 01-09-2020

Pest 3 Type: W **Code:** CHEAL Chenopodium album
Common Name: common lambsquarters **Entry Date:** 01-09-2020

Pest 4 Type: W **Code:** VIOAR Viola arvensis
Common Name: Field violet **Entry Date:** 01-09-2020

Site and Design

Treated Plot Width: 2,5 m **Site Type:** FIELD field
Treated Plot Length: 9 m
Treated Plot Area: 22,5 m2 **Treatments:** 12
Replications: 4 **Study Design:** RACOBL Randomized Complete Block (RCB)

Soil Description

Description Name: JB6
% Sand: 75,7 **% OM:** 2
% Silt: 11,6 **pH:** 6,1
% Clay: 10,7

Moisture and Weather Conditions

Overall Moisture Conditions: NORMAL normal
Closest Weather Station: AU Flakkebjerg **Distance, Unit:** 500 m

Application Description

	A	B	C	D	E	F
Application Date:	31-03-2020		20-04-2020	27-04-2020	04-05-2020	13-05-2020
Appl. Start Time:	11:15		12:00	12:00	13:30	12:30
Appl. Stop Time:	12:00		12:45	12:45	14:00	13:00
Interval to Prev. Appl., Unit:			20 DAYS	7 DAYS	7 DAYS	9 DAYS
Application Method:	SPRAY		SPRAY	SPRAY	SPRAY	SPRAY
Application Placement:	SOIL		FOLIAR	FOLIAR	FOLIAR	FOLIAR
Applied By:	AHK		AL	AL	AL	AL
Appl. Entry Date:	28-05-2020		28-05-2020	28-05-2020	28-05-2020	28-05-2020
Air Temperature Start, Stop:	7,3 C		17,8 C	11,7 C	11,9 C	12,1 C
% Relative Humidity Start, Stop:	34,4		30	53,9	50,6	31,7
Wind Velocity+Dir., Start:	0,9 MPS W		2,8 MPS E	2,8 MPS SW	5,1 MPS NW	2,6 MPS N
Wet Leaves (Y/N):			N no	N no	N no	N no
Soil Temperature, Unit:	3 C		12,4 C	14,4 C	13,8 C	14,1 C
Soil Moisture:	DRY		VERDRY	VERDRY	SLIWET	DRY
Soil Surface Condition:	FINE		FINE	FINE	FINE	FINE
% Cloud Cover:	5		10	90	25	60
Next Moisture Occurred On:	01-04-2020		29-04-2020	29-04-2020	05-05-2020	15-05-2020

Comment:
A sprøjtning løb tør for sprøjtevæske ved 311-310-309.
B sprøjtning med glyphosat blev ikke udført da der ingen ukrudt var i forrsøgsarealet.

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Crop Stage At Each Application

	A	B	C	D	E	F
Crop 1 Code, BBCH Scale:	SPQOL BVNH	SPQOL BVNH	SPQOL BVNH	SPQOL BVNH	SPQOL BVNH	SPQOL BVNH
Stage Scale Used:	BBCH		BBCH	BBCH	BBCH	BBCH
Stage Majority, Percent:			10	12	14	18

Pest Stage At Each Application

	A	B	C	D	E	F
Pest 1 Code, Type, Scale:	BBBBB W	BBBBB W	BBBBB W	BBBBB W	BBBBB W	BBBBB W
Density:				2,25 PLA/m2	5,5 PLA/m2	4,5 PLA/m2
Coverage:				1 %	3 %	3 %
Pest 2 Code, Type, Scale:	BRSNN W	BRSNN W	BRSNN W	BRSNN W	BRSNN W	BRSNN W
Stage Majority, Percent:				12	12	16
Density:				10,5 PLA/m2	12,5 PLA/m2	12 PLA/m2
Coverage:				4 %	7 %	9 %
Pest 3 Code, Type, Scale:	CHEAL W	CHEAL W	CHEAL W	CHEAL W	CHEAL W	CHEAL W
Stage Majority, Percent:				12	12	16
Density:				4,75 PLA/m2	6,75 PLA/m2	12 PLA/m2
Coverage:				2 %	3 %	5 %
Pest 4 Code, Type, Scale:	VIOAR W	VIOAR W	VIOAR W	VIOAR W	VIOAR W	VIOAR W
Stage Majority, Percent:				10	12	16
Density:				18,8 PLA/m2	22,5 PLA/m2	33 PLA/m2
Coverage:				3 %	6 %	9 %

Application Equipment

	A	B	C	D	E	F
Appl. Equipment:	Selvkørende	bicyc.spraye	Selvkørende	Selvkørende	Selvkørende	Selvkørende
Equipment Type:	SPRAYE	SPRBIC	SPRAYE	SPRAYE	SPRAYE	SPRAYE
Operation Pressure:	3,9 BAR		3,9 BAR	3,9 BAR	3,9 BAR	3,9 BAR
Nozzle Type:	Hardi	Hardi	Hardi	Hardi	Hardi	Hardi
Nozzle Size:	LD015-110	LD015-110	LD015-110	LD015-110	LD015-110	LD015-110
Nozzle Spacing:	50 cm		50 cm	50 cm	50 cm	50 cm
Nozzles/Row:	5	3	5	5	5	5
Band Width:	50 cm		50 cm	50 cm	50 cm	50 cm
Boom Length:	2,5 m		2,5 m	2,5 m	2,5 m	2,5 m
Boom Height:	50 cm		50 cm	50 cm	50 cm	50 cm
Ground Speed:	3,6 KPH		3,6 KPH	3,6 KPH	3,6 KPH	3,6 KPH
Carrier:	WATER		WATER	WATER	WATER	WATER
Minimum Mix/Treatment:	1,8 Liters	1,8 Liters	1,8 Liters	1,8 Liters	1,8 Liters	1,8 Liters
Mix Size:	4 Liters		4 Liters	4 Liters	4 Liters	4 Liters

Date	By	Context	Notes
27-03-2020	Anja Lunn	STATUS	Automatically added by ARM: Trial Status updated to 'S' during trial creation.
04-05-2020	Andrius Hansen Kemezys	STATUS	Automatically added by ARM: Trial Status updated to 'E' when Rating Date entered.

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Strategier til ukrudtsbekæmpelse i spinat.

Trial ID:20427 Location: Trial Year:2020
Protocol ID:20427 Investigator:Anja Lunn
Project ID: Study Director:
Sponsor Contact:
Conducted Under GEP:Yes

Trt No.	Type	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Appl Code	Spray Volume	Volume Unit
1	CHK	Untreated Check								
2	HERB	Centium 36 CS	360	gA/L	CS	0,15	L/ha	A		
	HERB	Roundup Bio	360	gA/L	SC	1,5	L/ha	B		
	HERB	Betanal	160	gA/L	SC	1	L/ha	C		
	HERB	Betanal	160	gA/L	SC	1	L/ha	D		
3	HERB	Centium 36 CS	360	gA/L	CS	0,15	L/ha	A		
	HERB	Proman	500	gA/L	SC	0,5	L/ha	A		
	HERB	Roundup Bio	360	gA/L	SC	1,5	L/ha	B		
	HERB	Betanal	160	gA/L	SC	1	L/ha	C		
	HERB	Betanal	160	gA/L	SC	1	L/ha	D		
4	HERB	Centium 36 CS	360	gA/L	CS	0,15	L/ha	A		
	HERB	Proman	500	gA/L	SC	0,5	L/ha	A		
	HERB	Roundup Bio	360	gA/L	SC	1,5	L/ha	B		
	HERB	Betanal	160	gA/L	SC	1	L/ha	C		
	HERB	Betanal	160	gA/L	SC	1	L/ha	D		
	HERB	Pixxaro EC	305	gA/L	EC	0,125	L/ha	E		
5	HERB	Centium 36 CS	360	gA/L	CS	0,15	L/ha	A		
	HERB	Proman	500	gA/L	SC	0,5	L/ha	A		
	HERB	Roundup Bio	360	gA/L	SC	1,5	L/ha	B		
	HERB	Pixxaro EC	305	gA/L	EC	0,05	L/ha	C		
	HERB	Pixxaro EC	305	gA/L	EC	0,075	L/ha	E		
6	HERB	Centium 36 CS	360	gA/L	CS	0,15	L/ha	A		
	HERB	Proman	500	gA/L	SC	0,5	L/ha	A		
	HERB	Roundup Bio	360	gA/L	SC	1,5	L/ha	B		
	HERB	Pixxaro EC	305	gA/L	EC	0,05	L/ha	D		
	HERB	Pixxaro EC	305	gA/L	EC	0,075	L/ha	F		
7	HERB	Centium 36 CS	360	gA/L	CS	0,15	L/ha	A		
	HERB	Proman	500	gA/L	SC	0,5	L/ha	A		
	HERB	Roundup Bio	360	gA/L	SC	1,5	L/ha	B		
	HERB	Pixxaro EC	305	gA/L	EC	0,125	L/ha	E		
8	HERB	Centium 36 CS	360	gA/L	CS	0,15	L/ha	A		
	HERB	Proman	500	gA/L	SC	0,5	L/ha	A		
	HERB	Roundup Bio	360	gA/L	SC	1,5	L/ha	B		
	HERB	Pixxaro EC	305	gA/L	EC	0,05	L/ha	D		
	HERB	Venzar 500 SC	500	gA/L	SC	0,15	L/ha	D		
	HERB	Pixxaro EC	305	gA/L	EC	0,075	L/ha	F		
	HERB	Venzar 500 SC	500	gA/L	SC	0,15	L/ha	F		
9	HERB	Centium 36 CS	360	gA/L	CS	0,15	L/ha	A		
	HERB	Proman	500	gA/L	SC	0,5	L/ha	A		
	HERB	Roundup Bio	360	gA/L	SC	1,5	L/ha	B		
	HERB	Pixxaro EC	305	gA/L	EC	0,05	L/ha	D		
	HERB	Proman	500	gA/L	SC	0,5	L/ha	E		
10	HERB	Centium 36 CS	360	gA/L	CS	0,15	L/ha	A		
	HERB	Proman	500	gA/L	SC	0,5	L/ha	A		
	HERB	Roundup Bio	360	gA/L	SC	1,5	L/ha	B		
	HERB	Proman	500	gA/L	SC	0,25	L/ha	D		
	HERB	Pixxaro EC	305	gA/L	EC	0,1	L/ha	E		
11	HERB	Centium 36 CS	360	gA/L	CS	0,15	L/ha	A		
	HERB	Venzar 500 SC	500	gA/L	SC	0,75	L/ha	A		
	HERB	Roundup Bio	360	gA/L	SC	1,5	L/ha	B		
	HERB	Proman	500	gA/L	SC	0,25	L/ha	D		
	HERB	Pixxaro EC	305	gA/L	EC	0,1	L/ha	E		
12	HERB	Roundup Bio	360	gA/L	SC	1,5	L/ha	B		
	HERB	Pixxaro EC	305	gA/L	EC	0,1	L/ha	E		
	HERB	Proman	500	gA/L	SC	0,5	L/ha	F		

Additional Treatment Information
Type
CHK = Check or Untreated
HERB = Herbicide
Treatment Name
Untreated Check, , , = Not treated|
Roundup Bio, 360, gA/L, SC = glyphosate|360|
Betanal, 160, gA/L, SC = phenmedipham|160|
Proman, 500, gA/L, SC = metobromuron|500|
Pixxaro EC, 305, gA/L, EC = fluroxypyr+halauxifen-methyl+cloquintocet-mexyl|280+12,5+12,5|

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Venzar 500 SC, 500, gA/L, SC = lenacil|500|

Form Unit

gA/L = grams active ingredient per liter formulated product

Form Type

CS = capsule suspension|Liquid||A stable suspension of capsules in a fluid, normally intended for dilution with water before use.

SC = suspension concentrate (= flowable concentrate)|Liquid||A stable suspension of active ingredient(s) in water, intended for dilution with water before use.

EC = emulsifiable concentrate|Liquid||A liquid, homogeneous formulation to be applied as an emulsion after dilution in water.

Rate Unit

Additional Treatment Information

L/ha = Liters Product per Hectare (US=GAL/A)|T

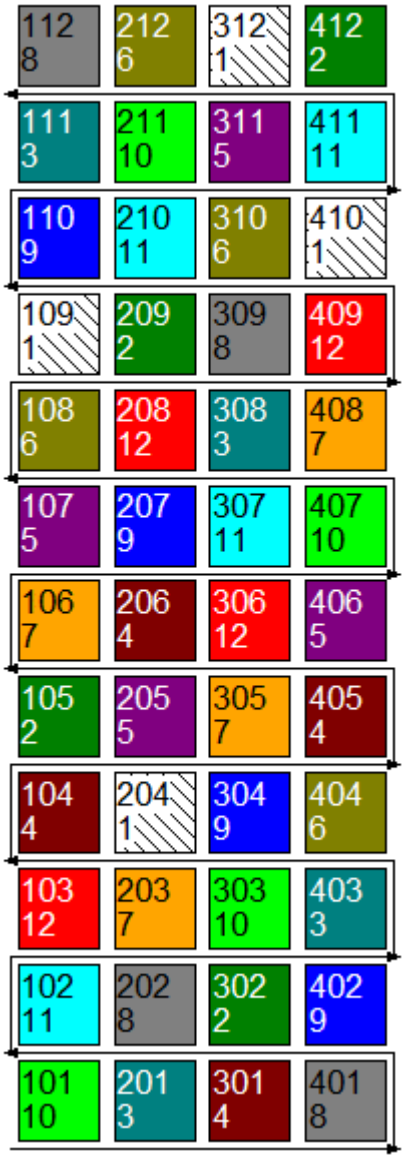
Aarhus University, Department of Agroecology, Flakkebjerg

Strategier til ukrudtsbekæmpelse i spinat.

Trial ID:20427 Location: Trial Year:2020
Protocol ID:20427 Investigator:Anja Lunn
Project ID: Study Director:
Sponsor Contact:
Conducted Under GEP:Yes

Trial Map Treatment Description

Trt	Code	Description
1	CHK	Untreated Check
2		Centium 36 CS 0.15 L/ha;Roundup Bio 1.5 L/ha;Betanal 1 L/ha;Betanal 1 L/ha
3		Centium 36 CS 0.15 L/ha;Proman 0.5 L/ha;Roundup Bio 1.5 L/ha;Betanal 1 L/ha;Beta
4		Centium 36 CS 0.15 L/ha;Proman 0.5 L/ha;Roundup Bio 1.5 L/ha;Betanal 1 L/ha;Beta
5		Centium 36 CS 0.15 L/ha;Proman 0.5 L/ha;Roundup Bio 1.5 L/ha;Pixxaro EC 0.05 L/h
6		Centium 36 CS 0.15 L/ha;Proman 0.5 L/ha;Roundup Bio 1.5 L/ha;Pixxaro EC 0.05 L/h
7		Centium 36 CS 0.15 L/ha;Proman 0.5 L/ha;Roundup Bio 1.5 L/ha;Pixxaro EC 0.125 L/
8		Centium 36 CS 0.15 L/ha;Proman 0.5 L/ha;Roundup Bio 1.5 L/ha;Pixxaro EC 0.05 L/h
9		Centium 36 CS 0.15 L/ha;Proman 0.5 L/ha;Roundup Bio 1.5 L/ha;Pixxaro EC 0.05 L/h
10		Centium 36 CS 0.15 L/ha;Proman 0.5 L/ha;Roundup Bio 1.5 L/ha;Proman 0.25 L/ha;Pi
11		Centium 36 CS 0.15 L/ha;Venzar 500 SC 0.75 L/ha;Roundup Bio 1.5 L/ha;Proman 0.25
12		Roundup Bio 1.5 L/ha



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Strategier til ukrudtsbekæmpelse i spinat.

Trial ID: 20427-1 Location: Trial Year: 2020
Protocol ID: 20427 Investigator: Anja Lunn
Project ID: Study Director:
Sponsor Contact:
Conducted Under GEP: Yes

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	4	6	11	3	5
	Pest Type				W Weed	W Weed	W Weed	W Weed	W Weed
	Pest Code				BRSNN	BRSNN	BRSNN	CHEAL	CHEAL
	Pest Scientific Name				Brassica napus	Brassica napus	Brassica napus	Chenopodium album	Chenopodium album
	Pest Name				Rapeseed	Rapeseed	Rapeseed	common lambsquarters	common lambsquarters
	Crop Code				SPQOL	SPQOL	SPQOL	SPQOL	SPQOL
	BBCH Scale				BVNH	BVNH	BVNH	BVNH	BVNH
	Crop Name				Spinach	Spinach	Spinach	Spinach	Spinach
	Description								
	Rating Date				04-05-2020	12-05-2020	27-05-2020	04-05-2020	12-05-2020
	SE Name				W003	W003	W003	W003	W003
	SE Description				% weed control	% weed control	% weed control	% weed control	% weed control
	Part Rated				PLANT -	PLANT -	PLANT -	PLANT -	PLANT -
	Rating Type				CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
	Rating Unit				%	%	%	%	%
	Calculation				NC	NC	NC	NC	NC
	Sample Size, Unit				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
	Collection Basis, Unit				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
	Reporting Basis, Unit				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
	Number of Subsamples				1	1	1	1	1
	Crop Stage Scale								
	Crop Stage Majority					16	18		16
	Pest Stage Majority				12	16		12	16
	Pest Density, Unit				12,5PLA/m2	12 PLA/m2	7 PLA/m2	6,75PLA/m2	12 PLA/m2
	Data Entry Date				31-05-2020	12-05-2020	28-05-2020	31-05-2020	12-05-2020
	Days After First/Last Applic.				- 7	- 8	- 14	- 7	- 8
	Trt-Eval Interval				0 DA-E	-1 DA-F	14 DA-F	0 DA-E	-1 DA-F
	ARM Action Codes								
	Number of Decimals				1	1	1	1	1
1	Untreated Check								
2	Centium 36 CS	0,15	L/ha	A	73,8a	46,3ab	38,8a	87,5ab	32,5cd
	Betanal	1	L/ha	C					
	Betanal	1	L/ha	D					
3	Centium 36 CS	0,15	L/ha	A	75,0a	65,0ab	41,3a	92,5a	82,5ab
	Proman	0,5	L/ha	A					
	Betanal	1	L/ha	C					
	Betanal	1	L/ha	D					
4	Centium 36 CS	0,15	L/ha	A	65,0a	78,8a	42,5a	90,0a	95,0a
	Proman	0,5	L/ha	A					
	Betanal	1	L/ha	C					
	Betanal	1	L/ha	D					
	Pixxaro EC	0,125	L/ha	E					
5	Centium 36 CS	0,15	L/ha	A	62,5a	41,3ab	16,3a	85,0ab	3,8d
	Proman	0,5	L/ha	A					
	Pixxaro EC	0,05	L/ha	C					
	Pixxaro EC	0,075	L/ha	E					
6	Centium 36 CS	0,15	L/ha	A	47,5ab	2,5b	2,5a	83,8ab	5,0d
	Proman	0,5	L/ha	A					
	Pixxaro EC	0,05	L/ha	D					
	Pixxaro EC	0,075	L/ha	F					
7	Centium 36 CS	0,15	L/ha	A	23,8ab	6,3b	5,0a	56,3b	12,5d
	Proman	0,5	L/ha	A					
	Pixxaro EC	0,125	L/ha	E					
8	Centium 36 CS	0,15	L/ha	A	46,3ab	31,3ab	45,0a	85,0ab	3,8d
	Proman	0,5	L/ha	A					
	Pixxaro EC	0,05	L/ha	D					
	Venzar 500 SC	0,15	L/ha	D					
	Pixxaro EC	0,075	L/ha	F					
	Venzar 500 SC	0,15	L/ha	F					
9	Centium 36 CS	0,15	L/ha	A	5,0b	35,0ab	7,5a	82,5ab	96,3a
	Proman	0,5	L/ha	A					
	Pixxaro EC	0,05	L/ha	D					
	Proman	0,5	L/ha	E					

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Pest Type		W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code		BRSNN	BRSNN	BRSNN	CHEAL	CHEAL
Pest Scientific Name		Brassica napus	Brassica napus	Brassica napus	Chenopodium album	Chenopodium album
Pest Name		Rapeseed	Rapeseed	Rapeseed	common lambsquarters	common lambsquarters
Crop Code		SPQOL	SPQOL	SPQOL	SPQOL	SPQOL
BBCH Scale		BVNH	BVNH	BVNH	BVNH	BVNH
Crop Name		Spinach	Spinach	Spinach	Spinach	Spinach
Description						
Rating Date		04-05-2020	12-05-2020	27-05-2020	04-05-2020	12-05-2020
SE Name		W003	W003	W003	W003	W003
SE Description		% weed control	% weed control	% weed control	% weed control	% weed control
Part Rated		PLANT -	PLANT -	PLANT -	PLANT -	PLANT -
Rating Type		CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit		%	%	%	%	%
Calculation		NC	NC	NC	NC	NC
Sample Size, Unit		1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis, Unit		1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Reporting Basis, Unit		1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples		1	1	1	1	1
Crop Stage Scale						
Crop Stage Majority			16	18		16
Pest Stage Majority		12	16		12	16
Pest Density, Unit		12,5PLA/m2	12 PLA/m2	7 PLA/m2	6,75PLA/m2	12 PLA/m2
Data Entry Date		31-05-2020	12-05-2020	28-05-2020	31-05-2020	12-05-2020
Days After First/Last Applic.		- 7	- 8	- 14	- 7	- 8
Trt-Eval Interval		0 DA-E	-1 DA-F	14 DA-F	0 DA-E	-1 DA-F
ARM Action Codes						
Number of Decimals		1	1	1	1	1
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	4	6	11	3	5
10	Centium 36 CS	0,15	L/ha	A	72,5a	51,3ab	25,0a	88,8a	97,5a
	Proman	0,5	L/ha	A					
	Proman	0,25	L/ha	D					
	Pixxaro EC	0,1	L/ha	E					
11	Centium 36 CS	0,15	L/ha	A	82,5a	61,3ab	47,5a	82,5ab	56,3bc
	Venzar 500 SC	0,75	L/ha	A					
	Proman	0,25	L/ha	D					
	Pixxaro EC	0,1	L/ha	E					
12	Pixxaro EC	0,1	L/ha	E	0,0b	2,5b	43,8a	0,0c	0,0d
	Proman	0,5	L/ha	F					
LSD P=.05					36,49	43,90	53,00	20,28	28,02
Standard Deviation					25,27	30,40	36,70	14,05	19,41
CV					50,19	79,38	128,16	18,53	44,01
Grand Mean					50,34	38,30	28,64	75,80	44,09
Levene's F					0,641	5,957	4,547	5,813	3,296
Levene's Prob(F)					0,768	0,001*	0,001*	0,001*	0,005*
Rank X2					.	.	.	.	.
P(Rank X2)					.	.	.	.	.
Replicate F					0,523	0,543	1,254	3,866	1,662
Replicate Prob(F)					0,6698	0,6564	0,3077	0,0189	0,1963
Treatment F					5,241	2,929	0,939	14,671	18,744
Treatment Prob(F)					0,0002	0,0110	0,5133	0,0001	0,0001

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Pest Type				W Weed	W Weed	W Weed	W Weed	W Weed	W Weed				
Pest Code				CHEAL	VIOAR	VIOAR	VIOAR	BBBBB	BBBBB				
Pest Scientific Name				Chenopodium album	Viola arvensis	Viola arvensis	Viola arvensis	Broad-leaved plants	Broad-leaved plants				
Pest Name				common lambsquarters	Field violet	Field violet	Field violet	Broad-leaved plants	Broad-leaved plants				
Crop Code				SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL				
BBCH Scale				BVNH	BVNH	BVNH	BVNH	BVNH	BVNH				
Crop Name				Spinach	Spinach	Spinach	Spinach	Spinach	Spinach				
Description													
Rating Date				27-05-2020	04-05-2020	12-05-2020	27-05-2020	04-05-2020	12-05-2020				
SE Name				W003	W003	W003	W003	W003	W003				
SE Description				% weed control	% weed control	% weed control	% weed control	% weed control	% weed control				
Part Rated				PLANT -	PLANT -	PLANT -	PLANT -	PLANT -	PLANT -				
Rating Type				CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO				
Rating Unit				%	%	%	%	%	%				
Calculation				NC	NC	NC	NC	NC	NC				
Sample Size, Unit				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT				
Collection Basis, Unit				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT				
Reporting Basis, Unit				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT				
Number of Subsamples				1	1	1	1	1	1				
Crop Stage Scale													
Crop Stage Majority				18	14	16	18	14					
Pest Stage Majority						16							
Pest Density, Unit				9,5 PLA/m2	22,5PLA/m2	33 PLA/m2	31 PLA/m2	5,5 PLA/m2	4,5 PLA/m2				
Data Entry Date				28-05-2020	31-05-2020	12-05-2020	28-05-2020	31-05-2020	12-05-2020				
Days After First/Last Applic.				- 14	- 7	- 8	- 14	- 7	- 8				
Trt-Eval Interval				14 DA-F	0 DA-E	-1 DA-F	14 DA-F	0 DA-E	-1 DA-F				
ARM Action Codes													
Number of Decimals				1		1	1		1				
Trt No.	Treatment Name	Rate	Unit	Appl Code	10	16	7	12	15	8			
1	Untreated Check												
2	Centium 36 CS	0,15	L/ha	A	12,5b	83,8ab	47,5ab	67,5ab	85,0a	48,8bc			
	Betanal	1	L/ha	C									
	Betanal	1	L/ha	D									
3	Centium 36 CS	0,15	L/ha	A	41,3ab	90,0a	88,8a	85,0a	85,0a	90,0a			
	Proman	0,5	L/ha	A									
	Betanal	1	L/ha	C									
	Betanal	1	L/ha	D									
4	Centium 36 CS	0,15	L/ha	A	88,8a	86,3ab	92,5a	76,3ab	76,3a	93,8a			
	Proman	0,5	L/ha	A									
	Betanal	1	L/ha	C									
	Betanal	1	L/ha	D									
	Pixxaro EC	0,125	L/ha	E									
5	Centium 36 CS	0,15	L/ha	A	57,5ab	80,8ab	25,0bc	35,0ab	78,8a	21,3cd			
	Proman	0,5	L/ha	A									
	Pixxaro EC	0,05	L/ha	C									
	Pixxaro EC	0,075	L/ha	E									
6	Centium 36 CS	0,15	L/ha	A	40,0ab	80,0ab	2,5c	22,5b	90,0a	5,0d			
	Proman	0,5	L/ha	A									
	Pixxaro EC	0,05	L/ha	D									
	Pixxaro EC	0,075	L/ha	F									
7	Centium 36 CS	0,15	L/ha	A	62,5ab	65,0b	7,5c	18,8b	48,8b	8,8d			
	Proman	0,5	L/ha	A									
	Pixxaro EC	0,125	L/ha	E									
8	Centium 36 CS	0,15	L/ha	A	63,8ab	73,8ab	0,0c	40,0ab	78,8a	5,0d			
	Proman	0,5	L/ha	A									
	Pixxaro EC	0,05	L/ha	D									
	Venzar 500 SC	0,15	L/ha	D									
	Pixxaro EC	0,075	L/ha	F									
	Venzar 500 SC	0,15	L/ha	F									
9	Centium 36 CS	0,15	L/ha	A	92,5a	76,3ab	88,8a	65,0ab	72,5a	92,5a			
	Proman	0,5	L/ha	A									
	Pixxaro EC	0,05	L/ha	D									
	Proman	0,5	L/ha	E									

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
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Pest Type		W Weed	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code		CHEAL	VIOAR	VIOAR	VIOAR	BBBBB	BBBBB
Pest Scientific Name		Chenopodium album	Viola arvensis	Viola arvensis	Viola arvensis	Broad-leaved plants	Broad-leaved plants
Pest Name		common lambsquarters	Field violet	Field violet	Field violet	Broad-leaved plants	Broad-leaved plants
Crop Code		SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL
BBCH Scale		BVNH	BVNH	BVNH	BVNH	BVNH	BVNH
Crop Name		Spinach	Spinach	Spinach	Spinach	Spinach	Spinach
Description							
Rating Date		27-05-2020	04-05-2020	12-05-2020	27-05-2020	04-05-2020	12-05-2020
SE Name		W003	W003	W003	W003	W003	W003
SE Description		% weed control	% weed control	% weed control	% weed control	% weed control	% weed control
Part Rated		PLANT -	PLANT -	PLANT -	PLANT -	PLANT -	PLANT -
Rating Type		CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit		%	%	%	%	%	%
Calculation		NC	NC	NC	NC	NC	NC
Sample Size, Unit		1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis, Unit		1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Reporting Basis, Unit		1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples		1	1	1	1	1	1
Crop Stage Scale							
Crop Stage Majority		18	14	16	18	14	
Pest Stage Majority				16			
Pest Density, Unit		9,5 PLA/m2	22,5PLA/m2	33 PLA/m2	31 PLA/m2	5,5 PLA/m2	4,5 PLA/m2
Data Entry Date		28-05-2020	31-05-2020	12-05-2020	28-05-2020	31-05-2020	12-05-2020
Days After First/Last Applic.		- 14	- 7	- 8	- 14	- 7	- 8
Trt-Eval Interval		14 DA-F	0 DA-E	-1 DA-F	14 DA-F	0 DA-E	-1 DA-F
ARM Action Codes							
Number of Decimals		1		1	1		1
Trt No.	Treatment Name	Rate Unit	Appl Code	10	16	7	12	15	8
10	Centium 36 CS	0,15L/ha	A	85,0a	81,3ab	88,8a	55,0ab	78,8a	93,8a
	Proman	0,5L/ha	A						
	Proman	0,25L/ha	D						
	Pixxaro EC	0,1L/ha	E						
11	Centium 36 CS	0,15L/ha	A	50,0ab	67,5b	70,0a	57,5ab	90,0a	70,0ab
	Venzar 500 SC	0,75L/ha	A						
	Proman	0,25L/ha	D						
	Pixxaro EC	0,1L/ha	E						
12	Pixxaro EC	0,1L/ha	E	78,8a	0,0c	2,5c	61,3ab	0,0c	0,0d
	Proman	0,5L/ha	F						
LSD P=.05				39,94	13,04	30,87	35,80	18,75	30,08
Standard Deviation				27,66	9,03	21,38	24,79	12,98	20,83
CV				45,24	12,67	45,77	46,71	18,22	43,33
Grand Mean				61,14	71,32	46,70	53,07	71,25	48,07
Levene's F				5,322	1,788	1,537	3,509	2,299	2,576
Levene's Prob(F)				0,001*	0,102	0,171	0,003*	0,035*	0,02*
Rank X2				.	.	.	.	.	.
P(Rank X2)				.	.	.	.	.	.
Replicate F				1,538	1,175	0,273	0,460	0,516	0,274
Replicate Prob(F)				0,2249	0,3358	0,8443	0,7126	0,6747	0,8438
Treatment F				3,127	30,199	14,044	2,999	16,274	15,376
Treatment Prob(F)				0,0075	0,0001	0,0001	0,0096	0,0001	0,0001

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
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Pest Type		W Weed							
Pest Code		BBBBB							
Pest Scientific Name		Broad-leaved plants							
Pest Name		Broad-leaved plants							
Crop Code		SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL
BBCH Scale		BVNH	BVNH	BVNH	BVNH	BVNH	BVNH	BVNH	BVNH
Crop Name		Spinach	Spinach	Spinach	Spinach	Spinach	Spinach	Spinach	Spinach
Description							Nedvisning %	råvægt	renset vægt
Rating Date		27-05-2020	24-04-2020	04-05-2020	12-05-2020	27-05-2020	21-07-2020	28-08-2020	28-08-2020
SE Name		W003							
SE Description		% weed control							
Part Rated		PLANT -			- C	- C			
Rating Type		CONTRO	PHYGEN	PHYGEN	PHYGEN	PHYGEN			
Rating Unit		%	percent	percent	%	%		kg	kg
Calculation		NC			NC	NC			
Sample Size, Unit		1 PLOT			1 PLOT	1 PLOT			22,5 m2
Collection Basis, Unit		1 PLOT			1 PLOT	1 PLOT			
Reporting Basis, Unit		1 PLOT			1 PLOT	1 PLOT			
Number of Subsamples		1	1	1	1	1	1	1	1
Crop Stage Scale			BBCH	BBCH					
Crop Stage Majority		18	10-12	14	18	18			
Pest Stage Majority									
Pest Density, Unit		2,3 PLA/m2							
Data Entry Date		28-05-2020	31-08-2020	31-05-2020	12-05-2020	28-05-2020	30-07-2020	31-08-2020	31-08-2020
Days After First/Last Applic.		- 14	- 4	- 7	- 8	- 14	- 69	- 107	- 107
Trt-Eval Interval		14 DA-F	4 DA-C	0 DA-E	-1 DA-F	14 DA-F	69 DA-F		
ARM Action Codes									
Number of Decimals		1	1	1	1	1			1
Trt No.	Treatment Name	Rate Unit	Appl Code	13	1	2	9	14	17	18	19
1	Untreated Check				0,0c	0,0f			46,3a	6,2583a	5,5a
2	Centium 36 CS	0,15L/ha	A	0,0a	20,0b	11,3e	5,0d	0,0g	56,3a	6,4605a	6,0a
	Betanal	1L/ha	C								
	Betanal	1L/ha	D								
3	Centium 36 CS	0,15L/ha	A	61,3a	15,0b	18,8c	2,5d	0,0g	43,8a	6,7130a	6,1a
	Proman	0,5L/ha	A								
	Betanal	1L/ha	C								
	Betanal	1L/ha	D								
4	Centium 36 CS	0,15L/ha	A	66,3a	20,0b	15,0d	27,5b	13,8cde	51,3a	6,2020a	5,7a
	Proman	0,5L/ha	A								
	Betanal	1L/ha	C								
	Betanal	1L/ha	D								
	Pixxaro EC	0,125L/ha	E								
5	Centium 36 CS	0,15L/ha	A	11,3a	35,0a	10,0e	11,3c	10,0ef	50,0a	6,1828a	5,7a
	Proman	0,5L/ha	A								
	Pixxaro EC	0,05L/ha	C								
	Pixxaro EC	0,075L/ha	E								
6	Centium 36 CS	0,15L/ha	A	6,3a	0,0c	28,8ab	1,3d	8,8f	53,8a	6,5155a	6,1a
	Proman	0,5L/ha	A								
	Pixxaro EC	0,05L/ha	D								
	Pixxaro EC	0,075L/ha	F								
7	Centium 36 CS	0,15L/ha	A	52,5a	5,0c	2,5f	15,0c	12,5def	48,8a	5,9785a	5,5a
	Proman	0,5L/ha	A								
	Pixxaro EC	0,125L/ha	E								
8	Centium 36 CS	0,15L/ha	A	12,5a	0,0c	30,0a	0,0d	11,3def	46,3a	5,8225a	5,2a
	Proman	0,5L/ha	A								
	Pixxaro EC	0,05L/ha	D								
	Venzar 500 SC	0,15L/ha	D								
	Pixxaro EC	0,075L/ha	F								
	Venzar 500 SC	0,15L/ha	F								
9	Centium 36 CS	0,15L/ha	A	7,5a	5,0c	28,8ab	63,8a	26,3b	47,5a	6,1963a	5,7a
	Proman	0,5L/ha	A								
	Pixxaro EC	0,05L/ha	D								
	Proman	0,5L/ha	E								

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Pest Type		W Weed							
Pest Code		BBBBB							
Pest Scientific Name		Broad-leaved plants							
Pest Name		Broad-leaved plants							
Crop Code		SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL
BBCH Scale		BVNH	BVNH	BVNH	BVNH	BVNH	BVNH	BVNH	BVNH
Crop Name		Spinach	Spinach	Spinach	Spinach	Spinach	Spinach	Spinach	Spinach
Description							Nedvisning %	råvægt	renset vægt
Rating Date		27-05-2020	24-04-2020	04-05-2020	12-05-2020	27-05-2020	21-07-2020	28-08-2020	28-08-2020
SE Name		W003							
SE Description		% weed control							
Part Rated		PLANT -			- C	- C			
Rating Type		CONTRO	PHYGEN	PHYGEN	PHYGEN	PHYGEN			
Rating Unit		%	percent	percent	%	%		kg	kg
Calculation		NC			NC	NC			
Sample Size, Unit		1 PLOT			1 PLOT	1 PLOT			22,5 m2
Collection Basis, Unit		1 PLOT			1 PLOT	1 PLOT			
Reporting Basis, Unit		1 PLOT			1 PLOT	1 PLOT			
Number of Subsamples		1	1	1	1	1	1	1	1
Crop Stage Scale			BBCH	BBCH					
Crop Stage Majority		18	10-12	14	18	18			
Pest Stage Majority									
Pest Density, Unit		2,3 PLA/m2							
Data Entry Date		28-05-2020	31-08-2020	31-05-2020	12-05-2020	28-05-2020	30-07-2020	31-08-2020	31-08-2020
Days After First/Last Applic.		- 14	- 4	- 7	- 8	- 14	- 69	- 107	- 107
Trt-Eval Interval		14 DA-F	4 DA-C	0 DA-E	-1 DA-F	14 DA-F	69 DA-F		
ARM Action Codes									
Number of Decimals		1	1	1	1	1			1
Trt No.	Treatment Name	Rate Unit Appl Code	13	1	2	9	14	17	18	19
10	Centium 36 CS	0,15L/ha A	30,0a	0,0c	25,0b	21,3b	15,0cd	51,3a	5,8278a	5,4a
	Proman	0,5L/ha A								
	Proman	0,25L/ha D								
	Pixxaro EC	0,1L/ha E								
11	Centium 36 CS	0,15L/ha A	50,0a	0,0c	25,0b	27,5b	17,5c	46,3a	5,7793a	5,1a
	Venzar 500 SC	0,75L/ha A								
	Proman	0,25L/ha D								
	Pixxaro EC	0,1L/ha E								
12	Pixxaro EC	0,1L/ha E	58,8a	0,0c	0,0f	12,5c	40,0a	47,5a	5,8575a	5,4a
	Proman	0,5L/ha F								
LSD P=.05			40,87	7,41	3,07	5,84	3,25	10,33	1,25251	1,29
Standard Deviation			28,30	5,15	2,13	4,05	2,25	7,18	0,87063	0,90
CV			87,39	61,79	13,12	23,73	15,99	14,63	14,16	15,96
Grand Mean			32,39	8,33	16,25	17,05	14,09	49,06	6,14948	5,63
Levene's F			5,255	0,00	1,364	1,35	0,85	1,455	0,424	0,388
Levene's Prob(F)			0,001*	0,00*	0,232	0,246	0,586	0,192	0,935	0,952
Rank X2			.	.	.	.	.	.	.	.
P(Rank X2)			.	.	.	.	.	.	.	.
Replicate F			1,181	0,314	0,000	3,750	1,493	4,646	21,965	24,207
Replicate Prob(F)			0,3335	0,8149	1,0000	0,0212	0,2366	0,0081	0,0001	0,0001
Treatment F			3,290	20,114	115,500	82,444	101,239	0,995	0,493	0,514
Treatment Prob(F)			0,0055	0,0001	0,0001	0,0001	0,0001	0,4710	0,8939	0,8797

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Pest Type							
Pest Code							
Pest Scientific Name							
Pest Name							
Crop Code				SPQOL	SPQOL	SPQOL	
BBCH Scale				BVNH	BVNH	BVNH	
Crop Name				Spinach	Spinach	Spinach	
Description				renset vægt	spirehastighed	spireevne	
Rating Date				28-08-2020	17-11-2020	02-12-2020	
SE Name							
SE Description							
Part Rated					PLANT C	PLANT C	
Rating Type				YIELD	GERMIN	GERMIN	
Rating Unit				T-MET	percent	percent	
Calculation							
Sample Size, Unit				1 ha	100 SEED	100 SEED	
Collection Basis, Unit					1 SAMPLE	1 SAMPLE	
Reporting Basis, Unit							
Number of Subsamples				1	1	1	
Crop Stage Scale							
Crop Stage Majority							
Pest Stage Majority							
Pest Density, Unit							
Data Entry Date					20-11-2020	03-12-2020	
Days After First/Last Applic.				- 107	- 188	- 203	
Trt-Eval Interval							
ARM Action Codes				TY1			
Number of Decimals				2	1	1	
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	20	21	22
1	Untreated Check				2,45a	55,0a	74,3a
2	Centium 36 CS	0,15	L/ha	A	2,66a	63,8a	79,8a
	Betanal	1	L/ha	C			
	Betanal	1	L/ha	D			
3	Centium 36 CS	0,15	L/ha	A	2,72a	49,5a	70,3a
	Proman	0,5	L/ha	A			
	Betanal	1	L/ha	C			
	Betanal	1	L/ha	D			
4	Centium 36 CS	0,15	L/ha	A	2,55a	56,5a	80,8a
	Proman	0,5	L/ha	A			
	Betanal	1	L/ha	C			
	Betanal	1	L/ha	D			
	Pixxaro EC	0,125	L/ha	E			
5	Centium 36 CS	0,15	L/ha	A	2,52a	66,5a	80,3a
	Proman	0,5	L/ha	A			
	Pixxaro EC	0,05	L/ha	C			
	Pixxaro EC	0,075	L/ha	E			
6	Centium 36 CS	0,15	L/ha	A	2,71a	66,0a	83,5a
	Proman	0,5	L/ha	A			
	Pixxaro EC	0,05	L/ha	D			
	Pixxaro EC	0,075	L/ha	F			
7	Centium 36 CS	0,15	L/ha	A	2,47a	55,3a	66,8a
	Proman	0,5	L/ha	A			
	Pixxaro EC	0,125	L/ha	E			
8	Centium 36 CS	0,15	L/ha	A	2,33a	61,8a	74,3a
	Proman	0,5	L/ha	A			
	Pixxaro EC	0,05	L/ha	D			
	Venzar 500 SC	0,15	L/ha	D			
	Pixxaro EC	0,075	L/ha	F			
	Venzar 500 SC	0,15	L/ha	F			
9	Centium 36 CS	0,15	L/ha	A	2,53a	55,8a	76,3a
	Proman	0,5	L/ha	A			
	Pixxaro EC	0,05	L/ha	D			
	Proman	0,5	L/ha	E			

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Pest Type								
Pest Code								
Pest Scientific Name								
Pest Name								
Crop Code						SPQOL	SPQOL	SPQOL
BBCH Scale						BVNH	BVNH	BVNH
Crop Name						Spinach	Spinach	Spinach
Description						renset vægt	spirehastighed	spireevne
Rating Date						28-08-2020	17-11-2020	02-12-2020
SE Name								
SE Description								
Part Rated							PLANT C	PLANT C
Rating Type						YIELD	GERMIN	GERMIN
Rating Unit						T-MET	percent	percent
Calculation								
Sample Size, Unit						1 ha	100 SEED	100 SEED
Collection Basis, Unit							1 SAMPLE	1 SAMPLE
Reporting Basis, Unit								
Number of Subsamples						1	1	1
Crop Stage Scale								
Crop Stage Majority								
Pest Stage Majority								
Pest Density, Unit								
Data Entry Date							20-11-2020	03-12-2020
Days After First/Last Applic.						- 107	- 188	- 203
Trt-Eval Interval								
ARM Action Codes						TY1		
Number of Decimals						2	1	1
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code		20	21	22
10	Centium 36 CS	0,15	L/ha	A		2,40a	63,5a	72,3a
	Proman	0,5	L/ha	A				
	Proman	0,25	L/ha	D				
	Pixxaro EC	0,1	L/ha	E				
11	Centium 36 CS	0,15	L/ha	A		2,27a	57,5a	72,0a
	Venzar 500 SC	0,75	L/ha	A				
	Proman	0,25	L/ha	D				
	Pixxaro EC	0,1	L/ha	E				
12	Pixxaro EC	0,1	L/ha	E		2,41a	64,5a	74,3a
	Proman	0,5	L/ha	F				
LSD P=.05						0,575	19,36	18,79
Standard Deviation						0,399	13,45	13,06
CV						15,96	22,57	17,33
Grand Mean						2,502	59,63	75,38
Levene's F						0,388	0,774	0,644
Levene's Prob(F)						0,952	0,663	0,78
Rank X2						.	.	.
P(Rank X2)						.	.	.
Replicate F						24,207	18,050	19,117
Replicate Prob(F)						0,0001	0,0001	0,0001
Treatment F						0,514	0,644	0,563
Treatment Prob(F)						0,8797	0,7783	0,8441

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Strategier til ukrudtsbekæmpelse i spinat.

Trial ID: 20427-1 Location: Trial Year: 2020
Protocol ID: 20427 Investigator: Anja Lunn
Project ID: Study Director:
Sponsor Contact:
Conducted Under GEP: Yes

Pest Type
W, Weed = Weed or volunteer crop

Pest Code
BRSNN, Brassica napus, Rapeseed = US
CHEAL, Chenopodium album, common lambsquarters = US
VIOAR, Viola arvensis, Field violet = US
BBBBB, Broad-leaved plants, Broad-leaved plants = US

Crop Code
SPQOL, BVNH, Spinacia oleracea, Spinach = US

Part Rated
PLANT = plant
C = Crop is Part Rated

Rating Type
CONTRO = control / burndown or knockdown
PHYGEN = phytotoxicity - general / injury
YIELD = yield
GERMIN = germination

Rating Unit
% = percent
kg = kilogram
T-MET = ton (metric=1000 kg)

Calculation
NC = no calculation

PLOT = total plot
m2 = square meter
ha = hectare
SEED = seed

PLOT = total plot
SAMPLE = sample

PLOT = total plot

Crop Stage Scale
BBCH = BBCH uniform plant stages

Crop Stage Majority
16 = 6th true leaf unfolded|BVNH
18 = 8th true leaf unfolded|BVNH
14 = 4th true leaf unfolded|BVNH

Pest Stage Majority
12 = 2 true leaves, leaf pairs or whorls unfolded
16 = 6 true leaves, leaf pairs or whorls unfolded

PLA/m2 = plants per square meter

ARM Action Codes
TY1 = 0.4444444*[19]

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Strategier til ukrudtsbekæmpelse i spinat.

Pest Type			W Weed	W Weed	W Weed	W Weed	W Weed	W Weed		
Pest Code			CHEAL	BRSNN	CHEAL	BRSNN	VIOAR	BBBBB		
Pest Scientific Name			Chenopodium album	Brassica napus	Chenopodium album	Brassica napus	Viola arvensis	Broad-leaved plants		
Pest Name			common lambsquarters	Rapeseed	common lambsquarters	Rapeseed	Field violet	Broad-leaved plants		
Crop Code			SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL
BBCH Scale			BVNH	BVNH	BVNH	BVNH	BVNH	BVNH	BVNH	BVNH
Crop Name			Spinach	Spinach	Spinach	Spinach	Spinach	Spinach	Spinach	Spinach
Description										
Rating Date			24-04-2020	04-05-2020	04-05-2020	04-05-2020	12-05-2020	12-05-2020	12-05-2020	12-05-2020	12-05-2020
SE Name					W003	W003	W003	W003	W003	W003	
SE Description					% weed control	% weed control	% weed control	% weed control	% weed control	% weed control	
Part Rated					PLANT -	PLANT -	PLANT -	PLANT -	PLANT -	PLANT -	- C
Rating Type			PHYGEN	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	PHYGEN
Rating Unit			percent	percent	%	%	%	%	%	%	%
Calculation					NC	NC	NC	NC	NC	NC	NC
Sample Size, Unit					1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis, Unit					1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Reporting Basis, Unit					1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples			1	1	1	1	1	1	1	1	1
Crop Stage Scale			BBCH	BBCH							
Crop Stage Majority			10-12	14			16	16	16		18
Pest Stage Majority					12	12	16	16	16		
Pest Density, Unit					6,75PLA/m2	12,5PLA/m2	12 PLA/m2	12 PLA/m2	33 PLA/m2	4,5 PLA/m2	
Data Entry Date			31-08-2020	31-05-2020	31-05-2020	31-05-2020	12-05-2020	12-05-2020	12-05-2020	12-05-2020	12-05-2020
Days After First/Last Applic.			- 4	- 7	- 7	- 7	- 8	- 8	- 8	- 8	- 8
Trt-Eval Interval			4 DA-C	0 DA-E	0 DA-E	0 DA-E	-1 DA-F	-1 DA-F	-1 DA-F	-1 DA-F	-1 DA-F
ARM Action Codes											
Number of Decimals			1	1	1	1	1	1	1	1	1

Trt No.	Treatment Name	Rate	Unit	Appl Code	Plot	1	2	3	4	5	6	7	8	9
1	Untreated Check				109	0,0	0,0							
					204	0,0	0,0							
					312	0,0	0,0							
					410	0,0	0,0							
					Mean =	0,0	0,0	.	.	.	.	.	.	.
2	Centium 36 CS	0,15	L/ha	A	105	20,0	10,0	80,0	80,0	15,0	65,0	20,0	20,0	0,0
	Betanal	1	L/ha	C	209	20,0	10,0	85,0	50,0	10,0	10,0	25,0	10,0	0,0
	Betanal	1	L/ha	D	302	20,0	10,0	90,0	70,0	95,0	15,0	70,0	85,0	10,0
					412	20,0	15,0	95,0	95,0	10,0	95,0	75,0	80,0	10,0
					Mean =	20,0	11,3	87,5	73,8	32,5	46,3	47,5	48,8	5,0
3	Centium 36 CS	0,15	L/ha	A	111	0,0	20,0	85,0	70,0	95,0	20,0	80,0	95,0	0,0
	Proman	0,5	L/ha	A	201	20,0	15,0	95,0	85,0	75,0	80,0	95,0	90,0	0,0
	Betanal	1	L/ha	C	308	20,0	20,0	100,0	95,0	100,0	95,0	100,0	95,0	10,0
	Betanal	1	L/ha	D	403	20,0	20,0	90,0	50,0	60,0	65,0	80,0	80,0	0,0
					Mean =	15,0	18,8	92,5	75,0	82,5	65,0	88,8	90,0	2,5
4	Centium 36 CS	0,15	L/ha	A	104	20,0	15,0	85,0	85,0	95,0	85,0	90,0	95,0	30,0
	Proman	0,5	L/ha	A	206	20,0	20,0	90,0	85,0	95,0	80,0	95,0	95,0	30,0
	Betanal	1	L/ha	C	301	20,0	10,0	85,0	60,0	95,0	75,0	95,0	90,0	25,0
	Betanal	1	L/ha	D	405	20,0	15,0	100,0	30,0	95,0	75,0	90,0	95,0	25,0
	Pixxaro EC	0,125	L/ha	E										
					Mean =	20,0	15,0	90,0	65,0	95,0	78,8	92,5	93,8	27,5
5	Centium 36 CS	0,15	L/ha	A	107	35,0	10,0	85,0	65,0	0,0	5,0	90,0	70,0	0,0
	Proman	0,5	L/ha	A	205	35,0	10,0	90,0	75,0	10,0	70,0	10,0	10,0	15,0
	Pixxaro EC	0,05	L/ha	C	311	35,0	10,0	80,0	80,0	5,0	85,0	0,0	0,0	10,0
	Pixxaro EC	0,075	L/ha	E	406	35,0	10,0	85,0	30,0	0,0	5,0	0,0	5,0	20,0
					Mean =	35,0	10,0	85,0	62,5	3,8	41,3	25,0	21,3	11,3
6	Centium 36 CS	0,15	L/ha	A	108	0,0	30,0	60,0	45,0	0,0	0,0	0,0	0,0	0,0
	Proman	0,5	L/ha	A	212	0,0	30,0	95,0	20,0	10,0	0,0	0,0	10,0	0,0
	Pixxaro EC	0,05	L/ha	D	310	0,0	30,0	90,0	85,0	0,0	5,0	0,0	0,0	5,0
	Pixxaro EC	0,075	L/ha	F	404	0,0	25,0	90,0	40,0	10,0	5,0	10,0	10,0	0,0
					Mean =	0,0	28,8	83,8	47,5	5,0	2,5	2,5	5,0	1,3
7	Centium 36 CS	0,15	L/ha	A	106	0,0	0,0	0,0	0,0	10,0	0,0	10,0	10,0	15,0
	Proman	0,5	L/ha	A	203	0,0	0,0	90,0	0,0	10,0	0,0	0,0	0,0	10,0
	Pixxaro EC	0,125	L/ha	E	305	20,0	5,0	95,0	0,0	15,0	10,0	5,0	10,0	20,0
					408	0,0	5,0	40,0	95,0	15,0	15,0	15,0	15,0	15,0
					Mean =	5,0	2,5	56,3	23,8	12,5	6,3	7,5	8,8	15,0
8	Centium 36 CS	0,15	L/ha	A	112	0,0	30,0	80,0	20,0	5,0	15,0	0,0	5,0	0,0
	Proman	0,5	L/ha	A	202	0,0	30,0	80,0	70,0	0,0	80,0	0,0	0,0	0,0
	Pixxaro EC	0,05	L/ha	D	309	0,0	30,0	85,0	75,0	0,0	15,0	0,0	0,0	0,0
	Venzar 500 SC	0,15	L/ha	D	401	0,0	30,0	95,0	20,0	10,0	15,0	0,0	15,0	0,0
	Pixxaro EC	0,075	L/ha	F										
	Venzar 500 SC	0,15	L/ha	F										
					Mean =	0,0	30,0	85,0	46,3	3,8	31,3	0,0	5,0	0,0
9	Centium 36 CS	0,15	L/ha	A	110	20,0	30,0	75,0	20,0	95,0	25,0	80,0	90,0	65,0
	Proman	0,5	L/ha	A	207	0,0	30,0	75,0	0,0	95,0	40,0	95,0	95,0	60,0
	Pixxaro EC	0,05	L/ha	D	304	0,0	30,0	90,0	0,0	95,0	35,0	85,0	90,0	65,0
	Proman	0,5	L/ha	E	402	0,0	25,0	90,0	0,0	100,0	40,0	95,0	95,0	65,0
					Mean =	5,0	28,8	82,5	5,0	96,3	35,0	88,8	92,5	63,8
10	Centium 36 CS	0,15	L/ha	A	101	0,0	25,0	80,0	90,0	100,0	95,0	90,0	95,0	15,0
	Proman	0,5	L/ha	A	211	0,0	25,0	100,0	50,0	95,0	10,0	80,0	90,0	25,0
	Proman	0,25	L/ha	D	303	0,0	25,0	95,0	70,0	95,0	10,0	95,0	95,0	25,0
	Pixxaro EC	0,1	L/ha	E	407	0,0	25,0	80,0	80,0	100,0	90,0	90,0	95,0	20,0
					Mean =	0,0	25,0	88,8	72,5	97,5	51,3	88,8	93,8	21,3
11	Centium 36 CS	0,15	L/ha	A	102	0,0	25,0	70,0	90,0	35,0	25,0	80,0	80,0	25,0
	Venzar 500 SC	0,75	L/ha	A	210	0,0	25,0	85,0	50,0	95,0	25,0	95,0	95,0	25,0
	Proman	0,25	L/ha	D	307	0,0	25,0	90,0	95,0	95,0	95,0	95,0	95,0	30,0
	Pixxaro EC	0,1	L/ha	E	411	0,0	25,0	85,0	95,0	0,0	100,0	10,0	10,0	30,0
					Mean =	0,0	25,0	82,5	82,5	56,3	61,3	70,0	70,0	27,5
12	Pixxaro EC	0,1	L/ha	E	103	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	10,0
	Proman	0,5	L/ha	F	208	0,0	0,0	0,0	0,0	0,0	0,0	10,0	0,0	10,0
					306	0,0	0,0	0,0	0,0	0,0	5,0	0,0	0,0	20,0
					409	0,0	0,0	0,0	0,0	0,0	5,0	0,0	0,0	10,0
					Mean =	0,0	0,0	0,0	0,0	0,0	2,5	2,5	0,0	12,5

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Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	Plot	10	11	12	13	14	15	16	17	18
Pest Type						W Weed	W Weed	W Weed	W Weed		W Weed	W Weed		
Pest Code						CHEAL	BRSNN	VIOAR	BBBBB		BBBBB	VIOAR		
Pest Scientific Name						Chenopodium album	Brassica napus	Viola arvensis	Broad-leaved plants		Broad-leaved plants	Viola arvensis		
Pest Name						common lambsquarters	Rapeseed	Field violet	Broad-leaved plants		Broad-leaved plants	Field violet		
Crop Code						SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL
BBCH Scale						BVNH	BVNH	BVNH	BVNH	BVNH	BVNH	BVNH	BVNH	BVNH
Crop Name						Spinach	Spinach	Spinach	Spinach	Spinach	Spinach	Spinach	Spinach	Spinach
Description													Nedvisning %	råvægt
Rating Date						27-05-2020	27-05-2020	27-05-2020	27-05-2020	27-05-2020	04-05-2020	04-05-2020	21-07-2020	28-08-2020
SE Name						W003	W003	W003	W003		W003	W003		
SE Description						% weed control	% weed control	% weed control	% weed control		% weed control	% weed control		
Part Rated						PLANT -	PLANT -	PLANT -	PLANT -	- C	PLANT -	PLANT -		
Rating Type						CONTRO	CONTRO	CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO		
Rating Unit						%	%	%	%	%	%	%		kg
Calculation						NC	NC	NC	NC	NC	NC	NC		
Sample Size, Unit						1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT		
Collection Basis, Unit						1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT		
Reporting Basis, Unit						1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT		
Number of Subsamples						1	1	1	1	1	1	1	1	1
Crop Stage Scale														
Crop Stage Majority						18	18	18	18	18	14	14		
Pest Stage Majority														
Pest Density, Unit						9,5 PLA/m2	7 PLA/m2	31 PLA/m2	2,3 PLA/m2		5,5 PLA/m2	22,5PLA/m2		
Data Entry Date						28-05-2020	28-05-2020	28-05-2020	28-05-2020	28-05-2020	31-05-2020	31-05-2020	30-07-2020	31-08-2020
Days After First/Last Applic.						- 14	- 14	- 14	- 14	- 14	- 7	- 7	- 69	- 107
Trt-Eval Interval						14 DA-F	14 DA-F	14 DA-F	14 DA-F	14 DA-F	0 DA-E	0 DA-E	69 DA-F	
ARM Action Codes														
Number of Decimals						1	1	1	1	1				
1	Untreated Check				109								45,0	7,6240
					204								50,0	7,0950
					312								50,0	6,4770
					410								40,0	3,8370
					Mean =	.	.	.	.	.	.	.	46,3	6,2583
2	Centium 36 CS	0,15	L/ha	A	105	0,0	60,0	75,0	0,0	0,0	80,0	80,0	50,0	6,8000
	Betanal	1	L/ha	C	209	0,0	5,0	50,0	0,0	0,0	80,0	80,0	55,0	6,7080
	Betanal	1	L/ha	D	302	20,0	0,0	85,0	0,0	0,0	85,0	85,0	70,0	7,4120
					412	30,0	90,0	60,0	0,0	0,0	95,0	90,0	50,0	4,9220
					Mean =	12,5	38,8	67,5	0,0	0,0	85,0	83,8	56,3	6,4605
3	Centium 36 CS	0,15	L/ha	A	111	60,0	5,0	80,0	50,0	0,0	85,0	90,0	40,0	7,2980
	Proman	0,5	L/ha	A	201	0,0	65,0	85,0	10,0	0,0	85,0	95,0	50,0	6,5530
	Betanal	1	L/ha	C	308	95,0	95,0	90,0	95,0	0,0	90,0	95,0	40,0	7,5910
	Betanal	1	L/ha	D	403	10,0	0,0	85,0	90,0	0,0	80,0	80,0	45,0	5,4100
					Mean =	41,3	41,3	85,0	61,3	0,0	85,0	90,0	43,8	6,7130
4	Centium 36 CS	0,15	L/ha	A	104	70,0	75,0	75,0	95,0	15,0	70,0	90,0	50,0	7,2570
	Proman	0,5	L/ha	A	206	95,0	85,0	90,0	70,0	10,0	80,0	85,0	50,0	6,4800
	Betanal	1	L/ha	C	301	90,0	5,0	90,0	50,0	15,0	75,0	90,0	55,0	5,2210
	Betanal	1	L/ha	D	405	100,0	5,0	50,0	50,0	15,0	80,0	80,0	50,0	5,8500
	Pixxaro EC	0,125	L/ha	E										
					Mean =	88,8	42,5	76,3	66,3	13,8	76,3	86,3	51,3	6,2020
5	Centium 36 CS	0,15	L/ha	A	107	20,0	0,0	60,0	20,0	10,0	90,0	93,0	50,0	6,2670
	Proman	0,5	L/ha	A	205	15,0	55,0	80,0	15,0	10,0	70,0	80,0	50,0	6,0740
	Pixxaro EC	0,05	L/ha	C	311	100,0	5,0	0,0	0,0	10,0	80,0	75,0	50,0	6,5250
	Pixxaro EC	0,075	L/ha	E	406	95,0	5,0	0,0	10,0	10,0	75,0	75,0	50,0	5,8650
					Mean =	57,5	16,3	35,0	11,3	10,0	78,8	80,8	50,0	6,1828
6	Centium 36 CS	0,15	L/ha	A	108	0,0	0,0	20,0	0,0	10,0	100,0	85,0	50,0	7,2280
	Proman	0,5	L/ha	A	212	10,0	5,0	25,0	10,0	5,0	80,0	80,0	65,0	6,4140
	Pixxaro EC	0,05	L/ha	D	310	75,0	5,0	35,0	10,0	10,0	80,0	85,0	50,0	6,5400
	Pixxaro EC	0,075	L/ha	F	404	75,0	0,0	10,0	5,0	10,0	100,0	70,0	50,0	5,8800
					Mean =	40,0	2,5	22,5	6,3	8,8	90,0	80,0	53,8	6,5155
7	Centium 36 CS	0,15	L/ha	A	106	90,0	5,0	30,0	95,0	10,0	65,0	75,0	45,0	7,6900
	Proman	0,5	L/ha	A	203	60,0	5,0	10,0	95,0	10,0	80,0	75,0	50,0	6,8360
	Pixxaro EC	0,125	L/ha	E	305	50,0	5,0	15,0	10,0	20,0	50,0	50,0	60,0	6,4690
					408	50,0	5,0	20,0	10,0	10,0	0,0	60,0	40,0	2,9190
					Mean =	62,5	5,0	18,8	52,5	12,5	48,8	65,0	48,8	5,9785
8	Centium 36 CS	0,15	L/ha	A	112	90,0	10,0	35,0	10,0	15,0	85,0	70,0	50,0	6,6210
	Proman	0,5	L/ha	A	202	50,0	95,0	30,0	10,0	10,0	70,0	75,0	50,0	6,7880
	Pixxaro EC	0,05	L/ha	D	309	20,0	75,0	45,0	10,0	10,0	85,0	75,0	45,0	6,6710
	Venzar 500 SC	0,15	L/ha	D	401	95,0	0,0	50,0	20,0	10,0	75,0	75,0	40,0	3,2100
	Pixxaro EC	0,075	L/ha	F										
	Venzar 500 SC	0,15	L/ha	F										
					Mean =	63,8	45,0	40,0	12,5	11,3	78,8	73,8	46,3	5,8225
9	Centium 36 CS	0,15	L/ha	A	110	95,0	5,0	50,0	0,0	25,0	60,0	75,0	45,0	7,2020
	Proman	0,5	L/ha	A	207	100,0	5,0	90,0	0,0	25,0	75,0	75,0	50,0	5,8430
	Pixxaro EC	0,05	L/ha	D	304	80,0	10,0	50,0	20,0	30,0	75,0	75,0	60,0	6,5940
	Proman	0,5	L/ha	E	402	95,0	10,0	70,0	10,0	25,0	80,0	80,0	35,0	5,1460
					Mean =	92,5	7,5	65,0	7,5	26,3	72,5	76,3	47,5	6,1963
10	Centium 36 CS	0,15	L/ha	A	101	65,0	90,0	90,0	90,0	15,0	90,0	90,0	70,0	6,3230
	Proman	0,5	L/ha	A	211	95,0	5,0	10,0	0,0	15,0	80,0	75,0	55,0	6,3300
	Proman	0,25	L/ha	D	303	90,0	0,0	30,0	10,0	15,0	70,0	70,0	40,0	8,1080
	Pixxaro EC	0,1	L/ha	E	407	90,0	5,0	90,0	20,0	15,0	75,0	90,0	40,0	2,5500
					Mean =	85,0	25,0	55,0	30,0	15,0	78,8	81,3	51,3	5,8278
11	Centium 36 CS	0,15	L/ha	A	102	30,0	90,0	75,0	90,0	20,0	100,0	70,0	60,0	7,1530
	Venzar 500 SC	0,75	L/ha	A	210	35,0	5,0	65,0	90,0	20,0	80,0	70,0	50,0	6,6880
	Proman	0,25	L/ha	D	307	85,0	90,0	90,0	10,0	15,0	90,0	90,0	40,0	5,0200
	Pixxaro EC	0,1	L/ha	E	411	50,0	5,0	0,0	10,0	15,0	90,0	40,0	35,0	4,2560
					Mean =	50,0	47,5	57,5	50,0	17,5	90,0	67,5	46,3	5,7793
12	Pixxaro EC	0,1	L/ha	E	103	90,0	85,0	60,0	45,0	40,0	0,0	0,0	50,0	7,1710
	Proman	0,5	L/ha	F	208	85,0	80,0	60,0	60,0	40,0	0,0	0,0	55,0	6,4730
					306	80,0	5,0	45,0	40,0	40,0	0,0	0,0	50,0	6,6210
					409	60,0	5,0	80,0	90,0	40,0	0,0	0,0	35,0	3,1650
					Mean =	78,8	43,8	61,3	58,8	40,0	0,0	0,0	47,5	5,8575

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Trt No.	Treatment Name	Rate	Unit	Appl Code	Plot	19	20	21	22
	Pest Type								
	Pest Code								
	Pest Scientific Name								
	Pest Name								
	Crop Code					SPQOL	SPQOL	SPQOL	SPQOL
	BBCH Scale					BVNH	BVNH	BVNH	BVNH
	Crop Name					Spinach	Spinach	Spinach	Spinach
	Description					renset vægt	renset vægt	spirehastighed	spireevne
	Rating Date					28-08-2020	28-08-2020	17-11-2020	02-12-2020
	SE Name								
	SE Description								
	Part Rated							PLANT C	PLANT C
	Rating Type						YIELD	GERMIN	GERMIN
	Rating Unit					kg	T-MET	percent	percent
	Calculation								
	Sample Size, Unit					22,5 m2	1 ha	100 SEED	100 SEED
	Collection Basis, Unit							1 SAMPLE	1 SAMPLE
	Reporting Basis, Unit								
	Number of Subsamples					1	1	1	1
	Crop Stage Scale								
	Crop Stage Majority								
	Pest Stage Majority								
	Pest Density, Unit								
	Data Entry Date					31-08-2020		20-11-2020	03-12-2020
	Days After First/Last Applic.					- 107	- 107	- 188	- 203
	Trt-Eval Interval								
	ARM Action Codes						TY1		
	Number of Decimals					1	2	1	1
1	Untreated Check				109	7,0	3,13	47,0	78,0
					204	6,0	2,68	62,0	83,0
					312	6,1	2,71	77,0	87,0
					410	2,9	1,29	34,0	49,0
					Mean =	5,5	2,45	55,0	74,3
2	Centium 36 CS	0,15	L/ha	A	105	6,4	2,83	68,0	89,0
	Betanal	1	L/ha	C	209	6,3	2,81	71,0	83,0
	Betanal	1	L/ha	D	302	7,1	3,14	74,0	91,0
					412	4,2	1,85	42,0	56,0
					Mean =	6,0	2,66	63,8	79,8
3	Centium 36 CS	0,15	L/ha	A	111	6,8	3,02	44,0	69,0
	Proman	0,5	L/ha	A	201	6,2	2,74	67,0	80,0
	Betanal	1	L/ha	C	308	6,8	3,02	50,0	70,0
	Betanal	1	L/ha	D	403	4,8	2,12	37,0	62,0
					Mean =	6,1	2,72	49,5	70,3
4	Centium 36 CS	0,15	L/ha	A	104	6,8	3,04	64,0	87,0
	Proman	0,5	L/ha	A	206	6,0	2,68	65,0	84,0
	Betanal	1	L/ha	C	301	4,7	2,10	62,0	85,0
	Betanal	1	L/ha	D	405	5,4	2,38	35,0	67,0
	Pixxaro EC	0,125	L/ha	E					
					Mean =	5,7	2,55	56,5	80,8
5	Centium 36 CS	0,15	L/ha	A	107	5,8	2,58	72,0	85,0
	Proman	0,5	L/ha	A	205	5,5	2,43	79,0	91,0
	Pixxaro EC	0,05	L/ha	C	311	6,1	2,69	58,0	70,0
	Pixxaro EC	0,075	L/ha	E	406	5,4	2,38	57,0	75,0
					Mean =	5,7	2,52	66,5	80,3
6	Centium 36 CS	0,15	L/ha	A	108	6,8	3,01	63,0	82,0
	Proman	0,5	L/ha	A	212	6,2	2,73	80,0	93,0
	Pixxaro EC	0,05	L/ha	D	310	6,1	2,70	58,0	80,0
	Pixxaro EC	0,075	L/ha	F	404	5,4	2,40	63,0	79,0
					Mean =	6,1	2,71	66,0	83,5
7	Centium 36 CS	0,15	L/ha	A	106	7,2	3,20	60,0	74,0
	Proman	0,5	L/ha	A	203	6,4	2,86	70,0	87,0
	Pixxaro EC	0,125	L/ha	E	305	6,1	2,72	81,0	90,0
					408	2,5	1,09	10,0	16,0
					Mean =	5,5	2,47	55,3	66,8
8	Centium 36 CS	0,15	L/ha	A	112	6,1	2,72	85,0	95,0
	Proman	0,5	L/ha	A	202	6,4	2,86	77,0	88,0
	Pixxaro EC	0,05	L/ha	D	309	6,0	2,68	65,0	85,0
	Venzar 500 SC	0,15	L/ha	D	401	2,4	1,06	20,0	29,0
	Pixxaro EC	0,075	L/ha	F					
	Venzar 500 SC	0,15	L/ha	F					
					Mean =	5,2	2,33	61,8	74,3
9	Centium 36 CS	0,15	L/ha	A	110	6,6	2,95	61,0	90,0
	Proman	0,5	L/ha	A	207	5,4	2,41	61,0	78,0
	Pixxaro EC	0,05	L/ha	D	304	6,3	2,79	63,0	78,0
	Proman	0,5	L/ha	E	402	4,4	1,97	38,0	59,0
					Mean =	5,7	2,53	55,8	76,3
10	Centium 36 CS	0,15	L/ha	A	101	5,9	2,64	84,0	89,0
	Proman	0,5	L/ha	A	211	6,0	2,68	87,0	94,0
	Proman	0,25	L/ha	D	303	7,7	3,41	52,0	66,0
	Pixxaro EC	0,1	L/ha	E	407	1,9	0,86	31,0	40,0
					Mean =	5,4	2,40	63,5	72,3
11	Centium 36 CS	0,15	L/ha	A	102	6,5	2,88	82,0	90,0
	Venzar 500 SC	0,75	L/ha	A	210	6,4	2,83	77,0	90,0
	Proman	0,25	L/ha	D	307	4,3	1,90	32,0	53,0
	Pixxaro EC	0,1	L/ha	E	411	3,3	1,46	39,0	55,0
					Mean =	5,1	2,27	57,5	72,0
12	Pixxaro EC	0,1	L/ha	E	103	6,8	3,02	81,0	97,0
	Proman	0,5	L/ha	F	208	6,2	2,74	79,0	87,0
					306	6,2	2,77	75,0	85,0
					409	2,5	1,11	23,0	28,0
					Mean =	5,4	2,41	64,5	74,3

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Strategier til ukrudtsbekæmpelse i spinat.

Trial ID: 20427-1 Location: Trial Year: 2020
Protocol ID: 20427 Investigator: Anja Lunn
Project ID: Study Director:
Sponsor Contact:

Conducted Under GEP: Yes

Pest Type
W, Weed = Weed or volunteer crop
Pest Code
CHEAL, Chenopodium album, common lambsquarters = US
BRSNN, Brassica napus, Rapeseed = US
VIOAR, Viola arvensis, Field violet = US
BBBBB, Broad-leaved plants, Broad-leaved plants = US
Crop Code
SPQOL, BVNH, Spinacia oleracea, Spinach = US
Part Rated
PLANT = plant
C = Crop is Part Rated
Rating Type
PHYGEN = phytotoxicity - general / injury
CONTRO = control / burndown or knockdown
YIELD = yield
GERMIN = germination
Rating Unit
% = percent
kg = kilogram
T-MET = ton (metric=1000 kg)
Calculation
NC = no calculation

PLOT = total plot
m2 = square meter
ha = hectare
SEED = seed

PLOT = total plot
SAMPLE = sample

PLOT = total plot
Crop Stage Scale
BBCH = BBCH uniform plant stages
Crop Stage Majority
14 = 4th true leaf unfolded|BVNH
16 = 6th true leaf unfolded|BVNH
18 = 8th true leaf unfolded|BVNH
Pest Stage Majority
12 = 2 true leaves, leaf pairs or whorls unfolded
16 = 6 true leaves, leaf pairs or whorls unfolded

PLA/m2 = plants per square meter
ARM Action Codes
TY1 = 0.4444444*[19]

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Strategier til ukrudtsbekæmpelse i spinat.

Trial ID: 20427-2 Location: Trial Year: 2020
Protocol ID: 20427 Investigator: Anja Lunn
Project ID: Study Director:
Sponsor Contact:
Conducted Under GEP: Yes

General Trial Information

Study Director: Peter Hartvig **Title:** Study director
Investigator: Andrius Hansen Kemezys **Title:** Academic employee

Discipline: H herbicide
Trial Status: I one-year/interim
Trial Status Date: 01-09-2020 **Last Changed By:** Andrius Hansen Kemezys
ARM Trial Created On: 27-03-2020
Initiation Date: 08-04-2020
Completion Date: 10-08-2020 **Protocol Revision Date:** 27-03-2020

Trial Location

City: Flakkebjerg By **Country:** DNK Denmark
State/Prov.: Slagelse
Postal Code: 4200 **Climate Zone:** EPOMAR EPPO Maritime

Latitude of LL Corner °: 55,307011 N
Longitude of LL Corner °: 11,405578 E DNK 57,746666 - 54,561661
8,087221 - 15,15

Conducted Under GLP: No
Conducted Under GEP: Yes

Conclusions:

Forsøget blev udført i en spinat mark beliggende ca 2 km syd for forskningscenter AU-Flakkebjerg. Forsøget har til formål at undersøge effektivitet og selektivitet af forskellige ukrudtsstrategier i spinat til frø. Vejret i forsøgsperioden kan beskrives som normalt, dog med meget kold maj måned, som har sandsynligvis bidraget til de generelt høje skader, som blev observeret i forsøgsarealet.

Forsøget blev sprøjtet 5 gange: behandling A lige efter såning blev udført den 8. april; og bladsprøjtninger C, D, E og F blev udført henholdsvis den 27. og den 4., 13. og den 19. maj. Sprøjtning med Roundup Bio lige inden fremspiring af spinat blev ikke udført, da der ikke kom noget ukrudt på det tidspunkt.

Forsøget blev bedømt for effekt og skade den 12. maj, lige inden E sprøjtning (-1 DA-E), og 6 dage efter F sprøjtning den 25. maj. Forsøget blev i øvrigt bedømt for skade den 4. maj (7 DA-C), derudover blev der udført bedømmelse for nedvisning den 20. juli. Forsøget blev høstet den 19. august og spiringsanalyse blev udført i efteråret 2020.

Tre forskellige ukrudtsarter blev bedømt ved effektregistrering: spildraps (BRSNN, *Brassica napus*), burre snerre (GALAP, *Galium aparine*), alm. brandbæger (SENVU, *Senecio vulgaris*), desuden blev der bedømt andet to-kimbladet ukrudt (BBBBB). Der var generelt meget lavt ukrudtsbestand i forsøgsarealet, derfor blev der udført en samlet bedømmelse for to-kimbladet ukrudt ved den første bedømmelse den 12. maj, og der er kun ved bedømmelsen 25. maj, at ukrudt blev bedømt artsvis.

Resultaterne fra effektbedømmelsen lige inden E sprøjtning viser, at det var kun led 2-4 med Betanal og led 11 med 0,25 l/ha Proman ved D tidspunkt havde en tilstrækkelig effekt (61,3-83,8 %) overfor samlet to-kimbladet ukrudt. Den sidste bedømmelse 6 dage efter F sprøjtning viste, at alle testede led havde moderat til god effekt overfor spildraps, burresnerre, alm. brandbæger og andet to-kimbladet ukrudt, og der var ingen signifikante forskelle mellem dem.

Skadesbedømmelser viste, at led 9-12 med bladsprøjtninger af Proman har forårsaget høje skader (33,8-47,5%) ved den sidste bedømmelse på skader på spinat 6 dage efter F. De øvrige led har vist skader mellem 17,5-30 % og synes at være indenfor det acceptabelt.

Bedømmelse for nedvisning af spinat ca. 4 uger inden høst viste ingen signifikant forskel mellem de testede led.

Udbytteresultater kunne ikke vise noget signifikant forskel.

Spiringsresultater viste, at led 10 med 0,25 l/ha Proman ved D og 0,1 l/ha Pixxaro ved E viste signifikant lavere spirehastighed end i ubehandlet, men spireevne var ikke signifikant forskellig fra den ubehandlet kontrol. De andre led var ikke forskellige fra ubehandlet.

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Country: DNK Denmark

Crop Description

Crop 1: SPQOL Spinacia oleracea Spinach
Entry Date: 01-09-2020
Planting Date: 07-04-2020
Harvest Date: 10-08-2020
Harvested Width: 2,5 m
Harvested Length: 8 m

Pest Description

Pest 1 Type: W **Code:** BBBBB Broad-leaved plants
Common Name: Broad-leaved plants **Entry Date:** 01-09-2020

Pest 2 Type: W **Code:** BRSNN Brassica napus
Common Name: Rapeseed **Entry Date:** 01-09-2020

Pest 3 Type: W **Code:** GALAP Galium aparine
Common Name: Catchweed bedstraw **Entry Date:** 01-09-2020

Pest 4 Type: W **Code:** SENVU Senecio vulgaris
Common Name: Common groundsel **Entry Date:** 01-09-2020

Site and Design

Treated Plot Width: 2,5 m **Site Type:** FIELD field
Treated Plot Length: 8 m
Treated Plot Area: 20 m2 **Treatments:** 12
Replications: 4 **Study Design:** RACOBL Randomized Complete Block (RCB)

Soil Description

% Sand: 70,1 **% OM:** 2,7
% Silt: 12,8 **pH:** 5,3
% Clay: 14,4

Moisture and Weather Conditions

Overall Moisture Conditions: NORMAL normal
Closest Weather Station: AU Flakkebjerg **Distance, Unit:** 2,2 km

Application Description

	A	B	C	D	E	F
Application Date:	08-04-2020		27-04-2020	04-05-2020	13-05-2020	19-05-2020
Appl. Start Time:	08:30		10:45	10:15	11:15	07:10
Appl. Stop Time:	09:00		11:15	11:00	11:45	07:30
Interval to Prev. Appl., Unit:			19 DAYS	7 DAYS	9 DAYS	6 DAYS
Application Method:	SPRAY		SPRAY	SPRAY	SPRAY	SPRAY
Application Placement:	SOIL		FOLIAR	FOLIAR	FOLIAR	FOLIAR
Applied By:	AHK		AHK	AL	AL	AHK
Appl. Entry Date:	28-05-2020		28-05-2020	28-05-2020	28-05-2020	28-05-2020
Air Temperature Start, Stop:	11,1 C		12 C	10 C	13,7 C	10,9 C
% Relative Humidity Start, Stop:	63,5		59,2	59,1	38,5	90,5
Wind Velocity+Dir., Start:	2,6 MPS SE		3,1 MPS SW	0,7 MPS NW	1,6 MPS N	3,6 MPS W
Wet Leaves (Y/N):			N no	N no	N no	N no
Soil Temperature, Unit:	7,6 C		11,5 C	10,8 C	12,4 C	12 C
Soil Moisture:	SLIDRY		VERDRY	SLIWET	SLIWET	DRY
Soil Surface Condition:	MEDIUM		MEDIUM	MEDIUM	MEDIUM	MEDIUM
% Cloud Cover:	10		100	25	40	100
Next Moisture Occurred On:	11-04-2020		29-04-2020	05-05-2020	15-05-2020	22-05-2020

Comment:
B sprøjtning med glyphosat blev ikke udført da der var ingen ukrudt i forsøgsarealet.

Crop Stage At Each Application

	A	B	C	D	E	F
Crop 1 Code, BBCH Scale:	SPQOL BVNH	SPQOL BVNH	SPQOL BVNH	SPQOL BVNH	SPQOL BVNH	SPQOL BVNH
Stage Scale Used:	BBCH		BBCH	BBCH	BBCH	BBCH
Stage Majority, Percent:			10	12	14	16

Pest Stage At Each Application

	A	B	C	D	E	F
Pest 1 Code, Type, Scale:	BBBBB W	BBBBB W	BBBBB W	BBBBB W	BBBBB W	BBBBB W
Stage Majority, Percent:			10			
Density:			1 PLA/m2	5,5 PLA/m2	8,25 PLA/m2	7,25 PLA/m2
Coverage:			1 %	1 %	2 %	1 %
Pest 2 Code, Type, Scale:	BRSNN W	BRSNN W	BRSNN W	BRSNN W	BRSNN W	BRSNN W
Stage Majority, Percent:			10			
Density:			1 PLA/m2			7 PLA/m2
Coverage:			1 %			2 %
Pest 3 Code, Type, Scale:	GALAP W	GALAP W	GALAP W	GALAP W	GALAP W	GALAP W
Density:						5,75 PLA/m2
Coverage:						1 %
Pest 4 Code, Type, Scale:	SENVU W	SENVU W	SENVU W	SENVU W	SENVU W	SENVU W

Application Equipment

	A	B	C	D	E	F
Appl. Equipment:	Selvkørende	bicyc.spraye	Selvkørende	Selvkørende	Selvkørende	Selvkørende
Equipment Type:	SPRAYE	SPRBIC	SPRAYE	SPRAYE	SPRAYE	SPRAYE
Operation Pressure:	3,9 BAR		3,9 BAR	3,9 BAR	3,9 BAR	3,9 BAR
Nozzle Type:	Hardi	Hardi	Hardi	Hardi	Hardi	Hardi
Nozzle Size:	LD015-110	LD015-110	LD015-110	LD015-110	LD015-110	LD015-110
Nozzle Spacing:	50 cm		50 cm	50 cm	50 cm	50 cm
Nozzles/Row:	5	3	5	5	4	5
Band Width:	50 cm		50 cm	50 cm	50 cm	50 cm
Boom Length:	2,5 m		2,5 m	2,5 m	2 m	2,5 m
Boom Height:	45 cm		45 cm	45 cm	45 cm	50 cm
Ground Speed:	3,6 KPH		3,6 KPH	3,6 KPH	3,6 KPH	3,6 KPH
Carrier:	WATER		WATER	WATER	WATER	WATER
Minimum Mix/Treatment:	1,6 Liters	1,6 Liters	1,6 Liters	1,6 Liters	1,6 Liters	1,6 Liters
Mix Size:	4 Liters		4 Liters	4 Liters	4 Liters	4 Liters

Date	By	Context	Notes
27-03-2020	Anja Lunn	STATUS	Automatically added by ARM: Trial Status updated to 'S' during trial creation.
11-05-2020	Anja Lunn	STATUS	Automatically added by ARM: Trial Status updated to 'E' when Rating Date entered.

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Aarhus University, Department of Agroecology, Flakkebjerg

Strategier til ukrudtsbekæmpelse i spinat.

Trial ID:20427-2 Location: Trial Year:2020
Protocol ID:20427 Investigator:Anja Lunn
Project ID: Study Director:
Sponsor Contact:
Conducted Under GEP:Yes

Trt No.	Type	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Appl Code	Spray Volume	Volume Unit
1	CHK	Untreated Check								
2	HERB	Centium 36 CS	360	gA/L	CS	0,15	L/ha	A		
	HERB	Roundup Bio	360	gA/L	SC	1,5	L/ha	B		
	HERB	Betanal	160	gA/L	SC	1	L/ha	C		
	HERB	Betanal	160	gA/L	SC	1	L/ha	D		
3	HERB	Centium 36 CS	360	gA/L	CS	0,15	L/ha	A		
	HERB	Proman	500	gA/L	SC	0,5	L/ha	A		
	HERB	Roundup Bio	360	gA/L	SC	1,5	L/ha	B		
	HERB	Betanal	160	gA/L	SC	1	L/ha	C		
	HERB	Betanal	160	gA/L	SC	1	L/ha	D		
4	HERB	Centium 36 CS	360	gA/L	CS	0,15	L/ha	A		
	HERB	Proman	500	gA/L	SC	0,5	L/ha	A		
	HERB	Roundup Bio	360	gA/L	SC	1,5	L/ha	B		
	HERB	Betanal	160	gA/L	SC	1	L/ha	C		
	HERB	Betanal	160	gA/L	SC	1	L/ha	D		
	HERB	Pixxaro EC	305	gA/L	EC	0,125	L/ha	E		
5	HERB	Centium 36 CS	360	gA/L	CS	0,15	L/ha	A		
	HERB	Proman	500	gA/L	SC	0,5	L/ha	A		
	HERB	Roundup Bio	360	gA/L	SC	1,5	L/ha	B		
	HERB	Pixxaro EC	305	gA/L	EC	0,05	L/ha	C		
	HERB	Pixxaro EC	305	gA/L	EC	0,075	L/ha	E		
6	HERB	Centium 36 CS	360	gA/L	CS	0,15	L/ha	A		
	HERB	Proman	500	gA/L	SC	0,5	L/ha	A		
	HERB	Roundup Bio	360	gA/L	SC	1,5	L/ha	B		
	HERB	Pixxaro EC	305	gA/L	EC	0,05	L/ha	D		
	HERB	Pixxaro EC	305	gA/L	EC	0,075	L/ha	F		
7	HERB	Centium 36 CS	360	gA/L	CS	0,15	L/ha	A		
	HERB	Proman	500	gA/L	SC	0,5	L/ha	A		
	HERB	Roundup Bio	360	gA/L	SC	1,5	L/ha	B		
	HERB	Pixxaro EC	305	gA/L	EC	0,125	L/ha	E		
8	HERB	Centium 36 CS	360	gA/L	CS	0,15	L/ha	A		
	HERB	Proman	500	gA/L	SC	0,5	L/ha	A		
	HERB	Roundup Bio	360	gA/L	SC	1,5	L/ha	B		
	HERB	Pixxaro EC	305	gA/L	EC	0,05	L/ha	D		
	HERB	Venzar 500 SC	500	gA/L	SC	0,15	L/ha	D		
	HERB	Pixxaro EC	305	gA/L	EC	0,075	L/ha	F		
	HERB	Venzar 500 SC	500	gA/L	SC	0,15	L/ha	F		
9	HERB	Centium 36 CS	360	gA/L	CS	0,15	L/ha	A		
	HERB	Proman	500	gA/L	SC	0,5	L/ha	A		
	HERB	Roundup Bio	360	gA/L	SC	1,5	L/ha	B		
	HERB	Pixxaro EC	305	gA/L	EC	0,05	L/ha	D		
	HERB	Proman	500	gA/L	SC	0,5	L/ha	E		
10	HERB	Centium 36 CS	360	gA/L	CS	0,15	L/ha	A		
	HERB	Proman	500	gA/L	SC	0,5	L/ha	A		
	HERB	Roundup Bio	360	gA/L	SC	1,5	L/ha	B		
	HERB	Proman	500	gA/L	SC	0,25	L/ha	D		
	HERB	Pixxaro EC	305	gA/L	EC	0,1	L/ha	E		
11	HERB	Centium 36 CS	360	gA/L	CS	0,15	L/ha	A		
	HERB	Venzar 500 SC	500	gA/L	SC	0,75	L/ha	A		
	HERB	Roundup Bio	360	gA/L	SC	1,5	L/ha	B		
	HERB	Proman	500	gA/L	SC	0,25	L/ha	D		
	HERB	Pixxaro EC	305	gA/L	EC	0,1	L/ha	E		
12	HERB	Roundup Bio	360	gA/L	SC	1,5	L/ha	B		
	HERB	Pixxaro EC	305	gA/L	EC	0,1	L/ha	E		
	HERB	Proman	500	gA/L	SC	0,5	L/ha	F		

Additional Treatment Information

Type

CHK = Check or Untreated
HERB = Herbicide

Treatment Name

Untreated Check, , , = Not treated|
Roundup Bio, 360, gA/L, SC = glyphosate|360|
Betanal, 160, gA/L, SC = phenmedipham|160|
Proman, 500, gA/L, SC = metobromuron|500|
Pixxaro EC, 305, gA/L, EC = fluroxypyr+halauxifen-methyl+cloquintocet-mexyl|280+12,5+12,5|

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Venzar 500 SC, 500, gA/L, SC = lenacil|500|

Form Unit

gA/L = grams active ingredient per liter formulated product

Form Type

CS = capsule suspension|Liquid||A stable suspension of capsules in a fluid, normally intended for dilution with water before use.

SC = suspension concentrate (= flowable concentrate)|Liquid||A stable suspension of active ingredient(s) in water, intended for dilution with water before use.

EC = emulsifiable concentrate|Liquid||A liquid, homogeneous formulation to be applied as an emulsion after dilution in water.

Rate Unit

Additional Treatment Information

L/ha = Liters Product per Hectare (US=GAL/A)|T

Aarhus University, Department of Agroecology, Flakkebjerg

Strategier til ukrudtsbekæmpelse i spinat.

Trial ID:20427-2 Location: Trial Year:2020
Protocol ID:20427 Investigator:Anja Lunn
Project ID: Study Director:
Sponsor Contact:
Conducted Under GEP:Yes

Trial Map Treatment Description

Trt	Code	Description
1	CHK	Untreated Check
2		Centium 36 CS 0.15 L/ha;Roundup Bio 1.5 L/ha;Betanal 1 L/ha;Betanal 1 L/ha
3		Centium 36 CS 0.15 L/ha;Proman 0.5 L/ha;Roundup Bio 1.5 L/ha;Betanal 1 L/ha;Beta
4		Centium 36 CS 0.15 L/ha;Proman 0.5 L/ha;Roundup Bio 1.5 L/ha;Betanal 1 L/ha;Beta
5		Centium 36 CS 0.15 L/ha;Proman 0.5 L/ha;Roundup Bio 1.5 L/ha;Pixxaro EC 0.05 L/h
6		Centium 36 CS 0.15 L/ha;Proman 0.5 L/ha;Roundup Bio 1.5 L/ha;Pixxaro EC 0.05 L/h
7		Centium 36 CS 0.15 L/ha;Proman 0.5 L/ha;Roundup Bio 1.5 L/ha;Pixxaro EC 0.125 L/
8		Centium 36 CS 0.15 L/ha;Proman 0.5 L/ha;Roundup Bio 1.5 L/ha;Pixxaro EC 0.05 L/h
9		Centium 36 CS 0.15 L/ha;Proman 0.5 L/ha;Roundup Bio 1.5 L/ha;Pixxaro EC 0.05 L/h
10		Centium 36 CS 0.15 L/ha;Proman 0.5 L/ha;Roundup Bio 1.5 L/ha;Proman 0.25 L/ha;Pi
11		Centium 36 CS 0.15 L/ha;Venzar 500 SC 0.75 L/ha;Roundup Bio 1.5 L/ha;Proman 0.25
12		Roundup Bio 1.5 L/ha

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Aarhus University, Department of Agroecology, Flakkebjerg

Strategier til ukrudtsbekæmpelse i spinat.

Pest Type		W Weed	W Weed	W Weed	W Weed	W Weed	
Pest Code		BRSNN	GALAP	SENVU	BBBBB	BBBBB	
Pest Scientific Name		Brassica napus	Galium aparine	Senecio vulgaris	Broad-leaved plants	Broad-leaved plants	
Pest Name		Rapeseed	Catchweed bedstraw	Common groundsel	Broad-leaved plants	Broad-leaved plants	
Crop Code		SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL
BBCH Scale		BVNH	BVNH	BVNH	BVNH	BVNH	BVNH
Crop Name		Spinach	Spinach	Spinach	Spinach	Spinach	Spinach
Description					Alle 2kimbladet		
Rating Date		25-05-2020	25-05-2020	25-05-2020	12-05-2020	25-05-2020	04-05-2020
SE Group No.		63	65	64	57	63	59
SE Name		W003	W003	W003	W003	W003	
SE Description		% weed control	% weed control	% weed control	% weed control	% weed control	
Part Rated		PLANT -	PLANT -	PLANT -	PLANT -	PLANT -	- C
Rating Type		CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	PHYGEN
Rating Unit		%	%	%	%	%	%
Calculation		NC	NC	NC	NC	NC	NC
Sample Size, Unit		1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis, Unit		1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Reporting Basis, Unit		1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples		1	1	1	1	1	1
Crop Stage Scale		BBCH	BBCH	BBCH		BBCH	
Crop Stage Majority		16-18	16-18	16-18	14	16-18	
Pest Stage Majority		12	35	16			
Pest Stage Minimum/Maximum			12 -	- 55			
Pest Density, Unit		5 PLA/m2	5,25PLA/m2	5,25PLA/m2	7,25PLA/m2	8,5 PLA/m2	
Data Entry Date		25-05-2020	25-05-2020	25-05-2020	12-05-2020	25-05-2020	12-05-2020
Days After First/Last Applic.		- 6	- 6	- 6	- 8	- 6	- 7
Trt-Eval Interval		6 DA-F	6 DA-F	6 DA-F	-1 DA-E	6 DA-F	0 DA-D
ARM Action Codes							
Number of Decimals		1	1	1	1	1	1
Trt No.	Treatment Name	Rate Unit	Appl Code	5	7	6	2	8	1
1	Untreated Check								
2	Centium 36 CS	0,15L/ha	A	60,0a	77,5a	75,0a	73,8a	65,0a	21,3b
	Betanal	1L/ha	C						
	Betanal	1L/ha	D						
3	Centium 36 CS	0,15L/ha	A	71,3a	88,8a	72,5a	83,8a	76,3a	20,0b
	Proman	0,5L/ha	A						
	Betanal	1L/ha	C						
	Betanal	1L/ha	D						
4	Centium 36 CS	0,15L/ha	A	63,8a	90,0a	87,5a	61,3ab	82,5a	21,3b
	Proman	0,5L/ha	A						
	Betanal	1L/ha	C						
	Betanal	1L/ha	D						
	Pixxaro EC	0,125L/ha	E						
5	Centium 36 CS	0,15L/ha	A	53,8a	88,8a	72,5a	45,0b	56,3a	31,3a
	Proman	0,5L/ha	A						
	Pixxaro EC	0,05L/ha	C						
	Pixxaro EC	0,075L/ha	E						
6	Centium 36 CS	0,15L/ha	A	68,8a	85,0a	77,5a	55,0ab	83,8a	
	Proman	0,5L/ha	A						
	Pixxaro EC	0,05L/ha	D						
	Pixxaro EC	0,075L/ha	F						
7	Centium 36 CS	0,15L/ha	A	62,5a	81,3a	78,8a	1,3c	61,3a	
	Proman	0,5L/ha	A						
	Pixxaro EC	0,125L/ha	E						
8	Centium 36 CS	0,15L/ha	A	63,8a	91,3a	80,5a	0,0c	70,0a	
	Proman	0,5L/ha	A						
	Pixxaro EC	0,05L/ha	D						
	Venzar 500 SC	0,15L/ha	D						
	Pixxaro EC	0,075L/ha	F						
	Venzar 500 SC	0,15L/ha	F						
9	Centium 36 CS	0,15L/ha	A	80,0a	90,0a	90,0a	7,5c	85,0a	
	Proman	0,5L/ha	A						
	Pixxaro EC	0,05L/ha	D						
	Proman	0,5L/ha	E						

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Aarhus University, Department of Agroecology, Flakkebjerg

Pest Type		W Weed	W Weed	W Weed	W Weed	W Weed	
Pest Code		BRSNN	GALAP	SENVU	BBBBB	BBBBB	
Pest Scientific Name		Brassica napus	Galium aparine	Senecio vulgaris	Broad-leaved plants	Broad-leaved plants	
Pest Name		Rapeseed	Catchweed bedstraw	Common groundsel	Broad-leaved plants	Broad-leaved plants	
Crop Code		SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL
BBCH Scale		BVNH	BVNH	BVNH	BVNH	BVNH	BVNH
Crop Name		Spinach	Spinach	Spinach	Spinach	Spinach	Spinach
Description					Alle 2kimbladet		
Rating Date		25-05-2020	25-05-2020	25-05-2020	12-05-2020	25-05-2020	04-05-2020
SE Group No.		63	65	64	57	63	59
SE Name		W003	W003	W003	W003	W003	
SE Description		% weed control	% weed control	% weed control	% weed control	% weed control	
Part Rated		PLANT -	PLANT -	PLANT -	PLANT -	PLANT -	- C
Rating Type		CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	PHYGEN
Rating Unit		%	%	%	%	%	%
Calculation		NC	NC	NC	NC	NC	NC
Sample Size, Unit		1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis, Unit		1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Reporting Basis, Unit		1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples		1	1	1	1	1	1
Crop Stage Scale		BBCH	BBCH	BBCH		BBCH	
Crop Stage Majority		16-18	16-18	16-18	14	16-18	
Pest Stage Majority		12	35	16			
Pest Stage Minimum/Maximum			12 -	- 55			
Pest Density, Unit		5 PLA/m2	5,25PLA/m2	5,25PLA/m2	7,25PLA/m2	8,5 PLA/m2	
Data Entry Date		25-05-2020	25-05-2020	25-05-2020	12-05-2020	25-05-2020	12-05-2020
Days After First/Last Applic.		- 6	- 6	- 6	- 8	- 6	- 7
Trt-Eval Interval		6 DA-F	6 DA-F	6 DA-F	-1 DA-E	6 DA-F	0 DA-D
ARM Action Codes							
Number of Decimals		1	1	1	1	1	1
Trt No.	Treatment Name	Rate Unit	Appl Code	5	7	6	2	8	1
10	Centium 36 CS	0,15L/ha	A	63,8a	92,5a	82,5a	75,0a	86,3a	
	Proman	0,5L/ha	A						
	Proman	0,25L/ha	D						
	Pixxaro EC	0,1L/ha	E						
11	Centium 36 CS	0,15L/ha	A	76,3a	86,3a	95,0a	81,3a	92,5a	
	Venzar 500 SC	0,75L/ha	A						
	Proman	0,25L/ha	D						
	Pixxaro EC	0,1L/ha	E						
12	Pixxaro EC	0,1L/ha	E	82,5a	73,8a	78,8a		88,8a	
	Proman	0,5L/ha	F						
LSD P=.05				21,71	11,07	16,19	20,51	24,48	3,83
Standard Deviation				15,03	7,66	11,21	14,14	16,95	2,39
CV				22,16	8,92	13,85	29,23	22,01	10,21
Grand Mean				67,84	85,91	80,95	48,38	77,05	23,44
Levene's F				0,694	0,636	0,395	0,885	1,215	0,00
Levene's Prob(F)				0,723	0,773	0,94	0,549	0,317	0,00*
Rank X2				.	.	.	.	.	.
P(Rank X2)				.	.	.	.	.	.
Replicate F				1,846	1,702	7,173	0,203	1,842	0,273
Replicate Prob(F)				0,1601	0,1877	0,0009	0,8932	0,1608	0,8436
Treatment F				1,389	2,470	1,670	22,541	2,054	19,182
Treatment Prob(F)				0,2326	0,0271	0,1348	0,0001	0,0625	0,0003

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
Missing data estimates are included in columns:Average=13

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Trt No.	Treatment Name	Rate	Unit	Appl Code	3	4	9	13
	Pest Type							
	Pest Code							
	Pest Scientific Name							
	Pest Name							
	Crop Code				SPQOL	SPQOL	SPQOL	SPQOL
	BBCH Scale				BVNH	BVNH	BVNH	BVNH
	Crop Name				Spinach	Spinach	Spinach	Spinach
	Description						Nedvisning %	renset vægt
	Rating Date				12-05-2020	25-05-2020	20-07-2020	19-08-2020
	SE Group No.				59	61	76	85
	SE Name							
	SE Description							
	Part Rated				- C	- C		
	Rating Type				PHYGEN	PHYGEN		YIELD
	Rating Unit				%	%		T-MET
	Calculation				NC	NC		
	Sample Size, Unit				1 PLOT	1 PLOT		1 ha
	Collection Basis, Unit				1 PLOT	1 PLOT		
	Reporting Basis, Unit				1 PLOT	1 PLOT		
	Number of Subsamples				1	1	1	1
	Crop Stage Scale							
	Crop Stage Majority				14			
	Pest Stage Majority							
	Pest Stage Minimum/Maximum							
	Pest Density, Unit							
	Data Entry Date				12-05-2020	25-05-2020	30-07-2020	
	Days After First/Last Applic.				- 8	- 6	- 62	- 92
	Trt-Eval Interval				-1 DA-E	6 DA-F	62 DA-F	92 DA-F
	ARM Action Codes							TY3
	Number of Decimals				1	1		2
1	Untreated Check					0,0f	41,3a	3,70a
2	Centium 36 CS	0,15	L/ha	A	26,3b	21,3de	41,3a	3,30a
	Betanal	1	L/ha	C				
	Betanal	1	L/ha	D				
3	Centium 36 CS	0,15	L/ha	A	31,3b	25,0cde	43,8a	3,04a
	Proman	0,5	L/ha	A				
	Betanal	1	L/ha	C				
	Betanal	1	L/ha	D				
4	Centium 36 CS	0,15	L/ha	A	33,8b	28,8bcd	42,5a	4,19a
	Proman	0,5	L/ha	A				
	Betanal	1	L/ha	C				
	Betanal	1	L/ha	D				
	Pixxaro EC	0,125	L/ha	E				
5	Centium 36 CS	0,15	L/ha	A	10,0cd	17,5e	42,5a	3,86a
	Proman	0,5	L/ha	A				
	Pixxaro EC	0,05	L/ha	C				
	Pixxaro EC	0,075	L/ha	E				
6	Centium 36 CS	0,15	L/ha	A	13,8c	30,0bcd	37,5a	4,20a
	Proman	0,5	L/ha	A				
	Pixxaro EC	0,05	L/ha	D				
	Pixxaro EC	0,075	L/ha	F				
7	Centium 36 CS	0,15	L/ha	A	0,0d	18,8e	40,0a	3,48a
	Proman	0,5	L/ha	A				
	Pixxaro EC	0,125	L/ha	E				
8	Centium 36 CS	0,15	L/ha	A	5,0cd	30,0bcd	41,3a	3,73a
	Proman	0,5	L/ha	A				
	Pixxaro EC	0,05	L/ha	D				
	Venzar 500 SC	0,15	L/ha	D				
	Pixxaro EC	0,075	L/ha	F				
	Venzar 500 SC	0,15	L/ha	F				
9	Centium 36 CS	0,15	L/ha	A	5,0cd	36,3b	35,0a	3,69a
	Proman	0,5	L/ha	A				
	Pixxaro EC	0,05	L/ha	D				
	Proman	0,5	L/ha	E				

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Pest Type					
Pest Code					
Pest Scientific Name					
Pest Name					
Crop Code	SPQOL	SPQOL	SPQOL	SPQOL
BBCH Scale	BVNH	BVNH	BVNH	BVNH
Crop Name	Spinach	Spinach	Spinach	Spinach
Description			Nedvisning %	renset vægt
Rating Date	12-05-2020	25-05-2020	20-07-2020	19-08-2020
SE Group No.	59	61	76	85
SE Name				
SE Description				
Part Rated	- C	- C		
Rating Type	PHYGEN	PHYGEN		YIELD
Rating Unit	%	%		T-MET
Calculation	NC	NC		
Sample Size, Unit	1 PLOT	1 PLOT		1 ha
Collection Basis, Unit	1 PLOT	1 PLOT		
Reporting Basis, Unit	1 PLOT	1 PLOT		
Number of Subsamples	1	1	1	1
Crop Stage Scale				
Crop Stage Majority	14			
Pest Stage Majority				
Pest Stage Minimum/Maximum				
Pest Density, Unit				
Data Entry Date	12-05-2020	25-05-2020	30-07-2020	
Days After First/Last Applic.	- 8	- 6	- 62	- 92
Trt-Eval Interval	-1 DA-E	6 DA-F	62 DA-F	92 DA-F
ARM Action Codes				TY3
Number of Decimals	1	1		2
Trt No. Treatment Name	Rate	Rate Unit	Appl Code	3	4	9	13
10	Centium 36 CS	0,15	L/ha	A	48,8a	33,8bc	36,3a	3,53a
	Proman	0,5	L/ha	A				
	Proman	0,25	L/ha	D				
	Pixxaro EC	0,1	L/ha	E				
11	Centium 36 CS	0,15	L/ha	A	53,8a	33,8bc	36,3a	3,98a
	Venzar 500 SC	0,75	L/ha	A				
	Proman	0,25	L/ha	D				
	Pixxaro EC	0,1	L/ha	E				
12	Pixxaro EC	0,1	L/ha	E		47,5a	37,5a	3,54a
	Proman	0,5	L/ha	F				
LSD P=.05					9,05	6,27	7,12	1,387
Standard Deviation					6,24	4,36	4,95	0,960
CV					27,41	16,22	12,5	26,04
Grand Mean					22,75	26,88	39,58	3,687
Levene's F					2,049	1,281	0,486	0,454
Levene's Prob(F)					0,068	0,275	0,899	0,918
Rank X2					.	.	.	.
P(Rank X2)					.	.	.	.
Replicate F					3,107	0,621	0,737	0,159
Replicate Prob(F)					0,0430	0,6063	0,5374	0,9233
Treatment F					36,957	29,512	1,407	0,512
Treatment Prob(F)					0,0001	0,0001	0,2159	0,8797

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
Missing data estimates are included in columns:Average=13

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Strategier til ukrudtsbekæmpelse i spinat.

Trial ID: 20427-2 Location: Trial Year: 2020
Protocol ID: 20427 Investigator: Anja Lunn
Project ID: Study Director:
Sponsor Contact:
Conducted Under GEP: Yes

Pest Type
W, Weed = Weed or volunteer crop

Pest Code
BRSNN, Brassica napus, Rapeseed = US
GALAP, Galium aparine, Catchweed bedstraw = US
SENVU, Senecio vulgaris, Common groundsel = US
BBBBB, Broad-leaved plants, Broad-leaved plants = US

Crop Code
SPQOL, BVNH, Spinacia oleracea, Spinach = US

Part Rated
PLANT = plant
C = Crop is Part Rated

Rating Type
CONTRO = control / burndown or knockdown
PHYGEN = phytotoxicity - general / injury
YIELD = yield

Rating Unit
% = percent
T-MET = ton (metric=1000 kg)

Calculation
NC = no calculation

PLOT = total plot
ha = hectare

PLOT = total plot

PLOT = total plot

Crop Stage Scale
BBCH = BBCH uniform plant stages

Crop Stage Majority
14 = 4th true leaf unfolded|BVNH

Pest Stage Majority
12 = 2 true leaves, leaf pairs or whorls unfolded
35 = 5 visibly extended internode; G_5 node stage
16 = 6 true leaves, leaf pairs or whorls unfolded

Pest Stage Minimum/Maximum
12 = 2 true leaves, leaf pairs or whorls unfolded
55 = First individual flowers visible (still closed); G_Half of inflorescence emerged (middle of heading)

PLA/m2 = plants per square meter

ARM Action Codes
TY3 = 0.5*[12]

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Strategier til ukrudtsbekæmpelse i spinat.

Pest Type				W Weed	W Weed	W Weed	W Weed	W Weed	W Weed	
Pest Code				CHEAL	BRSNN	CHEAL	BRSNN	VIOAR	BBBBB	
Pest Scientific Name				Chenopodium album	Brassica napus	Chenopodium album	Brassica napus	Viola arvensis	Broad-leaved plants	
Pest Name				common lambsquarters	Rapeseed	common lambsquarters	Rapeseed	Field violet	Broad-leaved plants	
Crop Code			SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL
BBCH Scale			BVNH	BVNH	BVNH	BVNH	BVNH	BVNH	BVNH	BVNH
Crop Name			Spinach	Spinach	Spinach	Spinach	Spinach	Spinach	Spinach	Spinach
Description										
Rating Date			24-04-2020	04-05-2020	04-05-2020	04-05-2020	12-05-2020	12-05-2020	12-05-2020	12-05-2020
SE Name					W003	W003	W003	W003	W003	W003	
SE Description					% weed control	% weed control	% weed control	% weed control	% weed control	% weed control	
Part Rated					PLANT -	PLANT -	PLANT -	PLANT -	PLANT -	PLANT -	- C
Rating Type			PHYGEN	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	PHYGEN
Rating Unit			percent	percent	%	%	%	%	%	%	%
Calculation					NC	NC	NC	NC	NC	NC	NC
Sample Size, Unit					1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis, Unit					1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Reporting Basis, Unit					1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples			1	1	1	1	1	1	1	1	1
Crop Stage Scale			BBCH	BBCH							
Crop Stage Majority			10-12	14			16	16	16		18
Pest Stage Majority					12	12	16	16	16		
Pest Density, Unit					6,75PLA/m2	12,5PLA/m2	12 PLA/m2	12 PLA/m2	33 PLA/m2	4,5 PLA/m2	
Data Entry Date			31-08-2020	31-05-2020	31-05-2020	31-05-2020	12-05-2020	12-05-2020	12-05-2020	12-05-2020	12-05-2020
Days After First/Last Applic.			- 4	- 7	- 7	- 7	- 8	- 8	- 8	- 8	- 8
Trt-Eval Interval			4 DA-C	0 DA-E	0 DA-E	0 DA-E	-1 DA-F	-1 DA-F	-1 DA-F	-1 DA-F	-1 DA-F
ARM Action Codes											
Number of Decimals			1	1	1	1	1	1	1	1	1

Trt No.	Treatment Name	Rate	Unit	Appl Code	Plot	1	2	3	4	5	6	7	8	9
1	Untreated Check				109	0,0	0,0							
					204	0,0	0,0							
					312	0,0	0,0							
					410	0,0	0,0							
					Mean =	0,0	0,0	.	.	.	.	.	.	.
2	Centium 36 CS	0,15	L/ha	A	105	20,0	10,0	80,0	80,0	15,0	65,0	20,0	20,0	0,0
	Betanal	1	L/ha	C	209	20,0	10,0	85,0	50,0	10,0	10,0	25,0	10,0	0,0
	Betanal	1	L/ha	D	302	20,0	10,0	90,0	70,0	95,0	15,0	70,0	85,0	10,0
					412	20,0	15,0	95,0	95,0	10,0	95,0	75,0	80,0	10,0
					Mean =	20,0	11,3	87,5	73,8	32,5	46,3	47,5	48,8	5,0
3	Centium 36 CS	0,15	L/ha	A	111	0,0	20,0	85,0	70,0	95,0	20,0	80,0	95,0	0,0
	Proman	0,5	L/ha	A	201	20,0	15,0	95,0	85,0	75,0	80,0	95,0	90,0	0,0
	Betanal	1	L/ha	C	308	20,0	20,0	100,0	95,0	100,0	95,0	100,0	95,0	10,0
	Betanal	1	L/ha	D	403	20,0	20,0	90,0	50,0	60,0	65,0	80,0	80,0	0,0
					Mean =	15,0	18,8	92,5	75,0	82,5	65,0	88,8	90,0	2,5
4	Centium 36 CS	0,15	L/ha	A	104	20,0	15,0	85,0	85,0	95,0	85,0	90,0	95,0	30,0
	Proman	0,5	L/ha	A	206	20,0	20,0	90,0	85,0	95,0	80,0	95,0	95,0	30,0
	Betanal	1	L/ha	C	301	20,0	10,0	85,0	60,0	95,0	75,0	95,0	90,0	25,0
	Betanal	1	L/ha	D	405	20,0	15,0	100,0	30,0	95,0	75,0	90,0	95,0	25,0
	Pixxaro EC	0,125	L/ha	E										
					Mean =	20,0	15,0	90,0	65,0	95,0	78,8	92,5	93,8	27,5
5	Centium 36 CS	0,15	L/ha	A	107	35,0	10,0	85,0	65,0	0,0	5,0	90,0	70,0	0,0
	Proman	0,5	L/ha	A	205	35,0	10,0	90,0	75,0	10,0	70,0	10,0	10,0	15,0
	Pixxaro EC	0,05	L/ha	C	311	35,0	10,0	80,0	80,0	5,0	85,0	0,0	0,0	10,0
	Pixxaro EC	0,075	L/ha	E	406	35,0	10,0	85,0	30,0	0,0	5,0	0,0	5,0	20,0
					Mean =	35,0	10,0	85,0	62,5	3,8	41,3	25,0	21,3	11,3
6	Centium 36 CS	0,15	L/ha	A	108	0,0	30,0	60,0	45,0	0,0	0,0	0,0	0,0	0,0
	Proman	0,5	L/ha	A	212	0,0	30,0	95,0	20,0	10,0	0,0	0,0	10,0	0,0
	Pixxaro EC	0,05	L/ha	D	310	0,0	30,0	90,0	85,0	0,0	5,0	0,0	0,0	5,0
	Pixxaro EC	0,075	L/ha	F	404	0,0	25,0	90,0	40,0	10,0	5,0	10,0	10,0	0,0
					Mean =	0,0	28,8	83,8	47,5	5,0	2,5	2,5	5,0	1,3
7	Centium 36 CS	0,15	L/ha	A	106	0,0	0,0	0,0	0,0	10,0	0,0	10,0	10,0	15,0
	Proman	0,5	L/ha	A	203	0,0	0,0	90,0	0,0	10,0	0,0	0,0	0,0	10,0
	Pixxaro EC	0,125	L/ha	E	305	20,0	5,0	95,0	0,0	15,0	10,0	5,0	10,0	20,0
					408	0,0	5,0	40,0	95,0	15,0	15,0	15,0	15,0	15,0
					Mean =	5,0	2,5	56,3	23,8	12,5	6,3	7,5	8,8	15,0
8	Centium 36 CS	0,15	L/ha	A	112	0,0	30,0	80,0	20,0	5,0	15,0	0,0	5,0	0,0
	Proman	0,5	L/ha	A	202	0,0	30,0	80,0	70,0	0,0	80,0	0,0	0,0	0,0
	Pixxaro EC	0,05	L/ha	D	309	0,0	30,0	85,0	75,0	0,0	15,0	0,0	0,0	0,0
	Venzar 500 SC	0,15	L/ha	D	401	0,0	30,0	95,0	20,0	10,0	15,0	0,0	15,0	0,0
	Pixxaro EC	0,075	L/ha	F										
	Venzar 500 SC	0,15	L/ha	F										
					Mean =	0,0	30,0	85,0	46,3	3,8	31,3	0,0	5,0	0,0
9	Centium 36 CS	0,15	L/ha	A	110	20,0	30,0	75,0	20,0	95,0	25,0	80,0	90,0	65,0
	Proman	0,5	L/ha	A	207	0,0	30,0	75,0	0,0	95,0	40,0	95,0	95,0	60,0
	Pixxaro EC	0,05	L/ha	D	304	0,0	30,0	90,0	0,0	95,0	35,0	85,0	90,0	65,0
	Proman	0,5	L/ha	E	402	0,0	25,0	90,0	0,0	100,0	40,0	95,0	95,0	65,0
					Mean =	5,0	28,8	82,5	5,0	96,3	35,0	88,8	92,5	63,8
10	Centium 36 CS	0,15	L/ha	A	101	0,0	25,0	80,0	90,0	100,0	95,0	90,0	95,0	15,0
	Proman	0,5	L/ha	A	211	0,0	25,0	100,0	50,0	95,0	10,0	80,0	90,0	25,0
	Proman	0,25	L/ha	D	303	0,0	25,0	95,0	70,0	95,0	10,0	95,0	95,0	25,0
	Pixxaro EC	0,1	L/ha	E	407	0,0	25,0	80,0	80,0	100,0	90,0	90,0	95,0	20,0
					Mean =	0,0	25,0	88,8	72,5	97,5	51,3	88,8	93,8	21,3
11	Centium 36 CS	0,15	L/ha	A	102	0,0	25,0	70,0	90,0	35,0	25,0	80,0	80,0	25,0
	Venzar 500 SC	0,75	L/ha	A	210	0,0	25,0	85,0	50,0	95,0	25,0	95,0	95,0	25,0
	Proman	0,25	L/ha	D	307	0,0	25,0	90,0	95,0	95,0	95,0	95,0	95,0	30,0
	Pixxaro EC	0,1	L/ha	E	411	0,0	25,0	85,0	95,0	0,0	100,0	10,0	10,0	30,0
					Mean =	0,0	25,0	82,5	82,5	56,3	61,3	70,0	70,0	27,5
12	Pixxaro EC	0,1	L/ha	E	103	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	10,0
	Proman	0,5	L/ha	F	208	0,0	0,0	0,0	0,0	0,0	0,0	10,0	0,0	10,0
					306	0,0	0,0	0,0	0,0	0,0	5,0	0,0	0,0	20,0
					409	0,0	0,0	0,0	0,0	0,0	5,0	0,0	0,0	10,0
					Mean =	0,0	0,0	0,0	0,0	0,0	2,5	2,5	0,0	12,5

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	10	11	12	13	14	15	16	17	18
Pest Type	W Weed	W Weed	W Weed	W Weed		W Weed	W Weed		
Pest Code	CHEAL	BRSNN	VIOAR	BBBBB		BBBBB	VIOAR		
Pest Scientific Name	Chenopodium album	Brassica napus	Viola arvensis	Broad-leaved plants		Broad-leaved plants	Viola arvensis		
Pest Name	common lambsquarters	Rapeseed	Field violet	Broad-leaved plants		Broad-leaved plants	Field violet		
Crop Code	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL
BBCH Scale	BVNH	BVNH	BVNH	BVNH	BVNH	BVNH	BVNH	BVNH	BVNH
Crop Name	Spinach	Spinach	Spinach	Spinach	Spinach	Spinach	Spinach	Spinach	Spinach
Description								Nedvisning %	råvægt
Rating Date	27-05-2020	27-05-2020	27-05-2020	27-05-2020	27-05-2020	04-05-2020	04-05-2020	21-07-2020	28-08-2020
SE Name	W003	W003	W003	W003		W003	W003		
SE Description	% weed control	% weed control	% weed control	% weed control		% weed control	% weed control		
Part Rated	PLANT -	PLANT -	PLANT -	PLANT -	- C	PLANT -	PLANT -		
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO		
Rating Unit	%	%	%	%	%	%	%		kg
Calculation	NC	NC	NC	NC	NC	NC	NC		
Sample Size, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT		
Collection Basis, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT		
Reporting Basis, Unit	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT		
Number of Subsamples	1	1	1	1	1	1	1	1	1
Crop Stage Scale									
Crop Stage Majority	18	18	18	18	18	14	14		
Pest Stage Majority									
Pest Density, Unit	9,5 PLA/m2	7 PLA/m2	31 PLA/m2	2,3 PLA/m2		5,5 PLA/m2	22,5PLA/m2		
Data Entry Date	28-05-2020	28-05-2020	28-05-2020	28-05-2020	28-05-2020	31-05-2020	31-05-2020	30-07-2020	31-08-2020
Days After First/Last Applic.	- 14	- 14	- 14	- 14	- 14	- 7	- 7	- 69	- 107
Trt-Eval Interval	14 DA-F	14 DA-F	14 DA-F	14 DA-F	14 DA-F	0 DA-E	0 DA-E	69 DA-F	
ARM Action Codes									
Number of Decimals	1	1	1	1	1				

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	Plot	10	11	12	13	14	15	16	17	18
1	Untreated Check				109								45,0	7,6240
					204								50,0	7,0950
					312								50,0	6,4770
					410								40,0	3,8370
					Mean =	.	.	.	.	.	.	.	46,3	6,2583
2	Centium 36 CS	0,15	L/ha	A	105	0,0	60,0	75,0	0,0	0,0	80,0	80,0	50,0	6,8000
	Betanal	1	L/ha	C	209	0,0	5,0	50,0	0,0	0,0	80,0	80,0	55,0	6,7080
	Betanal	1	L/ha	D	302	20,0	0,0	85,0	0,0	0,0	85,0	85,0	70,0	7,4120
					412	30,0	90,0	60,0	0,0	0,0	95,0	90,0	50,0	4,9220
					Mean =	12,5	38,8	67,5	0,0	0,0	85,0	83,8	56,3	6,4605
3	Centium 36 CS	0,15	L/ha	A	111	60,0	5,0	80,0	50,0	0,0	85,0	90,0	40,0	7,2980
	Proman	0,5	L/ha	A	201	0,0	65,0	85,0	10,0	0,0	85,0	95,0	50,0	6,5530
	Betanal	1	L/ha	C	308	95,0	95,0	90,0	95,0	0,0	90,0	95,0	40,0	7,5910
	Betanal	1	L/ha	D	403	10,0	0,0	85,0	90,0	0,0	80,0	80,0	45,0	5,4100
					Mean =	41,3	41,3	85,0	61,3	0,0	85,0	90,0	43,8	6,7130
4	Centium 36 CS	0,15	L/ha	A	104	70,0	75,0	75,0	95,0	15,0	70,0	90,0	50,0	7,2570
	Proman	0,5	L/ha	A	206	95,0	85,0	90,0	70,0	10,0	80,0	85,0	50,0	6,4800
	Betanal	1	L/ha	C	301	90,0	5,0	90,0	50,0	15,0	75,0	90,0	55,0	5,2210
	Betanal	1	L/ha	D	405	100,0	5,0	50,0	50,0	15,0	80,0	80,0	50,0	5,8500
	Pixxaro EC	0,125	L/ha	E										
					Mean =	88,8	42,5	76,3	66,3	13,8	76,3	86,3	51,3	6,2020
5	Centium 36 CS	0,15	L/ha	A	107	20,0	0,0	60,0	20,0	10,0	90,0	93,0	50,0	6,2670
	Proman	0,5	L/ha	A	205	15,0	55,0	80,0	15,0	10,0	70,0	80,0	50,0	6,0740
	Pixxaro EC	0,05	L/ha	C	311	100,0	5,0	0,0	0,0	10,0	80,0	75,0	50,0	6,5250
	Pixxaro EC	0,075	L/ha	E	406	95,0	5,0	0,0	10,0	10,0	75,0	75,0	50,0	5,8650
					Mean =	57,5	16,3	35,0	11,3	10,0	78,8	80,8	50,0	6,1828
6	Centium 36 CS	0,15	L/ha	A	108	0,0	0,0	20,0	0,0	10,0	100,0	85,0	50,0	7,2280
	Proman	0,5	L/ha	A	212	10,0	5,0	25,0	10,0	5,0	80,0	80,0	65,0	6,4140
	Pixxaro EC	0,05	L/ha	D	310	75,0	5,0	35,0	10,0	10,0	80,0	85,0	50,0	6,5400
	Pixxaro EC	0,075	L/ha	F	404	75,0	0,0	10,0	5,0	10,0	100,0	70,0	50,0	5,8800
					Mean =	40,0	2,5	22,5	6,3	8,8	90,0	80,0	53,8	6,5155
7	Centium 36 CS	0,15	L/ha	A	106	90,0	5,0	30,0	95,0	10,0	65,0	75,0	45,0	7,6900
	Proman	0,5	L/ha	A	203	60,0	5,0	10,0	95,0	10,0	80,0	75,0	50,0	6,8360
	Pixxaro EC	0,125	L/ha	E	305	50,0	5,0	15,0	10,0	20,0	50,0	50,0	60,0	6,4690
					408	50,0	5,0	20,0	10,0	10,0	0,0	60,0	40,0	2,9190
					Mean =	62,5	5,0	18,8	52,5	12,5	48,8	65,0	48,8	5,9785
8	Centium 36 CS	0,15	L/ha	A	112	90,0	10,0	35,0	10,0	15,0	85,0	70,0	50,0	6,6210
	Proman	0,5	L/ha	A	202	50,0	95,0	30,0	10,0	10,0	70,0	75,0	50,0	6,7880
	Pixxaro EC	0,05	L/ha	D	309	20,0	75,0	45,0	10,0	10,0	85,0	75,0	45,0	6,6710
	Venzar 500 SC	0,15	L/ha	D	401	95,0	0,0	50,0	20,0	10,0	75,0	75,0	40,0	3,2100
	Pixxaro EC	0,075	L/ha	F										
	Venzar 500 SC	0,15	L/ha	F										
					Mean =	63,8	45,0	40,0	12,5	11,3	78,8	73,8	46,3	5,8225
9	Centium 36 CS	0,15	L/ha	A	110	95,0	5,0	50,0	0,0	25,0	60,0	75,0	45,0	7,2020
	Proman	0,5	L/ha	A	207	100,0	5,0	90,0	0,0	25,0	75,0	75,0	50,0	5,8430
	Pixxaro EC	0,05	L/ha	D	304	80,0	10,0	50,0	20,0	30,0	75,0	75,0	60,0	6,5940
	Proman	0,5	L/ha	E	402	95,0	10,0	70,0	10,0	25,0	80,0	80,0	35,0	5,1460
					Mean =	92,5	7,5	65,0	7,5	26,3	72,5	76,3	47,5	6,1963
10	Centium 36 CS	0,15	L/ha	A	101	65,0	90,0	90,0	90,0	15,0	90,0	90,0	70,0	6,3230
	Proman	0,5	L/ha	A	211	95,0	5,0	10,0	0,0	15,0	80,0	75,0	55,0	6,3300
	Proman	0,25	L/ha	D	303	90,0	0,0	30,0	10,0	15,0	70,0	70,0	40,0	8,1080
	Pixxaro EC	0,1	L/ha	E	407	90,0	5,0	90,0	20,0	15,0	75,0	90,0	40,0	2,5500
					Mean =	85,0	25,0	55,0	30,0	15,0	78,8	81,3	51,3	5,8278
11	Centium 36 CS	0,15	L/ha	A	102	30,0	90,0	75,0	90,0	20,0	100,0	70,0	60,0	7,1530
	Venzar 500 SC	0,75	L/ha	A	210	35,0	5,0	65,0	90,0	20,0	80,0	70,0	50,0	6,6880
	Proman	0,25	L/ha	D	307	85,0	90,0	90,0	10,0	15,0	90,0	90,0	40,0	5,0200
	Pixxaro EC	0,1	L/ha	E	411	50,0	5,0	0,0	10,0	15,0	90,0	40,0	35,0	4,2560
					Mean =	50,0	47,5	57,5	50,0	17,5	90,0	67,5	46,3	5,7793
12	Pixxaro EC	0,1	L/ha	E	103	90,0	85,0	60,0	45,0	40,0	0,0	0,0	50,0	7,1710
	Proman	0,5	L/ha	F	208	85,0	80,0	60,0	60,0	40,0	0,0	0,0	55,0	6,4730
					306	80,0	5,0	45,0	40,0	40,0	0,0	0,0	50,0	6,6210
					409	60,0	5,0	80,0	90,0	40,0	0,0	0,0	35,0	3,1650
					Mean =	78,8	43,8	61,3	58,8	40,0	0,0	0,0	47,5	5,8575

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Pest Type				
Pest Code				
Pest Scientific Name				
Pest Name				
Crop Code	SPQOL	SPQOL	SPQOL	SPQOL
BBCH Scale	BVNH	BVNH	BVNH	BVNH
Crop Name	Spinach	Spinach	Spinach	Spinach
Description	renset vægt	renset vægt	spirehastighed	spireevne
Rating Date	28-08-2020	28-08-2020	17-11-2020	02-12-2020
SE Name				
SE Description				
Part Rated			PLANT C	PLANT C
Rating Type		YIELD	GERMIN	GERMIN
Rating Unit	kg	T-MET	percent	percent
Calculation				
Sample Size, Unit	22,5 m2	1 ha	100 SEED	100 SEED
Collection Basis, Unit			1 SAMPLE	1 SAMPLE
Reporting Basis, Unit				
Number of Subsamples	1	1	1	1
Crop Stage Scale				
Crop Stage Majority				
Pest Stage Majority				
Pest Density, Unit				
Data Entry Date	31-08-2020		20-11-2020	03-12-2020
Days After First/Last Applic.	- 107	- 107	- 188	- 203
Trt-Eval Interval				
ARM Action Codes		TY1		
Number of Decimals	1	2	1	1

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	Plot	19	20	21	22
1	Untreated Check				109	7,0	3,13	47,0	78,0
					204	6,0	2,68	62,0	83,0
					312	6,1	2,71	77,0	87,0
					410	2,9	1,29	34,0	49,0
					Mean =	5,5	2,45	55,0	74,3
2	Centium 36 CS	0,15	L/ha	A	105	6,4	2,83	68,0	89,0
	Betanal	1	L/ha	C	209	6,3	2,81	71,0	83,0
	Betanal	1	L/ha	D	302	7,1	3,14	74,0	91,0
					412	4,2	1,85	42,0	56,0
					Mean =	6,0	2,66	63,8	79,8
3	Centium 36 CS	0,15	L/ha	A	111	6,8	3,02	44,0	69,0
	Proman	0,5	L/ha	A	201	6,2	2,74	67,0	80,0
	Betanal	1	L/ha	C	308	6,8	3,02	50,0	70,0
	Betanal	1	L/ha	D	403	4,8	2,12	37,0	62,0
					Mean =	6,1	2,72	49,5	70,3
4	Centium 36 CS	0,15	L/ha	A	104	6,8	3,04	64,0	87,0
	Proman	0,5	L/ha	A	206	6,0	2,68	65,0	84,0
	Betanal	1	L/ha	C	301	4,7	2,10	62,0	85,0
	Betanal	1	L/ha	D	405	5,4	2,38	35,0	67,0
	Pixxaro EC	0,125	L/ha	E					
					Mean =	5,7	2,55	56,5	80,8
5	Centium 36 CS	0,15	L/ha	A	107	5,8	2,58	72,0	85,0
	Proman	0,5	L/ha	A	205	5,5	2,43	79,0	91,0
	Pixxaro EC	0,05	L/ha	C	311	6,1	2,69	58,0	70,0
	Pixxaro EC	0,075	L/ha	E	406	5,4	2,38	57,0	75,0
					Mean =	5,7	2,52	66,5	80,3
6	Centium 36 CS	0,15	L/ha	A	108	6,8	3,01	63,0	82,0
	Proman	0,5	L/ha	A	212	6,2	2,73	80,0	93,0
	Pixxaro EC	0,05	L/ha	D	310	6,1	2,70	58,0	80,0
	Pixxaro EC	0,075	L/ha	F	404	5,4	2,40	63,0	79,0
					Mean =	6,1	2,71	66,0	83,5
7	Centium 36 CS	0,15	L/ha	A	106	7,2	3,20	60,0	74,0
	Proman	0,5	L/ha	A	203	6,4	2,86	70,0	87,0
	Pixxaro EC	0,125	L/ha	E	305	6,1	2,72	81,0	90,0
					408	2,5	1,09	10,0	16,0
					Mean =	5,5	2,47	55,3	66,8
8	Centium 36 CS	0,15	L/ha	A	112	6,1	2,72	85,0	95,0
	Proman	0,5	L/ha	A	202	6,4	2,86	77,0	88,0
	Pixxaro EC	0,05	L/ha	D	309	6,0	2,68	65,0	85,0
	Venzar 500 SC	0,15	L/ha	D	401	2,4	1,06	20,0	29,0
	Pixxaro EC	0,075	L/ha	F					
	Venzar 500 SC	0,15	L/ha	F					
					Mean =	5,2	2,33	61,8	74,3
9	Centium 36 CS	0,15	L/ha	A	110	6,6	2,95	61,0	90,0
	Proman	0,5	L/ha	A	207	5,4	2,41	61,0	78,0
	Pixxaro EC	0,05	L/ha	D	304	6,3	2,79	63,0	78,0
	Proman	0,5	L/ha	E	402	4,4	1,97	38,0	59,0
					Mean =	5,7	2,53	55,8	76,3
10	Centium 36 CS	0,15	L/ha	A	101	5,9	2,64	84,0	89,0
	Proman	0,5	L/ha	A	211	6,0	2,68	87,0	94,0
	Proman	0,25	L/ha	D	303	7,7	3,41	52,0	66,0
	Pixxaro EC	0,1	L/ha	E	407	1,9	0,86	31,0	40,0
					Mean =	5,4	2,40	63,5	72,3
11	Centium 36 CS	0,15	L/ha	A	102	6,5	2,88	82,0	90,0
	Venzar 500 SC	0,75	L/ha	A	210	6,4	2,83	77,0	90,0
	Proman	0,25	L/ha	D	307	4,3	1,90	32,0	53,0
	Pixxaro EC	0,1	L/ha	E	411	3,3	1,46	39,0	55,0
					Mean =	5,1	2,27	57,5	72,0
12	Pixxaro EC	0,1	L/ha	E	103	6,8	3,02	81,0	97,0
	Proman	0,5	L/ha	F	208	6,2	2,74	79,0	87,0
					306	6,2	2,77	75,0	85,0
					409	2,5	1,11	23,0	28,0
					Mean =	5,4	2,41	64,5	74,3

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Strategier til ukrudtsbekæmpelse i spinat.

Trial ID: 20427-1 Location: Trial Year: 2020
Protocol ID: 20427 Investigator: Anja Lunn
Project ID: Study Director:
Sponsor Contact:

Conducted Under GEP: Yes

Pest Type
W, Weed = Weed or volunteer crop
Pest Code
CHEAL, Chenopodium album, common lambsquarters = US
BRSNN, Brassica napus, Rapeseed = US
VIOAR, Viola arvensis, Field violet = US
BBBBB, Broad-leaved plants, Broad-leaved plants = US
Crop Code
SPQOL, BVNH, Spinacia oleracea, Spinach = US
Part Rated
PLANT = plant
C = Crop is Part Rated
Rating Type
PHYGEN = phytotoxicity - general / injury
CONTRO = control / burndown or knockdown
YIELD = yield
GERMIN = germination
Rating Unit
% = percent
kg = kilogram
T-MET = ton (metric=1000 kg)
Calculation
NC = no calculation

PLOT = total plot
m2 = square meter
ha = hectare
SEED = seed

PLOT = total plot
SAMPLE = sample

PLOT = total plot
Crop Stage Scale
BBCH = BBCH uniform plant stages
Crop Stage Majority
14 = 4th true leaf unfolded|BVNH
16 = 6th true leaf unfolded|BVNH
18 = 8th true leaf unfolded|BVNH
Pest Stage Majority
12 = 2 true leaves, leaf pairs or whorls unfolded
16 = 6 true leaves, leaf pairs or whorls unfolded

PLA/m2 = plants per square meter
ARM Action Codes
TY1 = 0.4444444*[19]

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Jordmidler til ukrudtsbekæmpelse i spinat til frø - afprøvning af Venzar, Centium og andre kombinationer med Centium.

Trial ID: 20428 Location: Flakkebjerg Trial Year: 2020
Protocol ID: 20428 Investigator: Andrius Hansen Kemezys
Project ID: 29894 Study Director: Peter Hartvig
Sponsor Contact:
Conducted Under GEP: Yes

General Trial Information

Study Director: Peter Hartvig **Title:** Study director
Investigator: Andrius Hansen Kemezys **Title:** Research project staff

Discipline: H herbicide
Trial Status: I one-year/interim
Trial Status Date: 01-09-2020 **Last Changed By:** Andrius Hansen Kemezys
ARM Trial Created On: 25-03-2020
Initiation Date: 31-03-2020
Completion Date: 18-06-2020 **Protocol Revision Date:** 25-03-2020

Trial Location

City: Flakkebjerg **Country:** DNK Denmark
State/Prov.: Slagelse
Postal Code: 4200 **Climate Zone:** EPOMAR EPPO Maritime

Latitude of LL Corner °: 55,319826 N
Longitude of LL Corner °: 11,389676 E DNK 57,746666 - 54,561661
8,087221 - 15,15

Conducted Under GLP: No
Conducted Under GEP: Yes

Conclusions:

Forsøget blev udført ved forskningscentret AU Flakkebjerg. Forsøget har til formål at undersøge effektivitet og selektivitet af forskellige jordmidler til spinat til frø. Vejret i forsøgsperioden kan beskrives som normalt, dog med meget tørt april måned, som sandsynligvis har bidraget til de generelt lavt effekt af jordmidler ved de sidste to bedømmelser.

Forsøgsarealet blev behandlet med jordmidler og nedharvet inden såning den 31. april (behandling A), hvorefter spinat blev sået, og arealet blev behandlet med jordmidler efter såning den samme dag om eftermiddagen (behandling B). Den 19. maj og den 27. maj blev der udført sprøjtninger med 0,35 l/ha Proman på tværs af samtlige parceller, således, at ca. 1/3 af hver parcel blev sprøjtet med 2 x 0,35 l/ha Proman.

Forsøget blev bedømt for skade den 20. april, 20 dage efter A sprøjtning (20 DA-A), 1. maj (31 DA-A), 19. maj (49 DA-A), 2. juni (63 DA-A) og den 18. juni (79 DA-A). Forsøget blev i øvrigt bedømt for effektivitet 1. maj, 19. maj, 2. juni og den 27. juni. Tre forskellige ukrudtsarter blev bedømt ved effektregistrering: spildraps (BRSNN, *Brassica napus*), hvidmelet gåsefod (CHEAL, *Chenopodium album*), og agerstedmoder (VIOAR, *Viola arvensis*), desuden blev der bedømt andet 2-kimbladet ukrudt (BBBBB) og græsukrudt (GGGGG).

Der blev generelt observeret meget høj effekt af alle led overfor alle bedømte ukrudtsarter ved første effekt registrering den 1. maj og der var ingen signifikante forskelle mellem led. De efterfølgende registreringer for effekt har vist generelt lavt effekt af jordmidlerne, som skyldes sandsynligvis fremspiring af nye ukrudt.

Effekt registrering den 15. maj har vist, at led 10 med tankblanding af 0,2 l/ha Centium og 0,05 l/ha DFF viste god effekt (67,5%) overfor agerstedmoder og var signifikant højere end de øvrige led (0-23,8%). Der var ingen signifikante forskelle mellem nogle af led i de resterende bedømmelser.

Bladsprøjtninger af samtlige parceller med Proman synes at kunne bidrage med forøget effekt overfor hvidmelet gåsefod, agerstedmoder og andet bredbladet ukrudt. Bladsprøjtninger med Proman har til gengæld også bidraget med forøget skader på ca 40-42% ved bedømmelse 6 dage efter den anden sprøjtning med 0,35l/ha Proman. De testede jordmidler alene synes ikke at have skadet spinat i dette forsøg.

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Investigator: Andrius Hansen Kemezys **Title:** Research project staff
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Country: DNK Denmark

Crop Description

Crop 1: SPQOL Spinacia oleracea Spinach
Entry Date: 01-09-2020
Planting Date: 30-03-2020

Pest Description

Pest 1 Type: W **Code:** BBBBB Broad-leaved plants
Common Name: Broad-leaved plants **Entry Date:** 01-09-2020

Pest 2 Type: W **Code:** BRSNN Brassica napus
Common Name: rapeseed **Entry Date:** 01-09-2020

Pest 3 Type: W **Code:** CHEAL Chenopodium album
Common Name: lambsquarters, common **Entry Date:** 01-09-2020

Pest 4 Type: W **Code:** GGGGG Gramineae
Common Name: Gramineae **Entry Date:** 01-09-2020

Pest 5 Type: W **Code:** VIOAR Viola arvensis
Common Name: violet, field **Entry Date:** 01-09-2020

Site and Design

Treated Plot Width: 2,5 m **Site Type:** FIELD field
Treated Plot Length: 7,5 m **Experimental Unit:** 1 PLOT plot
Treated Plot Area: 18,75 m2 **Treatments:** 10 **Tillage Type:** CONTIL conventional-till
Replications: 4 **Study Design:** RACOBL Randomized Complete Block (RCB)

Soil Description

Description Name: JB6
% Sand: 73,2 **% OM:** 3,8
% Silt: 11,6 **pH:** 6,3
% Clay: 11,4

Moisture and Weather Conditions

Overall Moisture Conditions: NORMAL normal
Closest Weather Station: AU Flakkebjerg **Distance, Unit:** 500 m

Application Description

	A	B
Application Date:	31-03-2020	31-03-2020
Appl. Start Time:	10:15	14:15
Appl. Stop Time:	10:30	15:00
Application Method:	SPRAY	SPRAY
Application Placement:	SOIL	SOIL
Applied By:	AHK	AL
Appl. Entry Date:	28-05-2020	28-05-2020
Air Temperature Start, Stop:	7,3 C	8 C
% Relative Humidity Start, Stop:	34,4	27,7
Wind Velocity+Dir., Start:	0,9 MPS W	2,5 MPS W
Soil Temperature, Unit:	3 C	4,3 C
Soil Moisture:	DRY	DRY
Soil Surface Condition:	FINE	FINE
% Cloud Cover:	5	0
Next Moisture Occurred On:	01-04-2020	01-04-2020

Comment:

Den 19/5 og den 27/5 blev der sprøjtet 0,35 L/ha Proman på tværs af forsøgsarealet, således, at ca. 1/3 af hver parcel blev sprøjtet med 2 x 0,35 Proman.

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Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale:	SPQOL BVNH	SPQOL BVNH

Pest Stage At Each Application

	A	B
Pest 1 Code, Type, Scale:	BBBBB W	BBBBB W
Pest 2 Code, Type, Scale:	BRSNN W	BRSNN W
Pest 3 Code, Type, Scale:	CHEAL W	CHEAL W
Pest 4 Code, Type, Scale:	GGGGG W	GGGGG W
Pest 5 Code, Type, Scale:	VIOAR W	VIOAR W

Application Equipment

	A	B
Appl. Equipment:	Selvkørende	Selvkørende
Equipment Type:	SPRAYE	SPRAYE
Operation Pressure:	3,9 BAR	3,9 BAR
Nozzle Type:	Hardi	Hardi
Nozzle Size:	LD015-110	LD015-110
Nozzle Spacing:	50 cm	50 cm
Nozzles/Row:	5	5
Band Width:	50 cm	50 cm
Boom Length:	2,5 m	2,5 m
Boom Height:	50 cm	50 cm
Ground Speed:	3,6 KPH	3,6 KPH
Carrier:	WATER	WATER
Minimum Mix/Treatment:	1,5 Liters	1,5 Liters
Mix Size:	4 liters	4 liters

Date	By	Context	Notes
25-03-2020	Andrius Hansen Kemezys	STATUS	Automatically added by ARM: Trial Status updated to 'S' during trial creation.
20-04-2020	Andrius Hansen Kemezys	STATUS	Automatically added by ARM: Trial Status updated to 'E' when Rating Date entered.

SE Definitions

	1.	2.
Rating Timing	A0	A0
SE Name	W003	X001
SE Description	% weed control	% General phyto on plants (all symptoms)
Part Rated	PLANT	PLANT
Rating Type	CONTRO	PHYGEN
Rating Unit	%	%
Sample Size	1 PLOT	1 PLOT
Collection Basis	1 PLOT	1 PLOT
Reporting Basis	1 PLOT	1 PLOT
Calculation	NC	NC

Instructions:

Registreringer:

	Effekt på ukrudt	Generel skade (PHYGEN) på spinat
2 uger efter B		X
4 uger efter B		X
6 uger efter B	X	X
8 uger efter B		X
2 uger efter BBCH 14	X	X

Parcelstørrelse 15 m2.
2 meter værn mellem parceller (for at reducere overslæbning af herbicid ved nedharvning)

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Jordmidler til ukrudtsbekæmpelse i spinat til frø - afprøvning af Venzar, Centium og andre kombinationer med Centium.

Trial ID:20428 Location:Flakkebjerg Trial Year:2020
Protocol ID:20428 Investigator:Andrius Hansen Kemezys
Project ID:29894 Study Director:Peter Hartvig
Sponsor Contact:
Conducted Under GEP:Yes

Trt No.	Type	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Appl Code	Spray Volume	Volume Unit
1	CHK	Untreated Check								
2	HERB	Venzar 500 SC	500	gA/L	SC	0,5	L/ha	A		
3	HERB	Centium 36 CS	360	g/L	CS	0,2	L/ha	B		
4	HERB	Centium 36 CS	360	g/L	CS	0,2	L/ha	B		
	HERB	Venzar 500 SC	500	gA/L	SC	0,5	L/ha	B		
5	HERB	Venzar 500 SC	500	gA/L	SC	0,5	L/ha	A		
	HERB	Centium 36 CS	360	g/L	CS	0,2	L/ha	B		
6	HERB	Venzar 500 SC	500	gA/L	SC	0,5	L/ha	A		
	HERB	Centium 36 CS	360	g/L	CS	0,2	L/ha	B		
	HERB	Venzar 500 SC	500	gA/L	SC	0,5	L/ha	B		
7	HERB	Centium 36 CS	360	g/L	CS	0,2	L/ha	B		
	HERB	Proman	500	gA/L	SC	0,5	L/ha	B		
8	HERB	Centium 36 CS	360	g/L	CS	0,2	L/ha	B		
	HERB	Proman	500	gA/L	SC	1	L/ha	B		
9	HERB	Centium 36 CS	360	g/L	CS	0,2	L/ha	B		
	HERB	DFF SC 500	500	gA/L	SC	0,025	L/ha	B		
10	HERB	Centium 36 CS	360	g/L	CS	0,2	L/ha	B		
	HERB	DFF SC 500	500	gA/L	SC	0,05	L/ha	B		

Additional Treatment Information

Type
CHK = Check or Untreated
HERB = Herbicide

Treatment Name
Untreated Check, , , = Not treated|
Venzar 500 SC, 500, gA/L, SC = lenacil|500|
Centium 36 CS, 360, g/L, CS = clomazon|360|
Proman, 500, gA/L, SC = metobromuron|500|
DFF SC 500, 500, gA/L, SC = diflufenican|500|

Form Unit
gA/L = grams active ingredient per liter formulated product
g/L = grams active ingredient per liter formulated product (same as ga/L)

Form Type
SC = suspension concentrate (= flowable concentrate)|Liquid||A stable suspension of active ingredient(s) in water, intended for dilution with water before use.
CS = capsule suspension|Liquid||A stable suspension of capsules in a fluid, normally intended for dilution with water before use.

Rate Unit
L/ha = Liters Product per Hectare (US=GAL/A)|T

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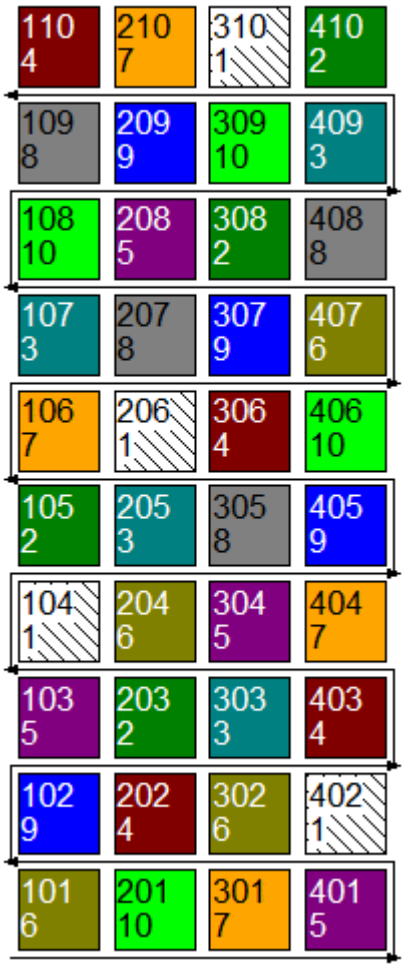
Jordmidler til ukrudtsbekæmpelse i spinat til frø - afprøvning af Venzar, Centium og andre kombinationer med Centium.

Trial ID:20428 Location:Flakkebjerg Trial Year:2020
Protocol ID:20428 Investigator:Andrius Hansen Kemezys
Project ID:29894 Study Director:Peter Hartvig
Sponsor Contact:
Conducted Under GEP:Yes

Trial Map Treatment Description

Trt	Code	Description
1	CHK	Untreated Check
2		Venzar 500 SC 0.5 L/ha
3		Centium 36 CS 0.2 L/ha
4		Centium 36 CS 0.2 L/ha;Venzar 500 SC 0.5 L/ha
5		Venzar 500 SC 0.5 L/ha;Centium 36 CS 0.2 L/ha
6		Venzar 500 SC 0.5 L/ha;Centium 36 CS 0.2 L/ha;Venzar 500 SC 0.5 L/ha
7		Centium 36 CS 0.2 L/ha;Proman 0.5 L/ha
8		Centium 36 CS 0.2 L/ha;Proman 1 L/ha
9		Centium 36 CS 0.2 L/ha;DFF SC 500 0.025 L/ha
10		Centium 36 CS 0.2 L/ha;DFF SC 500 0.05 L/ha



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Trial ID: 20428 Location: Flakkebjerg Trial Year: 2020
Protocol ID: 20428 Investigator: Andrius Hansen Kemezys
Project ID: 29894 Study Director: Peter Hartvig
Sponsor Contact:
Conducted Under GEP: Yes

Trt No.	Treatment Name	Rate	Unit	Appl Code							
	Pest Type				W Weed	W Weed	W Weed	W Weed	W Weed	W Weed
	Pest Code				BRSNN	BRSNN	BRSNN	BRSNN	BRSNN	CHEAL
	Pest Scientific Name				Brassica napus	Brassica napus	Brassica napus	Brassica napus	Brassica napus	Chenopodium album
	Pest Name				Rapeseed	Rapeseed	Rapeseed	Rapeseed	Rapeseed	common lambsquarters
	Crop Code				SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL
	BBCH Scale				BVNH	BVNH	BVNH	BVNH	BVNH	BVNH
	Crop Name				Spinach	Spinach	Spinach	Spinach	Spinach	Spinach
	Description						spr. på tværs		spr. på tværs	
	Rating Date				01-05-2020	19-05-2020	02-06-2020	02-06-2020	18-06-2020	01-05-2020
	SE Group No.				2	61	74	78	82	2
	SE Name				W003	W003				W003
	SE Description				% weed control	% weed control				% weed control
	Part Rated				PLANT -	PLANT -	PLANT -	PLANT -	PLANT -	PLANT -
	Rating Type				CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
	Rating Unit				%	%	%	%	%	%
	Calculation				NC	NC				NC
	Sample Size, Unit				1 PLOT	1 PLOT				1 PLOT
	Collection Basis, Unit				1 PLOT	1 PLOT				1 PLOT
	Reporting Basis, Unit				1 PLOT	1 PLOT				1 PLOT
	Number of Subsamples				1	1	1	1	1	1
	Crop Stage Scale									
	Crop Stage Majority				12					12
	Pest Density, Unit				31 PLA/m2	28,7PLA/m2		17,5PLA/m2	12,5PLA/m2	5,25PLA/m2
	Data Entry Date				02-05-2020	28-05-2020	08-06-2020	08-06-2020	18-06-2020	02-05-2020
	Days After First/Last Applic.				31 31	49 49	63 63	63 63	79 79	31 31
	Trt-Eval Interval				31 DA-A	49 DA-A	63 DA-A	63 DA-A	79 DA-A	31 DA-A
	Number of Decimals				1	1				1
					2	9	14	18	22	1
1	Untreated Check								53,8a	
2	Venzar 500 SC	0,5	L/ha	A	88,8a	1,3c	87,5a	41,3a	62,5a	68,8ab
3	Centium 36 CS	0,2	L/ha	B	78,8a	3,8bc	77,5a	20,0ab	52,5a	66,3ab
4	Centium 36 CS	0,2	L/ha	B	68,8a	10,0abc	76,3a	1,3b	53,8a	50,0ab
	Venzar 500 SC	0,5	L/ha	B						
5	Venzar 500 SC	0,5	L/ha	A	52,5a	10,0abc	82,5a	0,0b	63,8a	66,3ab
	Centium 36 CS	0,2	L/ha	B						
6	Venzar 500 SC	0,5	L/ha	A	78,8a	18,8a	82,5a	28,8ab	70,0a	71,3a
	Centium 36 CS	0,2	L/ha	B						
	Venzar 500 SC	0,5	L/ha	B						
7	Centium 36 CS	0,2	L/ha	B	51,3a	12,5ab	77,5a	0,0b	72,5a	31,3b
	Proman	0,5	L/ha	B						
8	Centium 36 CS	0,2	L/ha	B	71,3a	16,3a	80,0a	3,8b	63,8a	60,0ab
	Proman	1	L/ha	B						
9	Centium 36 CS	0,2	L/ha	B	73,8a	7,5abc	85,0a	17,5ab	65,0a	43,8ab
	DFF SC 500	0,025	L/ha	B						
10	Centium 36 CS	0,2	L/ha	B	85,0a	13,8ab	80,0a	1,3b	58,8a	73,8a
	DFF SC 500	0,05	L/ha	B						
	LSD P=.05				27,34	7,31	10,50	24,53	28,73	24,47
	Standard Deviation				18,73	5,01	7,19	16,80	19,80	16,77
	CV				25,99	48,11	8,88	132,96	32,13	28,4
	Grand Mean				72,08	10,42	80,97	12,64	61,63	59,03
	Levene's F				3,471	0,857	1,00	1,886	2,545	2,12
	Levene's Prob(F)				0,007*	0,563	0,459	0,104	0,026*	0,069
	Rank X2				.	.	.	.	.	.
	P(Rank X2)				.	.	.	.	.	.
	Replicate F				1,079	1,207	6,779	2,409	2,067	3,066
	Replicate Prob(F)				0,3769	0,3284	0,0018	0,0919	0,1281	0,0472
	Treatment F				1,946	5,101	1,081	3,211	0,482	2,939
	Treatment Prob(F)				0,0991	0,0009	0,4091	0,0126	0,8739	0,0193

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
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Pest Type		W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code		CHEAL	CHEAL	CHEAL	CHEAL	VIOAR
Pest Scientific Name		Chenopodium album	Chenopodium album	Chenopodium album	Chenopodium album	Viola arvensis
Pest Name		common lambsquarters	common lambsquarters	common lambsquarters	common lambsquarters	Field violet
Crop Code		SPQOL	SPQOL	SPQOL	SPQOL	SPQOL
BBCH Scale		BVNH	BVNH	BVNH	BVNH	BVNH
Crop Name		Spinach	Spinach	Spinach	Spinach	Spinach
Description			spr. på tværs		spr. på tværs	
Rating Date		19-05-2020	02-06-2020	02-06-2020	18-06-2020	01-05-2020
SE Group No.		61	73	77	81	48
SE Name		W003				W003
SE Description		% weed control				% weed control
Part Rated		PLANT -	PLANT -	PLANT -	PLANT -	PLANT -
Rating Type		CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit		%	%	%	%	%
Calculation		NC				NC
Sample Size, Unit		1 PLOT				1 PLOT
Collection Basis, Unit		1 PLOT				1 PLOT
Reporting Basis, Unit		1 PLOT				1 PLOT
Number of Subsamples		1	1	1	1	1
Crop Stage Scale					BBCH	
Crop Stage Majority					61	12
Pest Density, Unit		15,5PLA/m2		13,2PLA/m2	14,5PLA/m2	41,2PLA/m2
Data Entry Date		28-05-2020	08-06-2020	08-06-2020	18-06-2020	02-05-2020
Days After First/Last Applic.		49 49	63 63	63 63	79 79	31 31
Trt-Eval Interval		49 DA-A	63 DA-A	63 DA-A	79 DA-A	31 DA-A
Number of Decimals		1				1
Trt Treatment No. Name	Rate Unit Appl Code	8	13	17	21	3
1 Untreated Check			85,0a		81,3a	
2 Venzar 500 SC	0,5L/ha A	0,0c	89,5a	2,5b	89,8a	88,8a
3 Centium 36 CS	0,2L/ha B	2,5bc	85,0a	2,5b	78,8a	83,8a
4 Centium 36 CS	0,2L/ha B	5,0bc	86,8a	7,5b	80,8a	77,5a
Venzar 500 SC	0,5L/ha B					
5 Venzar 500 SC	0,5L/ha A	3,8bc	83,8a	0,0b	87,8a	76,3a
Centium 36 CS	0,2L/ha B					
6 Venzar 500 SC	0,5L/ha A	3,8bc	86,3a	22,5a	92,5a	81,3a
Centium 36 CS	0,2L/ha B					
Venzar 500 SC	0,5L/ha B					
7 Centium 36 CS	0,2L/ha B	11,3ab	85,0a	8,8b	75,5a	77,5a
Proman	0,5L/ha B					
8 Centium 36 CS	0,2L/ha B	13,8a	91,3a	23,8a	87,0a	70,0a
Proman	1L/ha B					
9 Centium 36 CS	0,2L/ha B	0,0c	87,5a	2,5b	80,8a	71,3a
DFF SC 500	0,025L/ha B					
10 Centium 36 CS	0,2L/ha B	2,5bc	85,0a	6,3b	85,0a	81,3a
DFF SC 500	0,05L/ha B					
LSD P=.05		6,95	6,03	10,28	24,51	18,92
Standard Deviation		4,76	4,15	7,04	16,90	12,96
CV		100,86	4,8	83,12	20,14	16,49
Grand Mean		4,72	86,50	8,47	83,90	78,61
Levene's F		1,193	1,155	1,979	0,555	0,756
Levene's Prob(F)		0,339	0,357	0,088	0,822	0,643
Rank X2		.	.	.	.	.
P(Rank X2)		.	.	.	.	.
Replicate F		0,449	3,573	4,980	0,946	5,120
Replicate Prob(F)		0,7203	0,0269	0,0079	0,4323	0,0070
Treatment F		3,980	1,268	6,200	0,401	0,832
Treatment Prob(F)		0,0040	0,2982	0,0002	0,9234	0,5836

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
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Pest Type		W Weed	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code		VIOAR	VIOAR	VIOAR	VIOAR	BBBBB	BBBBB
Pest Scientific Name		Viola arvensis	Viola arvensis	Viola arvensis	Viola arvensis	Broad-leaved plants	Broad-leaved plants
Pest Name		Field violet	Field violet	Field violet	Field violet	Broad-leaved plants	Broad-leaved plants
Crop Code		SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL
BBCH Scale		BVNH	BVNH	BVNH	BVNH	BVNH	BVNH
Crop Name		Spinach	Spinach	Spinach	Spinach	Spinach	Spinach
Description			spr. på tværs		spr. på tværs		
Rating Date		19-05-2020	02-06-2020	02-06-2020	18-06-2020	01-05-2020	19-05-2020
SE Group No.		62	75	79	83	49	63
SE Name		W003				W003	W003
SE Description		% weed control				% weed control	% weed control
Part Rated		PLANT -	PLANT -	PLANT -	PLANT -	PLANT -	PLANT -
Rating Type		CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit		%	%	%	%	%	%
Calculation		NC				NC	NC
Sample Size, Unit		1 PLOT				1 PLOT	1 PLOT
Collection Basis, Unit		1 PLOT				1 PLOT	1 PLOT
Reporting Basis, Unit		1 PLOT				1 PLOT	1 PLOT
Number of Subsamples		1	1	1	1	1	1
Crop Stage Scale					BBCH		
Crop Stage Majority					69		
Pest Density, Unit		68,7PLA/m2		42,5PLA/m2	28,7PLA/m2	5,25PLA/m2	6 PLA/m2
Data Entry Date		28-05-2020	08-06-2020	08-06-2020	18-06-2020	02-05-2020	28-05-2020
Days After First/Last Applic.		49 49	63 63	63 63	79 79	31 31	49 49
Trt-Eval Interval		49 DA-A	63 DA-A	63 DA-A	79 DA-A	31 DA-A	49 DA-A
Number of Decimals		1				1	1
Trt No.	Treatment Name	Rate Unit	Appl Code	10	15	19	23	4	11
1	Untreated Check						13,8a		
2	Venzar 500 SC	0,5L/ha	A	0,0c	48,8a	36,3a	18,8a	73,8a	0,0a
3	Centium 36 CS	0,2L/ha	B	11,3bc	51,3a	48,8a	13,8a	80,0a	5,0a
4	Centium 36 CS	0,2L/ha	B	10,0bc	51,3a	42,5a	16,3a	71,3a	5,0a
	Venzar 500 SC	0,5L/ha	B						
5	Venzar 500 SC	0,5L/ha	A	12,5bc	53,8a	17,5b	16,3a	63,8a	7,5a
	Centium 36 CS	0,2L/ha	B						
6	Venzar 500 SC	0,5L/ha	A	16,3bc	50,0a	16,3b	10,0a	81,3a	11,3a
	Centium 36 CS	0,2L/ha	B						
	Venzar 500 SC	0,5L/ha	B						
7	Centium 36 CS	0,2L/ha	B	15,0bc	46,3a	42,5a	13,8a	73,8a	12,5a
	Proman	0,5L/ha	B						
8	Centium 36 CS	0,2L/ha	B	23,8b	52,5a	51,3a	18,8a	63,8a	13,8a
	Proman	1L/ha	B						
9	Centium 36 CS	0,2L/ha	B	10,0bc	50,0a	48,8a	16,3a	66,3a	8,8a
	DFF SC 500	0,025L/ha	B						
10	Centium 36 CS	0,2L/ha	B	67,5a	53,8a	51,3a	12,5a	80,0a	11,3a
	DFF SC 500	0,05L/ha	B						
LSD P=.05				14,21	6,01	14,89	5,99	21,81	9,82
Standard Deviation				9,74	4,12	10,20	4,13	14,95	6,73
CV				52,72	8,1	25,87	27,52	20,58	80,73
Grand Mean				18,47	50,83	39,44	15,00	72,64	8,33
Levene's F				1,242	0,888	0,566	1,633	1,412	1,831
Levene's Prob(F)				0,313	0,539	0,796	0,151	0,236	0,115
Rank X2				.	.	.	.	.	.
P(Rank X2)				.	.	.	.	.	.
Replicate F				0,105	1,584	1,885	3,228	3,235	0,286
Replicate Prob(F)				0,9564	0,2193	0,1590	0,0380	0,0400	0,8347
Treatment F				15,926	1,382	7,206	1,793	0,863	1,726
Treatment Prob(F)				0,0001	0,2539	0,0001	0,1161	0,5596	0,1434

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Pest Type		W Weed	W Weed		
Pest Code		GGGGG	GGGGG		
Pest Scientific Name		Gramineae	Gramineae		
Pest Name		Gramineae	Gramineae		
Crop Code		SPQOL	SPQOL	SPQOL	SPQOL
BBCH Scale		BVNH	BVNH	BVNH	BVNH
Crop Name		Spinach	Spinach	Spinach	Spinach
Description					
Rating Date		01-05-2020	19-05-2020	20-04-2020	01-05-2020
SE Group No.		50	64	85	51
SE Name		W003	W003		X001
SE Description		% weed control	% weed control		% General phyto on plants (all symptoms)
Part Rated		PLANT -	PLANT -	PLANT -	PLANT C
Rating Type		CONTRO	CONTRO	PHYGEN	PHYGEN
Rating Unit		%	%	%	%
Calculation		NC	NC		NC
Sample Size, Unit		1 PLOT	1 PLOT		1 PLOT
Collection Basis, Unit		1 PLOT	1 PLOT		1 PLOT
Reporting Basis, Unit		1 PLOT	1 PLOT		1 PLOT
Number of Subsamples		1	1	1	1
Crop Stage Scale					
Crop Stage Majority					
Pest Density, Unit		15,5PLA/m2	30,7PLA/m2		
Data Entry Date		02-05-2020	28-05-2020	30-06-2020	02-05-2020
Days After First/Last Applic.		31 31	49 49	20 20	31 31
Trt-Eval Interval		31 DA-A	49 DA-A	20 DA-A	31 DA-A
Number of Decimals		1	1		1
Trt Treatment No. Name	Rate Unit Appl Code	5	12	25	6
1 Untreated Check				0,0a	
2 Venzar 500 SC	0,5L/ha A	65,0a	0,0a	0,0a	0,0a
3 Centium 36 CS	0,2L/ha B	47,5a	0,0a	0,0a	0,0a
4 Centium 36 CS	0,2L/ha B	55,0a	0,0a	0,0a	0,0a
Venzar 500 SC	0,5L/ha B				
5 Venzar 500 SC	0,5L/ha A	56,3a	0,0a	0,0a	0,0a
Centium 36 CS	0,2L/ha B				
6 Venzar 500 SC	0,5L/ha A	53,8a	0,0a	0,0a	0,0a
Centium 36 CS	0,2L/ha B				
Venzar 500 SC	0,5L/ha B				
7 Centium 36 CS	0,2L/ha B	57,5a	0,0a	0,0a	0,0a
Proman	0,5L/ha B				
8 Centium 36 CS	0,2L/ha B	60,0a	0,0a	0,0a	0,0a
Proman	1L/ha B				
9 Centium 36 CS	0,2L/ha B	51,3a	0,0a	0,0a	0,0a
DFF SC 500	0,025L/ha B				
10 Centium 36 CS	0,2L/ha B	76,3a	0,0a	0,0a	0,0a
DFF SC 500	0,05L/ha B				
LSD P=.05		37,33	.	.	.
Standard Deviation		25,58	0,00	0,00	0,00
CV		44,06	0,0	0,0	0,0
Grand Mean		58,06	0,00	0,00	0,00
Levene's F		0,933	0,00	0,00	0,00
Levene's Prob(F)		0,506	0,00*	0,00*	0,00*
Rank X2		.	.	.	.
P(Rank X2)		.	.	.	.
Replicate F		2,102	0,000	0,000	0,000
Replicate Prob(F)		0,1265	1,0000	1,0000	1,0000
Treatment F		0,437	0,000	0,000	0,000
Treatment Prob(F)		0,8866	1,0000	1,0000	1,0000

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
Could not calculate LSD (% mean diff) for columns 12,25,6,7,20 because error mean square = 0.

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Trt No.	Treatment Name	Rate	Unit	Appl Code				
	Pest Type							
	Pest Code							
	Pest Scientific Name							
	Pest Name							
	Crop Code				SPQOL	SPQOL	SPQOL	SPQOL
	BBCH Scale				BVNH	BVNH	BVNH	BVNH
	Crop Name				Spinach	Spinach	Spinach	Spinach
	Description					spr. på tværs		spr. på tværs
	Rating Date				19-05-2020	02-06-2020	02-06-2020	18-06-2020
	SE Group No.				60	76	80	84
	SE Name				X001			
	SE Description				% General phyto on plants (all symptoms)			
	Part Rated				PLANT C	PLANT -	PLANT -	PLANT -
	Rating Type				PHYGEN	PHYGEN	PHYGEN	PHYGEN
	Rating Unit				%	%	%	%
	Calculation				NC			
	Sample Size, Unit				1 PLOT			
	Collection Basis, Unit				1 PLOT			
	Reporting Basis, Unit				1 PLOT			
	Number of Subsamples				1	1	1	1
	Crop Stage Scale							
	Crop Stage Majority							
	Pest Density, Unit							
	Data Entry Date				28-05-2020	08-06-2020	08-06-2020	18-06-2020
	Days After First/Last Applic.				49 49	63 63	63 63	79 79
	Trt-Eval Interval				49 DA-A	63 DA-A	63 DA-A	79 DA-A
	Number of Decimals				1			
					7	16	20	24
1	Untreated Check							5,0a
2	Venzar 500 SC	0,5	L/ha	A	0,0a	41,0a	0,0a	11,3a
3	Centium 36 CS	0,2	L/ha	B	0,0a	40,8a	0,0a	13,8a
4	Centium 36 CS	0,2	L/ha	B	0,0a	41,3a	0,0a	7,5a
	Venzar 500 SC	0,5	L/ha	B				
5	Venzar 500 SC	0,5	L/ha	A	0,0a	41,5a	0,0a	5,0a
	Centium 36 CS	0,2	L/ha	B				
6	Venzar 500 SC	0,5	L/ha	A	0,0a	40,5a	0,0a	6,3a
	Centium 36 CS	0,2	L/ha	B				
	Venzar 500 SC	0,5	L/ha	B				
7	Centium 36 CS	0,2	L/ha	B	0,0a	41,0a	0,0a	10,0a
	Proman	0,5	L/ha	B				
8	Centium 36 CS	0,2	L/ha	B	0,0a	40,0a	0,0a	2,5a
	Proman	1	L/ha	B				
9	Centium 36 CS	0,2	L/ha	B	0,0a	40,5a	0,0a	3,8a
	DFF SC 500	0,025	L/ha	B				
10	Centium 36 CS	0,2	L/ha	B	0,0a	41,8a	0,0a	7,5a
	DFF SC 500	0,05	L/ha	B				
	LSD P=.05				.	1,80	.	9,70
	Standard Deviation				0,00	1,23	0,00	6,69
	CV				0,0	3,01	0,0	92,24
	Grand Mean				0,00	40,92	0,00	7,25
	Levene's F				0,00	0,88	0,00	0,353
	Levene's Prob(F)				0,00*	0,545	0,00*	0,948
	Rank X2				.	.	.	.
	P(Rank X2)				.	.	.	.
	Replicate F				0,000	0,164	0,000	2,553
	Replicate Prob(F)				1,0000	0,9193	1,0000	0,0764
	Treatment F				0,000	0,781	0,000	1,112
	Treatment Prob(F)				1,0000	0,6236	1,0000	0,3879

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
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Could not calculate LSD (% mean diff) for columns 12,25,6,7,20 because error mean square = 0.

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Jordmidler til ukrudtsbekæmpelse i spinat til frø - afprøvning af Venzar, Centium og andre kombinationer med Centium.

Trial ID: 20428 Location: Flakkebjerg Trial Year: 2020
Protocol ID: 20428 Investigator: Andrius Hansen Kemezys
Project ID: 29894 Study Director: Peter Hartvig
Sponsor Contact:
Conducted Under GEP: Yes

Pest Type
W, Weed = Weed or volunteer crop

Pest Code
BRSNN, Brassica napus, Rapeseed = US
CHEAL, Chenopodium album, common lambsquarters = US
VIOAR, Viola arvensis, Field violet = US
BBBBB, Broad-leaved plants, Broad-leaved plants = US
GGGGG, Gramineae, Gramineae = US

Crop Code
SPQOL, BVNH, Spinacia oleracea, Spinach = US

SE Name
W003 = A0
X001 = A0

Part Rated
PLANT = plant
C = Crop is Part Rated

Rating Type
CONTRO = control / burndown or knockdown
PHYGEN = phytotoxicity - general / injury

Rating Unit
% = percent

Calculation
NC = no calculation

PLOT = total plot

PLOT = total plot

PLOT = total plot

Crop Stage Scale
BBCH = BBCH uniform plant stages

Crop Stage Majority
12 = 2nd true leaf unfolded|BVNH
61 = Beginning of flowering: 10% of flowers open|BVNH
69 = End of flowering|BVNH

PLA/m2 = plants per square meter

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Jordmidler til ukrudtsbekæmpelse i spinat til frø - afprøvning af Venzar, Centium og andre kombinationer med Centium.

Trial ID:20428 Location:Flakkebjerg Trial Year:2020
Protocol ID:20428 Investigator:Andrius Hansen Kemezys
Project ID:29894 Study Director:Peter Hartvig
Sponsor Contact:
Conducted Under GEP:Yes

Pest Type							W Weed	W Weed	W Weed	W Weed	W Weed	
Pest Code							CHEAL	BRSNN	VIOAR	BBBBB	GGGGG	
Pest Scientific Name							Chenopodium album	Brassica napus	Viola arvensis	Broad-leaved plants	Gramineae	
Pest Name							lambsquarters, common	rapeseed	violet, field	Broad-leaved plants	Gramineae	
Crop Code							SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL
BBCH Scale							BVNH	BVNH	BVNH	BVNH	BVNH	BVNH
Crop Name							Spinach	Spinach	Spinach	Spinach	Spinach	Spinach
Description												
Rating Date						Apr-20-2020	May-1-2020	May-1-2020	May-1-2020	May-1-2020	May-1-2020	May-1-2020
SE Group No.						85	2	2	48	49	50	51
SE Name							W003	W003	W003	W003	W003	X001
SE Description							% weed control	% weed control	% weed control	% weed control	% weed control	% General phyto on plants (all symptoms)
Part Rated						PLANT -	PLANT -	PLANT -	PLANT -	PLANT -	PLANT -	PLANT C
Rating Type						PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	PHYGEN
Rating Unit						%	%	%	%	%	%	%
Calculation							NC	NC	NC	NC	NC	NC
Sample Size, Unit							1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis, Unit							1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Reporting Basis, Unit							1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples						1	1	1	1	1	1	1
Crop Stage Scale												
Crop Stage Majority							12	12	12			
Pest Stage Majority												
Pest Density, Unit							5,25PLA/m2	31 PLA/m2	41,2PLA/m2	5,25PLA/m2	15,5PLA/m2	
Data Entry Date						Jun-30-2020	May-2-2020	May-2-2020	May-2-2020	May-2-2020	May-2-2020	May-2-2020
Days After First/Last Applic.						20 20	31 31	31 31	31 31	31 31	31 31	31 31
Trt-Eval Interval							31 DA-A	31 DA-A	31 DA-A	31 DA-A	31 DA-A	31 DA-A
Number of Decimals							1	1	1	1	1	1
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	Plot	25	1	2	3	4	5	6
1	Untreated Check				104	0						
					206	0						
					310	0						
					402	0						
					Mean =	0	.	.	.	.	.	.
2	Venzar 500 SC	0,5	L/ha	A	105	0	95,0	95,0	90,0	90,0	80,0	0,0
					203	0	90,0	90,0	90,0	85,0	85,0	0,0
					308	0	50,0	80,0	90,0	80,0	45,0	0,0
					410	0	40,0	90,0	85,0	40,0	50,0	0,0
					Mean =	0	68,8	88,8	88,8	73,8	65,0	0,0
3	Centium 36 CS	0,2	L/ha	B	107	0	80,0	85,0	90,0	80,0	80,0	0,0
					205	0	65,0	90,0	90,0	85,0	20,0	0,0
					303	0	80,0	60,0	85,0	85,0	80,0	0,0
					409	0	40,0	80,0	70,0	70,0	10,0	0,0
					Mean =	0	66,3	78,8	83,8	80,0	47,5	0,0
4	Centium 36 CS	0,2	L/ha	B	110	0	60,0	65,0	70,0	50,0	20,0	0,0
	Venzar 500 SC	0,5	L/ha	B	202	0	60,0	75,0	85,0	80,0	80,0	0,0
					306	0	40,0	95,0	80,0	80,0	70,0	0,0
					403	0	40,0	40,0	75,0	75,0	50,0	0,0
					Mean =	0	50,0	68,8	77,5	71,3	55,0	0,0
5	Venzar 500 SC	0,5	L/ha	A	103	0	85,0	85,0	95,0	90,0	90,0	0,0
	Centium 36 CS	0,2	L/ha	B	208	0	90,0	85,0	90,0	85,0	70,0	0,0
					304	0	50,0	20,0	80,0	40,0	65,0	0,0
					401	0	40,0	20,0	40,0	40,0	0,0	0,0
					Mean =	0	66,3	52,5	76,3	63,8	56,3	0,0
6	Venzar 500 SC	0,5	L/ha	A	101	0	70,0	80,0	85,0	85,0	70,0	0,0
	Centium 36 CS	0,2	L/ha	B	204	0	90,0	95,0	90,0	90,0	20,0	0,0
	Venzar 500 SC	0,5	L/ha	B	302	0	50,0	50,0	70,0	70,0	70,0	0,0
					407	0	75,0	90,0	80,0	80,0	55,0	0,0
					Mean =	0	71,3	78,8	81,3	81,3	53,8	0,0
7	Centium 36 CS	0,2	L/ha	B	106	0	35,0	45,0	95,0	80,0	85,0	0,0
	Proman	0,5	L/ha	B	210	0	20,0	75,0	80,0	80,0	10,0	0,0
					301	0	30,0	45,0	65,0	65,0	75,0	0,0
					404	0	40,0	40,0	70,0	70,0	60,0	0,0
					Mean =	0	31,3	51,3	77,5	73,8	57,5	0,0
8	Centium 36 CS	0,2	L/ha	B	109	0	40,0	60,0	75,0	75,0	50,0	0,0
	Proman	1	L/ha	B	207	0	70,0	65,0	85,0	60,0	60,0	0,0
					305	0	45,0	70,0	35,0	40,0	65,0	0,0
					408	0	85,0	90,0	85,0	80,0	65,0	0,0
					Mean =	0	60,0	71,3	70,0	63,8	60,0	0,0
9	Centium 36 CS	0,2	L/ha	B	102	0	55,0	60,0	85,0	70,0	90,0	0,0
	DFF SC 500	0,025	L/ha	B	209	0	40,0	65,0	85,0	85,0	45,0	0,0
					307	0	40,0	90,0	75,0	75,0	40,0	0,0
					405	0	40,0	80,0	40,0	35,0	30,0	0,0
					Mean =	0	43,8	73,8	71,3	66,3	51,3	0,0
10	Centium 36 CS	0,2	L/ha	B	108	0	85,0	85,0	90,0	85,0	80,0	0,0
	DFF SC 500	0,05	L/ha	B	201	0	80,0	85,0	95,0	85,0	90,0	0,0
					309	0	45,0	80,0	70,0	80,0	65,0	0,0
					406	0	85,0	90,0	70,0	70,0	70,0	0,0
					Mean =	0	73,8	85,0	81,3	80,0	76,3	0,0

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Pest Type		W Weed	W Weed	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code		CHEAL	BRSNN	VIOAR	BBBBB	GGGGG	CHEAL	
Pest Scientific Name		Chenopodium album	Brassica napus	Viola arvensis	Broad-leaved plants	Gramineae	Chenopodium album	
Pest Name		lambsquarters, common	rapeseed	violet, field	Broad-leaved plants	Gramineae	lambsquarters, common	
Crop Code		SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL
BBCH Scale		BVNH	BVNH	BVNH	BVNH	BVNH	BVNH	BVNH
Crop Name		Spinach	Spinach	Spinach	Spinach	Spinach	Spinach	Spinach
Description								spr. på tværs
Rating Date		May-19-2020	May-19-2020	May-19-2020	May-19-2020	May-19-2020	May-19-2020	Jun-2-2020
SE Group No.		60	61	61	62	63	64	73
SE Name		X001	W003	W003	W003	W003	W003	
SE Description		% General phyto on plants (all symptoms)	% weed control	% weed control	% weed control	% weed control	% weed control	
Part Rated		PLANT C	PLANT -	PLANT -	PLANT -	PLANT -	PLANT -	PLANT -
Rating Type		PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit		%	%	%	%	%	%	%
Calculation		NC	NC	NC	NC	NC	NC	
Sample Size, Unit		1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	
Collection Basis, Unit		1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	
Reporting Basis, Unit		1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	
Number of Subsamples		1	1	1	1	1	1	1
Crop Stage Scale								
Crop Stage Majority								
Pest Stage Majority								proman
Pest Density, Unit			15,5PLA/m2	28,7PLA/m2	68,7PLA/m2	6 PLA/m2	30,7PLA/m2	
Data Entry Date		May-28-2020	May-28-2020	May-28-2020	May-28-2020	May-28-2020	May-28-2020	Jun-8-2020
Days After First/Last Applic.		49 49	49 49	49 49	49 49	49 49	49 49	63 63
Trt-Eval Interval		43 DA-A	31 DA-A	31 DA-A	31 DA-A	31 DA-A	31 DA-A	31 DA-A
Number of Decimals		1	1	1	1	1	1	

Trt No.	Treatment Name	Rate	Unit	Appl Code	Plot	7	8	9	10	11	12	13
1	Untreated Check				104							90
					206							85
					310							80
					402							85
					Mean =	.	.	.	.	.	.	85
2	Venzar 500 SC	0,5	L/ha	A	105	0,0	0,0	0,0	0,0	0,0	0,0	90
					203	0,0	0,0	5,0	0,0	0,0	0,0	98
					308	0,0	0,0	0,0	0,0	0,0	0,0	85
					410	0,0	0,0	0,0	0,0	0,0	0,0	85
					Mean =	0,0	0,0	1,3	0,0	0,0	0,0	90
3	Centium 36 CS	0,2	L/ha	B	107	0,0	0,0	10,0	10,0	10,0	0,0	85
					205	0,0	10,0	5,0	10,0	10,0	0,0	85
					303	0,0	0,0	0,0	15,0	0,0	0,0	85
					409	0,0	0,0	0,0	10,0	0,0	0,0	85
					Mean =	0,0	2,5	3,8	11,3	5,0	0,0	85
4	Centium 36 CS	0,2	L/ha	B	110	0,0	0,0	5,0	15,0	0,0	0,0	80
	Venzar 500 SC	0,5	L/ha	B	202	0,0	10,0	10,0	5,0	0,0	0,0	97
					306	0,0	0,0	10,0	10,0	10,0	0,0	85
					403	0,0	10,0	15,0	10,0	10,0	0,0	85
					Mean =	0,0	5,0	10,0	10,0	5,0	0,0	87
5	Venzar 500 SC	0,5	L/ha	A	103	0,0	10,0	10,0	15,0	10,0	0,0	80
	Centium 36 CS	0,2	L/ha	B	208	0,0	5,0	10,0	15,0	10,0	0,0	90
					304	0,0	0,0	10,0	10,0	0,0	0,0	85
					401	0,0	0,0	10,0	10,0	10,0	0,0	80
					Mean =	0,0	3,8	10,0	12,5	7,5	0,0	84
6	Venzar 500 SC	0,5	L/ha	A	101	0,0	0,0	20,0	20,0	0,0	0,0	85
	Centium 36 CS	0,2	L/ha	B	204	0,0	5,0	15,0	15,0	10,0	0,0	90
	Venzar 500 SC	0,5	L/ha	B	302	0,0	0,0	10,0	20,0	10,0	0,0	85
					407	0,0	10,0	30,0	10,0	25,0	0,0	85
					Mean =	0,0	3,8	18,8	16,3	11,3	0,0	86
7	Centium 36 CS	0,2	L/ha	B	106	0,0	20,0	20,0	20,0	20,0	0,0	90
	Proman	0,5	L/ha	B	210	0,0	10,0	10,0	20,0	20,0	0,0	85
					301	0,0	5,0	10,0	10,0	0,0	0,0	85
					404	0,0	10,0	10,0	10,0	10,0	0,0	80
					Mean =	0,0	11,3	12,5	15,0	12,5	0,0	85
8	Centium 36 CS	0,2	L/ha	B	109	0,0	10,0	10,0	10,0	5,0	0,0	85
	Proman	1	L/ha	B	207	0,0	10,0	20,0	10,0	10,0	0,0	95
					305	0,0	15,0	15,0	15,0	25,0	0,0	95
					408	0,0	20,0	20,0	60,0	15,0	0,0	90
					Mean =	0,0	13,8	16,3	23,8	13,8	0,0	91
9	Centium 36 CS	0,2	L/ha	B	102	0,0	0,0	10,0	10,0	10,0	0,0	90
	DFF SC 500	0,025	L/ha	B	209	0,0	0,0	5,0	10,0	5,0	0,0	85
					307	0,0	0,0	10,0	10,0	10,0	0,0	85
					405	0,0	0,0	5,0	10,0	10,0	0,0	90
					Mean =	0,0	0,0	7,5	10,0	8,8	0,0	88
10	Centium 36 CS	0,2	L/ha	B	108	0,0	0,0	10,0	60,0	10,0	0,0	90
	DFF SC 500	0,05	L/ha	B	201	0,0	0,0	10,0	80,0	10,0	0,0	90
					309	0,0	10,0	10,0	70,0	15,0	0,0	80
					406	0,0	0,0	25,0	60,0	10,0	0,0	80
					Mean =	0,0	2,5	13,8	67,5	11,3	0,0	85

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Pest Type		W Weed	W Weed		W Weed	W Weed	W Weed		W Weed	W Weed	W Weed
Pest Code		BRSNN	VIOAR		CHEAL	BRSNN	VIOAR		CHEAL	BRSNN	VIOAR
Pest Scientific Name		Brassica napus	Viola arvensis		Chenopodium album	Brassica napus	Viola arvensis		Chenopodium album	Brassica napus	Viola arvensis
Pest Name		rapeseed	violet, field		lambsquarters, common	rapeseed	violet, field		lambsquarters, common	rapeseed	violet, field
Crop Code		SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL
BBCH Scale		BVNH	BVNH	BVNH	BVNH	BVNH	BVNH	BVNH	BVNH	BVNH	BVNH
Crop Name		Spinach	Spinach	Spinach	Spinach	Spinach	Spinach	Spinach	Spinach	Spinach	Spinach
Description		spr. på tværs	spr. på tværs	spr. på tværs					spr. på tværs	spr. på tværs	spr. på tværs
Rating Date		Jun-2-2020	Jun-2-2020	Jun-2-2020	Jun-2-2020	Jun-2-2020	Jun-2-2020	Jun-2-2020	Jun-18-2020	Jun-18-2020	Jun-18-2020
SE Group No.		74	75	76	77	78	79	80	81	82	83
SE Name											
SE Description											
Part Rated		PLANT -	PLANT -	PLANT -	PLANT -	PLANT -	PLANT -	PLANT -	PLANT -	PLANT -	PLANT -
Rating Type		CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO	CONTRO
Rating Unit		%	%	%	%	%	%	%	%	%	%
Calculation											
Sample Size, Unit											
Collection Basis, Unit											
Reporting Basis, Unit											
Number of Subsamples		1	1	1	1	1	1	1	1	1	1
Crop Stage Scale									BBCH		BBCH
Crop Stage Majority									61		69
Pest Stage Majority									proman		
Pest Density, Unit					13,2m2	17,5m2	42,5m2		14,5m2	12,5m2	28,7m2
Data Entry Date		Jun-8-2020	Jun-8-2020	Jun-8-2020	Jun-8-2020	Jun-8-2020	Jun-8-2020	Jun-8-2020	Jun-18-2020	Jun-18-2020	Jun-18-2020
Days After First/Last Applic.		63 63	63 63	63 63	63 63	63 63	63 63	63 63	79 79	79 79	79 79
Trt-Eval Interval		31 DA-A	31 DA-A	43 DA-A	31 DA-A	31 DA-A	31 DA-A	43 DA-A	31 DA-A	31 DA-A	31 DA-A
Number of Decimals											

Trt No.	Treatment Name	Rate	Unit	Appl Code	Plot	14	15	16	17	18	19	20	21	22	23
1	Untreated Check				104								90	50	15
					206								90	30	15
					310								50	85	10
					402								95	50	15
					Mean =	.	.	.	.	.	.	.	81	54	14
2	Venzar 500 SC	0,5	L/ha	A	105	90	50	40	0	40	35	0	85	40	10
					203	95	50	42	10	30	25	0	99	80	30
					308	80	50	40	0	50	45	0	85	40	15
					410	85	45	42	0	45	40	0	90	90	20
					Mean =	88	49	41	3	41	36	0	90	63	19
3	Centium 36 CS	0,2	L/ha	B	107	80	45	43	0	10	50	0	85	75	15
					205	90	55	40	10	10	35	0	85	30	10
					303	65	55	40	0	20	50	0	95	25	15
					409	75	50	40	0	40	60	0	50	80	15
					Mean =	78	51	41	3	20	49	0	79	53	14
4	Centium 36 CS	0,2	L/ha	B	110	90	50	40	10	0	40	0	90	70	10
	Venzar 500 SC	0,5	L/ha	B	202	85	55	40	10	0	35	0	98	60	20
					306	65	50	42	10	5	45	0	75	40	15
					403	65	50	43	0	0	50	0	60	45	20
					Mean =	76	51	41	8	1	43	0	81	54	16
5	Venzar 500 SC	0,5	L/ha	A	103	90	60	41	0	0	25	0	96	60	10
	Centium 36 CS	0,2	L/ha	B	208	85	50	42	0	0	25	0	85	45	25
					304	90	55	43	0	0	20	0	85	80	15
					401	65	50	40	0	0	0	0	85	70	15
					Mean =	83	54	42	0	0	18	0	88	64	16
6	Venzar 500 SC	0,5	L/ha	A	101	90	50	40	20	0	10	0	95	70	10
	Centium 36 CS	0,2	L/ha	B	204	90	50	42	30	20	10	0	95	75	10
	Venzar 500 SC	0,5	L/ha	B	302	85	55	40	40	0	45	0	90	50	10
					407	65	45	40	0	95	0	0	90	85	10
					Mean =	83	50	41	23	29	16	0	93	70	10
7	Centium 36 CS	0,2	L/ha	B	106	85	50	40	15	0	40	0	92	80	10
	Proman	0,5	L/ha	B	210	80	45	40	10	0	40	0	25	80	10
					301	75	45	42	10	0	50	0	95	60	15
					404	70	45	42	0	0	40	0	90	70	20
					Mean =	78	46	41	9	0	43	0	76	73	14
8	Centium 36 CS	0,2	L/ha	B	109	75	50	40	25	0	50	0	90	40	15
	Proman	1	L/ha	B	207	85	50	40	40	0	50	0	98	45	25
					305	80	55	40	20	0	55	0	75	80	15
					408	80	55	40	10	15	50	0	85	90	20
					Mean =	80	53	40	24	4	51	0	87	64	19
9	Centium 36 CS	0,2	L/ha	B	102	85	60	40	0	0	65	0	98	50	15
	DFF SC 500	0,025	L/ha	B	209	90	50	42	10	0	30	0	80	75	15
					307	85	50	40	0	50	50	0	90	50	20
					405	80	40	40	0	20	50	0	55	85	15
					Mean =	85	50	41	3	18	49	0	81	65	16
10	Centium 36 CS	0,2	L/ha	B	108	85	55	43	10	0	45	0	85	40	10
	DFF SC 500	0,05	L/ha	B	201	75	55	42	0	0	60	0	95	35	15
					309	90	50	40	15	0	50	0	75	75	15
					406	70	55	42	0	5	50	0	85	85	10
					Mean =	80	54	42	6	1	51	0	85	59	13

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Pest Type	
Pest Code	
Pest Scientific Name	
Pest Name	
Crop Code	SPQOL
BBCH Scale	BVNH
Crop Name	Spinach
Description	spr. på tværs
Rating Date	Jun-18-2020
SE Group No.	84
SE Name	
SE Description	
Part Rated	PLANT -
Rating Type	PHYGEN
Rating Unit	%
Calculation	
Sample Size, Unit	
Collection Basis, Unit	
Reporting Basis, Unit	
Number of Subsamples	1
Crop Stage Scale	
Crop Stage Majority	
Pest Stage Majority	
Pest Density, Unit	
Data Entry Date	Jun-18-2020
Days After First/Last Applic.	79 79
Trt-Eval Interval	43 DA-A
Number of Decimals	

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	Plot	24
1	Untreated Check				104	10
					206	0
					310	0
					402	10
					Mean =	5
2	Venzar 500 SC	0,5	L/ha	A	105	0
					203	25
					308	10
					410	10
					Mean =	11
3	Centium 36 CS	0,2	L/ha	B	107	20
					205	20
					303	0
					409	15
					Mean =	14
4	Centium 36 CS	0,2	L/ha	B	110	10
	Venzar 500 SC	0,5	L/ha	B	202	10
					306	10
					403	0
					Mean =	8
5	Venzar 500 SC	0,5	L/ha	A	103	10
	Centium 36 CS	0,2	L/ha	B	208	0
					304	0
					401	10
					Mean =	5
6	Venzar 500 SC	0,5	L/ha	A	101	15
	Centium 36 CS	0,2	L/ha	B	204	0
	Venzar 500 SC	0,5	L/ha	B	302	10
					407	0
					Mean =	6
7	Centium 36 CS	0,2	L/ha	B	106	10
	Proman	0,5	L/ha	B	210	20
					301	0
					404	10
					Mean =	10
8	Centium 36 CS	0,2	L/ha	B	109	10
	Proman	1	L/ha	B	207	0
					305	0
					408	0
					Mean =	3
9	Centium 36 CS	0,2	L/ha	B	102	15
	DFF SC 500	0,025	L/ha	B	209	0
					307	0
					405	0
					Mean =	4
10	Centium 36 CS	0,2	L/ha	B	108	10
	DFF SC 500	0,05	L/ha	B	201	10
					309	0
					406	10
					Mean =	8

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Jordmidler til ukrudtsbekæmpelse i spinat til frø - afprøvning af Venzar, Centium og andre kombinationer med Centium.

Trial ID:20428 Location:Flakkebjerg Trial Year:2020
Protocol ID:20428 Investigator:Andrius Hansen Kemezys
Project ID:29894 Study Director:Peter Hartvig
Sponsor Contact:
Conducted Under GEP:Yes

Pest Type
W, Weed = Weed or volunteer crop
Pest Code
CHEAL, Chenopodium album, lambsquarters, common = US
BRSNN, Brassica napus, rapeseed = US
VIOAR, Viola arvensis, violet, field = US
BBBBB, Broad-leaved plants, Broad-leaved plants = US
GGGGG, Gramineae, Gramineae = US
Crop Code
SPQOL, BVNH, Spinacia oleracea, Spinach = US
SE Name
W003 = A0
X001 = A0
Part Rated
PLANT = plant
C = Crop is Part Rated
Rating Type
PHYGEN = phytotoxicity - general / injury
CONTRO = control / burndown or knockdown
Rating Unit
% = percent
Calculation
NC = no calculation

PLOT = total plot

PLOT = total plot

PLOT = total plot
Crop Stage Scale
BBCH = BBCH uniform plant stages
Crop Stage Majority
12 = 2nd true leaf unfolded|BVNH
61 = Beginning of flowering: 10% of flowers open|BVNH
69 = End of flowering|BVNH

PLA/m2 = plants per square meter
m2 = per square meter

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General Trial Information

Study Director: Peter Hartvig **Title:** Study director
Investigator: Andrius Hansen Kemezys **Title:** Academic employee

Discipline: H herbicide
Trial Status: E established
Trial Status Date: 30-04-2020
ARM Trial Created On: 21-04-2020
Initiation Date: 03-08-2020
Completion Date: 28-08-2020

Trial Reliability: HIGH
Last Changed By: Andrius Hansen Kemezys
Protocol Revision Date: 21-04-2020

Trial Location

City: Flakkebjerg **Country:** DNK Denmark
State/Prov.: Slagelse
Postal Code: 4200 **Climate Zone:** EPOMAR EPPO Maritime

Latitude of LL Corner °: 55,318582 N
Longitude of LL Corner °: 11,396047 E DNK 57,746666 - 54,561661
8,087221 - 15,15

Conducted Under GLP: No
Conducted Under GEP: Yes

Conclusions:

Forsøget blev udført ved forskningscentret AU Flakkebjerg i 2020. Forsøget har til formål at teste en række midler, som alternativer til diquat for nedvisning af spinat. Sprøjtninger med testprodukter blev udført den 3. august (A sprøjtning; kun Gozai og Spotlight Plus) og den 6. august (B sprøjtning; Reglone, Beloukha og TopGun Finalsan). Spinat blev bedømt for nedvisning den 8., 10. august og lige inden høst den 13. august. Ved nedvisningsbedømmelser den 10. og den 13. august blev der bedømt separat for nedvisning på spinat planter og spinatfrø. Forsøgsparceller blev høstet enkeltvis den 13. august, hvorefter spinatfrø blev renset og testet for spirehastighed og spireevne.

Høstperioden i 2020 var meget favorabel for naturlig nedvisning og derfor blev der også besluttet at forkorte intervallet mellem A og B sprøjtninger fra 6-7 dage til blot 3 dage. Intervallet mellem A sprøjtning og høst blev alligevel til 10 dage, derfor anses at Midlerne Gozai og Spotlight Plus at have fået den nødvendig tid for at kunne vise effekt.

Ved bedømmelse 2 dage efter B var der 66,3 % naturlig nedvisning af spinat i ubehandlet. Behandlingerne med Reglone og TopGun ved 120 l/ha viste meget god effekt (89,8-93,5% nedvisning) og var signifikant højere end alle andre led. TopGun ved 80 l/ha og Beloukha ved 16 l/ha har også viste moderat effekt til nedvisning (82,5-77,5% nedvisning), mens Beloukha ved den lave dosering af 8 l/ha var ikke signifikant forskellig fra ubehandlet. Behandlingerne med Gozai og Spotlight Plus har ikke vist noget signifikant effekt på nedvisning ved denne bedømmelse.

Ved bedømmelse 4 dage efter B var der henholdsvis 77,5% naturlig nedvisning på spinat planter og 82,3% nedvisning på spinat frø. Behandlingerne med 2,0 l/ha Reglone og TopGun ved 120 l/ha var sammenlignlige, og viste meget god effekt, som var signifikant højere både på spinat planter og spinat frø i forhold til alle andre led. Beloukha ved 16 l/ha og Gozai ved 0,8 l/ha viste også en god effekt for nedvisning af spinat planter.

Ved den sidste bedømmelse lige inden høst var der henholdsvis 89,0% naturlig nedvisning på spinat planter og 95,3% nedvisning på spinat frø. Ved denne bedømmelse har Reglone stadig vist den højeste effekt for nedvisning for både spinatplanter og spinat frø. Behandlingerne med begge doseringer af både TopGun og Gozai, samt den høje dosering af 16 l/ha Beloukha var på samme signifikans niveau for nedvisning af spinat planter som i referencebehandling med Reglone.

Forsøget blev høstet den 13. august. Der blev målt 2,75 t/ha udbytte af renset spinatfrø i ubehandlet. Der var ikke nogen signifikant forskel mellem de ubehandlede parceller og de behandlede led i udbyttemåling.

Spiringsanalyse for spiringshastighed og spireevne blev udfør i oktober 2020, og der blev ikke fundet noget signifikante forskelle mellem ubehandlet og de testede led.

I efteråret 2020 blev der også analyseret spinat prøver fra det tidligere nedvisningsforsøg 19-428, og der blev hellere ikke fundet noget signifikante forskelle mellem ubehandlet og de testede led. Spotlight Plus, Beloukha, Gozai, Maister og Callisto blev testet i forsøget 19-428.

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Investigator: Andrius Hansen Kemezys **Title:** Academic employee
Organization: Aarhus University, Department of Agroecology
Address: Forsøgsvej 1, Flakkebjerg
City+State/Prov: Slagelse **Mobile No.:** +4526796484
Postal Code: 4200 **E-mail:** ahk@agro.au.dk

Crop Description

Crop 1: SPQOL Spinacia oleracea Spinach
Stage Scale: BBCH **BBCH Scale:** BVNH
Entry Date: 31-08-2020
Planting Date: 30-03-2020
Harvest Date: 13-08-2020
Harvested Width: 2,5 m
Harvested Length: 10 m

Site and Design

Treated Plot Width: 2,5 m
Treated Plot Length: 10 m
Treated Plot Area: 25 m2 **Treatments:** 10
Replications: 4
Site Type: FIELD field
Experimental Unit: 1 PLOT plot
Tillage Type: CONTIL conventional-till
Study Design: RACOBL Randomized Complete Block (RCB)

Soil Description

Description Name: JB6
% Sand: 75,7 **% OM:** 2
% Silt: 11,6 **pH:** 6,1
% Clay: 10,7

Moisture and Weather Conditions

Overall Moisture Conditions: NORMAL normal
Closest Weather Station: AU Flakkebjerg **Distance, Unit:** 500 m

Application Description

	A	B
Application Date:	03-08-2020	06-08-2020
Appl. Start Time:	14:30	13:00
Appl. Stop Time:	14:50	13:20
Application Method:	SPRAY	SPRAY
Application Timing:	PREHAR	PREHAR
Application Placement:	FOLIAR	FOLIAR
Applied By:	AHK	AHK
Appl. Entry Date:	10-08-2020	10-08-2020
Air Temperature Start, Stop:	22,8 C	22,7 C
% Relative Humidity Start, Stop:	42,1	29,7
Wind Velocity+Dir., Start:	2 MPS NW	4,2 MPS S
Wet Leaves (Y/N):	N no	N no
Soil Temperature, Unit:	24 C	24 C
Soil Moisture:	DRY	DRY
Soil Surface Condition:	FINTRA	FINTRA
% Cloud Cover:	10	10
Next Moisture Occurred On:	10-08-2020	10-08-2020

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale:	SPQOL BVNH	SPQOL BVNH
Stage Scale Used:	BBCH	BBCH
Stage Majority, Percent:	87	87

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Application Equipment

	A	B
Appl. Equipment:	Selvkørende	Selvkørende
Equipment Type:	SPRAYE	SPRAYE
Operation Pressure:	3,9 BAR	3,9 BAR
Nozzle Type:	Hardi	Hardi
Nozzle Size:	LD020-110	LD020-110
Nozzle Spacing:	50 cm	50 cm
Nozzles/Row:	5	5
Band Width:	50 cm	50 cm
Boom Length:	2,5 m	2,5 m
Boom Height:	70 cm	70 cm
Ground Speed:	3,2 KPH	3,2 KPH
Carrier:	WATER	WATER
Spray Volume:	300 L/ha	300 L/ha
Minimum Mix/Treatment:	3 Liters	3 Liters
Mix Size:	6 Liters	6 Liters

Date	By	Context	Notes
21-04-2020	Anja Lunn	STATUS	Automatically added by ARM: Trial Status updated to 'S' during trial creation.
30-04-2020	Anja Lunn	STATUS	Automatically added by ARM: Trial Status updated to 'E' when Rating Date entered.
13-08-2020	Andrius Hansen Kemezys	GENTRI	Prøverne til vandprocent indhold blev desværre ikke udtaget.

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Trial ID:20430 Location:Flakkebjerg Trial Year:2020
Protocol ID: Investigator:Anja Lunn
Project ID: Study Director:
Sponsor Contact:
Conducted Under GEP:Yes

Trt No.	Type	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Appl Code	Spray Volume	Volume Unit
1	HERB	Untreated								
2	HERB	Reglone	200	gA/L	SL	2	L/ha	B		
	ADJ	Agropol	1000	gA/L	XL	0,15	L/ha	B		
3	HERB	Beloukha	680	gA/L	EC	16	L/ha	B		
4	HERB	Beloukha	680	gA/L	EC	8	L/ha	B		
5	HERB	TopGun Finalsan Koncentrat	187	gA/L	FL	120	L/ha	B		
6	HERB	TopGun Finalsan Koncentrat	187	gA/L	FL	80	L/ha	B		
7	HERB	Gozai - BCP210H	26,5	gA/L	EC	0,8	L/ha	A		
	ADJ	Renol	1000	gA/L	XL	1,5	L/ha	A		
8	HERB	Gozai - BCP210H	26,5	gA/L	EC	0,4	L/ha	A		
	ADJ	Renol	1000	gA/L	XL	1,5	L/ha	A		
9	HERB	Spotlight Plus	60	gA/L	ME	1	L/ha	A		
10	HERB	Spotlight Plus	60	gA/L	ME	0,5	L/ha	A		

Additional Treatment Information

Type

HERB = Herbicide
ADJ = Adjuvant

Treatment Name

Untreated, , , = |
Reglone, 200, gA/L, SL = diquat|200|
Agropol, 1000, gA/L, XL = oil|1000|
Beloukha, 680, gA/L, EC = pelargonic acid|680|
Gozai - BCP210H, 26.5, gA/L, EC = pyraflufen-methyl|26,5|
Renol, 1000, gA/L, XL = oil|1000|
Spotlight Plus, 60, gA/L, ME = carfentrazone-ethyl|60|

Form Unit

gA/L = grams active ingredient per liter formulated product

Form Type

SL = soluble concentrate|Liquid||A clear to opalescent liquid to be applied as a solution of the active ingredient after dilution in water. The liquid may contain water insoluble formulants.
XL = other, liquid ingredient|Liquid||Other liquid ingredient
EC = emulsifiable concentrate|Liquid||A liquid, homogeneous formulation to be applied as an emulsion after dilution in water.
FL = flowable|Liquid||
ME = micro-emulsion|Liquid||A clear to opalescent, oil and water containing liquid, to be applied directly or after dilution in water, when it may form a diluted micro-emulsion or a conventional emulsion.

Rate Unit

L/ha = Liters Product per Hectare (US=GAL/A)|T

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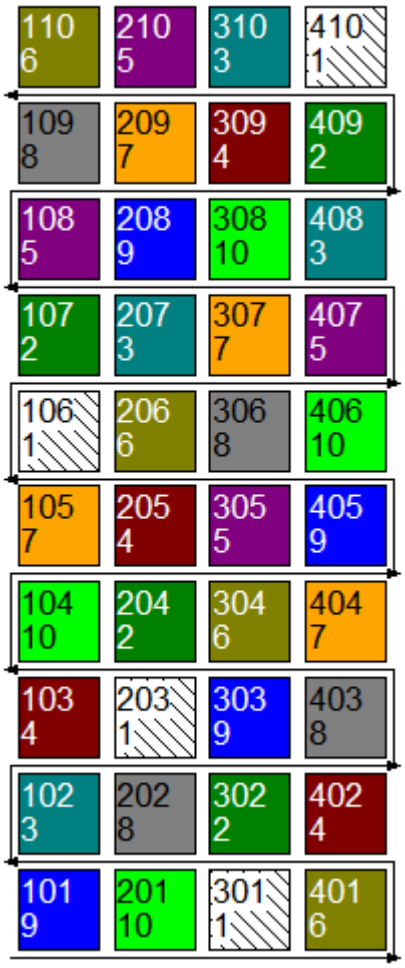
Trial ID:20430 Location:Flakkebjerg Trial Year:2020
Protocol ID: Investigator:Anja Lunn
Project ID: Study Director:
Sponsor Contact:
Conducted Under GEP:Yes

Trial Map Treatment Description

Trt	Code	Description
1	CHK	
2		Reglone 2 L/ha;Agropol 0.15 L/ha
3		Beloukha 16 L/ha
4		Beloukha 8 L/ha
5		TopGun Finalsan Koncentrat 120 L/ha
6		TopGun Finalsan Koncentrat 80 L/ha
7		Gozai - BCP210H 0.8 L/ha;Renol 1.5 L/ha
8		Gozai - BCP210H 0.4 L/ha;Renol 1.5 L/ha
9		Spotlight Plus 1 L/ha
10		Spotlight Plus 0.5 L/ha



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Trial ID: 20430 Location: Flakkebjerg Trial Year: 2020
Protocol ID: Investigator: Anja Lunn
Project ID: Study Director:
Sponsor Contact:
Conducted Under GEP: Yes

Crop Code			SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL
BBCH Scale			BVNH	BVNH	BVNH	BVNH	BVNH	BVNH	BVNH	BVNH
Crop Name			Spinach	Spinach	Spinach	Spinach	Spinach	Spinach	Spinach	Spinach
Description				% plante	% frø	% plante	% frø	råvægt	renset vægt	renset vægt
Rating Date			08-08-2020	10-08-2020	10-08-2020	13-08-2020	13-08-2020	28-08-2020	28-08-2020	28-08-2020
Part Rated			PLANT C	PLANT C	SEED C	PLANT C	SEED C	PLANT C	PLANT C	PLANT C
Rating Type			DESICC	DESICC	DESICC	DESICC	DESICC	WEIGHT	YIELD	YIELD
Rating Unit			procent	procent	procent	procent	procent	kg	kg	T-MET
Sample Size, Unit			1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	25 m2	25 m2	1 ha
Collection Basis, Unit										
Number of Subsamples			1	1	1	1	1	1	1	1
Crop Stage Scale			BBCH	BBCH	BBCH	BBCH	BBCH	BBCH	BBCH	BBCH
Crop Stage Majority			87	88	88	89	89	99	99	99
Data Entry Date			10-08-2020	10-08-2020	10-08-2020	13-08-2020	13-08-2020	31-08-2020	31-08-2020	
Days After First/Last Applic.			5 2	7 4	7 4	10 7	10 7	25 22	25 22	25 22
Trt-Eval Interval			2 DA-B	4 DA-B	4 DA-B	10 DA-A	10 DA-A			
ARM Action Codes										TY1
Number of Decimals			1	1	1	1	1	1	1	2
Trt No.	Treatment Name	Rate Rate Unit	Appl Code	1	2	3	4	5	6	7	8
1	Untreated			66,3d	77,5d	82,3b	89,0d	95,3b	8,1a	6,9a	2,75a
2	Reglone	2 L/ha	B	93,5a	98,3a	99,0a	95,8a	100,0a	8,0a	6,8a	2,73a
	Agropol	0,15 L/ha	B								
3	Beloukha	16 L/ha	B	77,5bc	86,0bc	84,8b	93,5abc	97,5ab	7,8a	6,6a	2,65a
4	Beloukha	8 L/ha	B	71,3cd	80,0cd	81,3b	90,5cd	94,8b	8,3a	7,1a	2,85a
5	TopGun Finalsan Koncentrat	120 L/ha	B	89,8a	94,0a	96,8a	94,8ab	99,3a	7,8a	6,6a	2,64a
6	TopGun Finalsan Koncentrat	80 L/ha	B	82,5b	83,8bcd	87,5b	94,0abc	97,3ab	8,1a	6,9a	2,76a
7	Gozai - BCP210H	0,8 L/ha	A	75,0bcd	88,0b	85,3b	95,0ab	99,0a	8,4a	7,3a	2,93a
	Renol	1,5 L/ha	A								
8	Gozai - BCP210H	0,4 L/ha	A	75,0bcd	83,5bcd	84,8b	93,3abc	97,8ab	8,2a	7,0a	2,79a
	Renol	1,5 L/ha	A								
9	Spotlight Plus	1 L/ha	A	72,5cd	81,0bcd	81,3b	90,5cd	96,8ab	8,1a	6,9a	2,78a
10	Spotlight Plus	0,5 L/ha	A	71,3cd	86,8bc	87,3b	91,8bcd	98,8a	7,7a	6,5a	2,61a
LSD P=.05				6,22	5,09	4,71	2,54	2,20	0,64	0,63	0,252
Standard Deviation				4,29	3,51	3,24	1,75	1,52	0,44	0,43	0,174
CV				5,53	4,09	3,73	1,89	1,55	5,46	6,32	6,32
Grand Mean				77,45	85,88	87,00	92,80	97,63	8,04	6,87	2,749
Levene's F				1,162	0,881	1,688	1,831	2,66	1,242	0,876	0,876
Levene's Prob(F)				0,353	0,552	0,136	0,104	0,021*	0,308	0,557	0,557
Rank X2				.	.	.	.	.	.	.	.
P(Rank X2)				.	.	.	.	.	.	.	.
Replicate F				12,425	6,549	0,475	14,205	5,268	5,726	7,254	7,254
Replicate Prob(F)				0,0001	0,0018	0,7020	0,0001	0,0054	0,0036	0,0010	0,0010
Treatment F				16,284	13,107	14,419	6,593	5,089	1,166	1,264	1,264
Treatment Prob(F)				0,0001	0,0001	0,0001	0,0001	0,0005	0,3548	0,3003	0,3003

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Crop Code					SPQOL	SPQOL
BBCH Scale					BVNH	BVNH
Crop Name					Spinach	Spinach
Description					spirehastighed	spireevne
Rating Date					01-10-2020	15-10-2020
Part Rated					PLANT C	PLANT C
Rating Type					GERMIN	GERMIN
Rating Unit					percent	percent
Sample Size, Unit					100 SEED	100 SEED
Collection Basis, Unit					1 SAMPLE	1 SAMPLE
Number of Subsamples					1	1
Crop Stage Scale						
Crop Stage Majority						
Data Entry Date					02-10-2020	16-10-2020
Days After First/Last Applic.					59 56	73 70
Trt-Eval Interval						
ARM Action Codes						
Number of Decimals					1	1
Trt No.	Treatment Name	Rate	Unit	Appl Code	9	10
1	Untreated				66,0a	81,8a
2	Reglone	2	L/ha	B	65,3a	79,3a
	Agropol	0,15	L/ha	B		
3	Beloukha	16	L/ha	B	56,5a	72,3a
4	Beloukha	8	L/ha	B	67,0a	80,5a
5	TopGun Finalsan Koncentrat	120	L/ha	B	58,3a	72,8a
6	TopGun Finalsan Koncentrat	80	L/ha	B	69,8a	84,8a
7	Gozai - BCP210H	0,8	L/ha	A	66,8a	82,0a
	Renol	1,5	L/ha	A		
8	Gozai - BCP210H	0,4	L/ha	A	66,0a	82,3a
	Renol	1,5	L/ha	A		
9	Spotlight Plus	1	L/ha	A	70,8a	84,3a
10	Spotlight Plus	0,5	L/ha	A	63,8a	77,8a
LSD P=.05					9,42	9,25
Standard Deviation					6,49	6,38
CV					9,99	8,0
Grand Mean					65,00	79,75
Levene's F					0,616	0,68
Levene's Prob(F)					0,774	0,72
Rank X2					.	.
P(Rank X2)					.	.
Replicate F					3,150	5,518
Replicate Prob(F)					0,0412	0,0044
Treatment F					1,940	1,865
Treatment Prob(F)					0,0886	0,1017

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Trial ID: 20430 Location: Flakkebjerg Trial Year: 2020
Protocol ID: Investigator: Anja Lunn
Project ID: Study Director:
Sponsor Contact:
Conducted Under GEP: Yes

Crop Code
SPQOL, BVNH, Spinacia oleracea, Spinach = US

Part Rated
PLANT = plant
SEED = seed
C = Crop is Part Rated

Rating Type
DESICC = desiccation
WEIGHT = weight
YIELD = yield
GERMIN = germination

Rating Unit
kg = kilogram
T-MET = ton (metric=1000 kg)

PLOT = total plot
m2 = square meter
ha = hectare
SEED = seed

SAMPLE = sample

Crop Stage Scale
BBCH = BBCH uniform plant stages

Crop Stage Majority
87 = 70% of fruits ripe, or 70% of seeds of typical colour, dry and hard|BVNH
88 = 80% of fruits ripe, or 80% of seeds of typical colour, dry and hard|BVNH
89 = Fully ripe: seeds on the whole plant of typical colour and hard|BVNH
99 = Harvested products (seeds)|BVNH

ARM Action Codes
TY1 = 0.4*[C7]

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Aarhus University, Department of Agroecology, Flakkebjerg

Trial ID:20430 Location:Flakkebjerg Trial Year:2020
Protocol ID: Investigator:Anja Lunn
Project ID: Study Director:
Sponsor Contact:

Conducted Under GEP:Yes

Crop Code					SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL	SPQOL
BBCH Scale					BVNH	BVNH	BVNH	BVNH	BVNH	BVNH	BVNH	BVNH	BVNH	BVNH
Crop Name					Spinach	Spinach	Spinach	Spinach	Spinach	Spinach	Spinach	Spinach	Spinach	Spinach
Description						% plante	% frø	% plante	% frø	råvægt	renset vægt	renset vægt	spirehastighed	spireevne
Rating Date					Aug-8-2020	Aug-10-2020	Aug-10-2020	Aug-13-2020	Aug-13-2020	Aug-28-2020	Aug-28-2020	Aug-28-2020	Oct-1-2020	
Part Rated					PLANT C	PLANT C	SEED C	PLANT C	SEED C	PLANT C	PLANT C	PLANT C	PLANT C	PLANT C
Rating Type					DESICC	DESICC	DESICC	DESICC	DESICC	WEIGHT	YIELD	YIELD	GERMIN	GERMIN
Rating Unit					procent	procent	procent	procent	procent	kg	kg	T-MET	percent	percent
Sample Size, Unit					1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	25 m2	25 m2	1 ha	100 SEED	100 SEED
Collection Basis, Unit													1 SAMPLE	1 SAMPLE
Number of Subsamples					1	1	1	1	1	1	1	1	1	1
Crop Stage Scale					BBCH	BBCH	BBCH	BBCH	BBCH	BBCH	BBCH	BBCH		
Crop Stage Majority					87	88	88	89	89	99	99	99		
Data Entry Date					Aug-10-2020	Aug-10-2020	Aug-10-2020	Aug-13-2020	Aug-13-2020	Aug-31-2020	Aug-31-2020		Oct-2-2020	Oct-16-2020
Days After First/Last Applic.					5 2	7 4	7 4	10 7	10 7	25 22	25 22	25 22	59 56	
Trt-Eval Interval					2 DA-B	4 DA-B	4 DA-B	10 DA-A	10 DA-A					
ARM Action Codes												TY1		
Number of Decimals					1	1	1	1	1	1	1	1		
Trt No.	Treatment Name	Rate	Unit	Appl Code	Plot	1	2	3	4	5	6	7	8	9	10
1	Untreated				106	70,0	80,0	85,0	92,0	99,0	7,8	6,7	2,7	75	9
					203	65,0	80,0	80,0	90,0	97,0	8,1	6,9	2,8	65	20
					301	65,0	75,0	82,0	87,0	92,0	8,9	7,7	3,1	60	23
					410	65,0	75,0	82,0	87,0	93,0	7,5	6,2	2,5	64	11
					Mean =	66,3	77,5	82,3	89,0	95,3	8,1	6,9	2,8	66	16
2	Reglone	2	L/ha	B	107	97,0	99,0	99,0	99,0	100,0	7,9	6,8	2,7	83	9
	Agropol	0,15	L/ha	B	204	92,0	98,0	99,0	96,0	100,0	8,1	6,8	2,7	58	13
					302	90,0	98,0	99,0	92,0	100,0	8,8	7,7	3,1	63	15
					409	95,0	98,0	99,0	96,0	100,0	7,4	6,0	2,4	57	19
					Mean =	93,5	98,3	99,0	95,8	100,0	8,0	6,8	2,7	65	14
3	Beloukha	16	L/ha	B	102	85,0	90,0	82,0	97,0	98,0	7,4	6,5	2,6	59	20
					207	80,0	87,0	85,0	95,0	98,0	8,5	7,3	2,9	54	11
					310	70,0	82,0	87,0	92,0	98,0	8,3	7,1	2,8	59	18
					408	75,0	85,0	85,0	90,0	96,0	7,0	5,7	2,3	54	14
					Mean =	77,5	86,0	84,8	93,5	97,5	7,8	6,6	2,7	57	16
4	Beloukha	8	L/ha	B	103	75,0	80,0	80,0	92,0	96,0	8,1	7,0	2,8	63	20
					205	70,0	75,0	78,0	90,0	94,0	8,3	7,1	2,9	65	9
					309	70,0	80,0	82,0	90,0	95,0	8,6	7,4	2,9	73	11
					402	70,0	85,0	85,0	90,0	94,0	8,2	6,9	2,8	67	14
					Mean =	71,3	80,0	81,3	90,5	94,8	8,3	7,1	2,8	67	14
5	TopGun Finalsan Koncentrat	120	L/ha	B	108	95,0	98,0	99,0	98,0	100,0	7,6	6,5	2,6	62	22
					210	92,0	97,0	98,0	94,0	100,0	8,4	7,2	2,9	48	3
					305	80,0	85,0	92,0	92,0	98,0	8,3	7,2	2,9	59	20
					407	92,0	96,0	98,0	95,0	99,0	6,7	5,5	2,2	64	13
					Mean =	89,8	94,0	96,8	94,8	99,3	7,8	6,6	2,6	58	15
6	TopGun Finalsan Koncentrat	80	L/ha	B	110	90,0	90,0	90,0	98,0	99,0	7,8	6,6	2,6	67	16
					206	80,0	80,0	85,0	96,0	98,0	7,9	6,8	2,7	80	14
					304	75,0	78,0	85,0	90,0	93,0	8,3	7,2	2,9	61	18
					401	85,0	87,0	90,0	92,0	99,0	8,3	6,9	2,8	71	12
					Mean =	82,5	83,8	87,5	94,0	97,3	8,1	6,9	2,8	70	15
7	Gozai - BCP210H	0,8	L/ha	A	105	75,0	90,0	85,0	96,0	99,0	9,2	8,2	3,3	74	14
	Renol	1,5	L/ha	A	209	85,0	92,0	87,0	96,0	100,0	8,3	7,2	2,9	64	12
					307	65,0	85,0	87,0	95,0	99,0	8,1	6,9	2,8	60	20
					404	75,0	85,0	82,0	93,0	98,0	8,2	6,9	2,8	69	15
					Mean =	75,0	88,0	85,3	95,0	99,0	8,4	7,3	2,9	67	15
8	Gozai - BCP210H	0,4	L/ha	A	109	80,0	82,0	82,0	98,0	99,0	8,1	7,0	2,8	68	17
	Renol	1,5	L/ha	A	202	85,0	85,0	90,0	95,0	98,0	8,0	6,8	2,7	66	15
					306	65,0	80,0	85,0	92,0	98,0	8,0	6,8	2,7	67	15
					403	70,0	87,0	82,0	88,0	96,0	8,6	7,3	2,9	63	18
					Mean =	75,0	83,5	84,8	93,3	97,8	8,2	7,0	2,8	66	16
9	Spotlight Plus	1	L/ha	A	101	70,0	80,0	75,0	90,0	99,0	7,7	6,7	2,7	79	15
					208	80,0	87,0	85,0	92,0	99,0	8,3	7,2	2,9	62	12
					303	70,0	75,0	80,0	90,0	93,0	8,6	7,4	3,0	70	13
					405	70,0	82,0	85,0	90,0	96,0	7,7	6,4	2,6	72	14
					Mean =	72,5	81,0	81,3	90,5	96,8	8,1	6,9	2,8	71	14
10	Spotlight Plus	0,5	L/ha	A	104	78,0	95,0	92,0	95,0	99,0	7,5	6,5	2,6	74	9
					201	77,0	85,0	85,0	90,0	99,0	8,0	6,9	2,7	63	9
					308	60,0	80,0	82,0	92,0	99,0	8,2	6,9	2,8	67	19
					406	70,0	87,0	90,0	90,0	98,0	7,1	5,8	2,3	51	19
					Mean =	71,3	86,8	87,3	91,8	98,8	7,7	6,5	2,6	64	14

Crop Code
SPQOL, BVNH, Spinacia oleracea, Spinach = US
Part Rated
PLANT = plant
SEED = seed
C = Crop is Part Rated
Rating Type
DESICC = desiccation
WEIGHT = weight
YIELD = yield
GERMIN = germination
Rating Unit
kg = kilogram
T-MET = ton (metric=1000 kg)

PLOT = total plot
m2 = square meter
ha = hectare
SEED = seed

SAMPLE = sample
Crop Stage Scale
BBCH = BBCH uniform plant stages

Crop Stage Majority
87 = 70% of fruits ripe, or 70% of seeds of typical colour, dry and hard|BVNH
88 = 80% of fruits ripe, or 80% of seeds of typical colour, dry and hard|BVNH
89 = Fully ripe: seeds on the whole plant of typical colour and hard|
99 = Harvested products (seeds)|BVNH
ARM Action Codes
TY1 = 0.4*[C7]

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Alternativer til diquat til nedvisning af spinat

General Trial Information

Study Director: Peter Hartvig **Title:** Study director
Investigator: Andrius Hansen Kemezys **Title:** Academic employee

Discipline: H herbicide
Trial Status: F one-year/final

Last Changed By: Andrius Hansen Kemezys

ARM Trial Created On: 27-07-2020
Initiation Date: 27-07-2020
Completion Date: 10-08-2020

Protocol Revision Date: 27-07-2020

Trial Location

City: Flakkebjerg **Country:** DNK Denmark
State/Prov.: Slagelse
Postal Code: 4200 **Climate Zone:** EPOMAR EPPO Maritime

Conducted Under GLP: No
Conducted Under GEP: Yes

Conclusions:

Forsøget blev udført i en spinat mark ca 2 km syd for forskningscenter AU-Flakkebjerg. Forsøget har til formål at teste effekt af flydende N gødning NS 30-2 sammen med forskellige additiver og med reduceret dosering af Reglone og Beloukha.

Sprøjtninger med testprodukter blev udført den 27. juli. Spinat blev bedømt for nedvisning 4, 7, 10 og 14 dage efter sprøjtning. Lige efter den sidste bedømmelse blev der udtaget spinat frøprøver for spiringsanalyse, som blev udført i januar-februar 2021.

Høstperioden i 2020 var meget favorabel for naturlig nedvisning (33% nedvisning i ubehandlet 4 dage efter sprøjtning, og 74% nedvisning ved sidste bedømmelse 14 dage efter sprøjtning). Alligevel blev der observeret meget god effekt af reference produktet Reglone i normal dosering 2,0 l/ha (94-99% nedvisning), og der blev også observeret god effekt af reduceret dosering af 0,5 l/ha Reglone (68-88% nedvisning), som har fået dispensation i 2020.

Flydende NS 30-2 gødning i dosering af 30 kg N/ha (eller 76 l/ha af flydende produkt) synes ikke at kunne vise noget signifikant effekt på nedvisning af spinat. Blandinger af flydende NS 30-2 med de forskellige additiver kunne hellere ikke vise noget signifikant effekt på nedvisning af spinat. Blanding af NS 30-2 med den reducerede dosering af 8 l/ha Beloukha har vist signifikant højere nedvisning (54% nedvisning) end ubehandlet (33%) 4 dage efter sprøjtning, men der blev ikke fundet noget signifikant forskel mellem Beloukha - NS 30-2 blanding og den ubehandlet.

Til gengæld blanding af NS 30-2 og Reglone ved den reduceret dosering af 0,5 l/ha kunne vise meget høje effekt for nedvisning (92-98%) som var på samme signifikans niveau som den normale dosering af 2,0 l/ha Reglone. Nedvisning af den reduceret dosering af Reglone var på lavere signifikans niveau ved alle bedømmelser, derfor kan NS 30-2 anses for at signifikant forbedre nedvisningseffekt af den reducerede dosering af Reglone.

Spiringsanalyse for spirehastighed og spireevne har ikke vist noget signifikant forskel mellem ubehandlet og de testede led.

Contacts

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Country: DEN Denmark

Investigator: Andrius Hansen Kemezys **Title:** Academic employee
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City+State/Prov: Flakkebjerg **Mobile No.:** +4526796484
Postal Code: 4200 **E-mail:** ahk@agro.au.dk
Country: DEN Denmark

Crop Description

Crop 1: SPQOL Spinacia oleracea Spinach
BBCH Scale: BVNH
Entry Date: 21-09-2020
Planting Date: 07-04-2020

Aarhus University, Department of Agroecology, Flakkebjerg

Site and Design

Treated Plot Width:	4 m		**Site Type:**	FIELD	field
Treated Plot Length:	6 m		**Experimental Unit:**	1 PLOT	plot
Treated Plot Area:	24 m2	**Treatments:** 9	**Tillage Type:**	CONTIL	conventional-till
Replications:	4		**Study Design:**	RACOBL	Randomized Complete Block (RCB)

Soil Description

% Sand:	70,1	**% OM:**	2,7
% Silt:	12,8	**pH:**	5,3
% Clay:	14,4		

Moisture and Weather Conditions

Overall Moisture Conditions: NORMAL normal
Closest Weather Station: AU Flakkebjerg **Distance, Unit:** 2,2 km

Application Description

	A
Application Date:	27-07-2020
Appl. Start Time:	15:00
Appl. Stop Time:	16:00
Application Method:	SPRAY
Application Placement:	FOLIAR
Applied By:	AHK
Appl. Entry Date:	03-08-2020
Air Temperature Start, Stop:	20,9 C
% Relative Humidity Start, Stop:	63,4
Wind Velocity+Dir., Start:	3,9 MPS SE
Wet Leaves (Y/N):	N no
Soil Temperature, Unit:	19,5 C
Soil Moisture:	SLIWET
Soil Surface Condition:	FINE
% Cloud Cover:	100
Next Moisture Occurred On:	28-07-2020

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	SPQOL BVNH
Stage Scale Used:	BBCH
Stage Majority, Percent:	89

Application Equipment

	A
Appl. Equipment:	Black spraye
Equipment Type:	SPRBIC
Operation Pressure:	1,8 BAR
Nozzle Type:	Hardi
Nozzle Size:	LD015-110
Nozzle Spacing:	50 cm
Nozzles/Row:	5
Band Width:	50 cm
Boom Length:	2,5 m
Boom Height:	1 m
Ground Speed:	2,2 KPH
Carrier:	WATER
Minimum Mix/Treatment:	1,92 Liters
Mix Size:	6 Liters

Equipment Comment:300 l/ha.
Led med N-32 blev sprøjtet med 2,1 km/t

Date	By	Context	Notes
27-07-2020	Anja Lunn	STATUS	Automatically added by ARM: Trial Status updated to 'S' during trial creation.
31-07-2020	Andrius Hansen Kemezys	STATUS	Automatically added by ARM: Trial Status updated to 'E' when Rating Date entered.

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Alternativer til diquat til nedvisning af spinat

Trial ID:20431 Location:Flakkebjerg by Trial Year:2020
Protocol ID:20431 Investigator:Anja Lunn
Project ID: Study Director:
Sponsor Contact:
Conducted Under GEP:Yes

Trt No.	Type	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Appl Code	Spray Volume	Volume Unit
1	CHK	Untreated Check								
2	HERB	Reglone	200	gA/L	SL	0,5	L/ha		300	L/ha
	ADJ	Agropol	1000	gA/L	XL	0,15	L/ha		300	L/ha
3	HERB	Reglone	200	gA/L	SL	2,0	L/ha		300	L/ha
	ADJ	Agropol	1000	gA/L	XL	0,15	L/ha		300	L/ha
4	FERT	Flydende N 30-2	392	gA/L	F	76	L/ha		300	L/ha
5	FERT	Flydende N 30-2	392	gA/L	F	76	L/ha		300	L/ha
	ADJ	Renol	1000	gA/L	XL	2,0	L/ha		300	L/ha
6	FERT	Flydende N 30-2	392	gA/L	F	76	L/ha		300	L/ha
	ADJ	Agropol	1000	gA/L	XL	0,15	L/ha		300	L/ha
7	FERT	Flydende N 30-2	392	gA/L	F	76	L/ha		300	L/ha
	ADJ	Silwet Gold	1000	gA/L	XL	0,1	L/ha		300	L/ha
8	FERT	Flydende N 30-2	392	gA/L	F	76	L/ha		300	L/ha
	HERB	Beloukha	680	gA/L	EC	8	L/ha		300	L/ha
9	FERT	Flydende N 30-2	392	gA/L	F	76	L/ha		300	L/ha
	HERB	Reglone	200	gA/L	SL	0,5	L/ha		300	L/ha
	ADJ	Agropol	1000	gA/L	XL	0,15	L/ha		300	L/ha

Additional Treatment Information

Type

CHK = Check or Untreated
HERB = Herbicide
ADJ = Adjuvant
FERT = Fertilizer

Treatment Name

Untreated Check, , , = Not treated|
Reglone, 200, gA/L, SL = diquat|200|
Agropol, 1000, gA/L, XL = oil|1000|
Flydende N 30-2, 392, gA/L, F = nitrogren|392|
Renol, 1000, gA/L, XL = oil|1000|
Beloukha, 680, gA/L, EC = pelargonic acid|680|

Form Unit

gA/L = grams active ingredient per liter formulated product

Form Type

SL = soluble concentrate|Liquid||A clear to opalescent liquid to be applied as a solution of the active ingredient after dilution in water. The liquid may contain water insoluble formulants.
XL = other, liquid ingredient|Liquid||Other liquid ingredient
F = flowable|Liquid||
EC = emulsifiable concentrate|Liquid||A liquid, homogeneous formulation to be applied as an emulsion after dilution in water.

Rate Unit

L/ha = Liters Product per Hectare (US=GAL/A)|T

Volume Unit

L/ha = litres per hectare

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Alternativer til diquat til nedvisning af spinat

Trial ID:20431 Location:Flakkebjerg by Trial Year:2020
Protocol ID:20431 Investigator:Anja Lunn
Project ID: Study Director:
Sponsor Contact:
Conducted Under GEP:Yes

Trial Map Treatment Description

Trt	Code	Description
1	CHK	Untreated Check
2		Reglone 0.5 L/ha;Agropol 0.15 L/ha
3		Reglone 2.0 L/ha;Agropol 0.15 L/ha
4		Flydende N 30-2 76 L/ha
5		Flydende N 30-2 76 L/ha;Renol 2.0 L/ha
6		Flydende N 30-2 76 L/ha;Agropol 0.15 L/ha
7		Flydende N 30-2 76 L/ha;Silwet Gold 0.1 L/ha
8		Flydende N 30-2 76 L/ha;Beloukha 8 L/ha
9		Flydende N 30-2 76 L/ha;Reglone 0.5 L/ha;Agropol 0.15 L/ha

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Alternativer til diquat til nedvisning af spinat

Trial ID: 20431 Location: Flakkebjerg by Trial Year: 2020
Protocol ID: 20431 Investigator: Anja Lunn
Project ID: Study Director:
Sponsor Contact:
Conducted Under GEP: Yes

Trt No.	Treatment Name	Rate	Unit	Appl Code	1	2	3	4	5	7	6	8
Crop Code									SPQOL	SPQOL	SPQOL	SPQOL
BBCH Scale									BVNH	BVNH	BVNH	BVNH
Crop Name									Spinach	Spinach	Spinach	Spinach
Description									spirehastighed	25/1+1/2	spirehastighed	spireevne
Rating Date					31-07-2020	03-08-2020	06-08-2020	10-08-2020	25-01-2021		01-02-2021	10-02-2021
Part Rated									PLANT C	PLANT C	PLANT C	PLANT C
Rating Type					DESICC	DESICC	DESICC	DESICC	GERMIN	GERMIN	GERMIN	GERMIN
Rating Unit					percent	percent	percent	percent	percent	percent	percent	percent
Sample Size, Unit									100 SEED	100 SEED	100 SEED	100 SEED
Collection Basis, Unit									1 SAMPLE	1 SAMPLE	1 SAMPLE	1 SAMPLE
Number of Subsamples					1	1	1	1	1	1	1	1
Data Entry Date					03-08-2020	03-08-2020	10-08-2020	10-08-2020	29-01-2021	02-02-2021	02-02-2021	16-02-2021
Days After First/Last Applic.					4 4	7 7	10 10	14 14	182 182		189 189	198 198
Trt-Eval Interval					4 DA-A	7 DA-A	10 DA-A	14 DA-A	66 DA-A		80 DA-A	80 DA-A
1	Untreated Check				32,5d	46,3d	61,3c	73,5c	25,0a	53,3a	28,3a	70,3a
2	Reglone	0,5	L/ha		68,0b	79,3b	83,3b	87,5b	33,3a	52,8a	19,5a	63,8a
	Agropol	0,15	L/ha									
3	Reglone	2,0	L/ha		94,3a	98,5a	98,5a	99,3a	24,0a	43,3a	19,3a	57,8a
	Agropol	0,15	L/ha									
4	Flydende N 30-2	76	L/ha		50,0bcd	62,5c	67,0c	75,5c	39,3a	60,5a	21,3a	71,8a
5	Flydende N 30-2	76	L/ha		50,0bcd	65,0c	72,0bc	81,3bc	36,3a	63,5a	27,3a	77,3a
	Renol	2,0	L/ha									
6	Flydende N 30-2	76	L/ha		41,3cd	56,3cd	62,5c	76,8c	37,0a	60,8a	23,8a	74,5a
	Agropol	0,15	L/ha									
7	Flydende N 30-2	76	L/ha		50,0bcd	61,3c	73,3bc	80,0bc	32,5a	55,0a	22,5a	71,5a
	Silwet Gold	0,1	L/ha									
8	Flydende N 30-2	76	L/ha		53,8bc	65,0c	73,8bc	81,3bc	41,5a	71,5a	30,0a	82,8a
	Beloukha	8	L/ha									
9	Flydende N 30-2	76	L/ha		91,8a	96,8a	97,0a	97,8a	29,8a	48,8a	19,0a	59,5a
	Reglone	0,5	L/ha									
	Agropol	0,15	L/ha									
LSD P=.05					14,05	10,71	9,83	7,01	17,98	22,47	12,71	19,42
Standard Deviation					9,63	7,34	6,73	4,80	12,32	15,40	8,71	13,30
CV					16,3	10,47	8,8	5,74	37,15	27,21	37,18	19,04
Grand Mean					59,06	70,08	76,50	83,64	33,17	56,58	23,42	69,89
Levene's F					3,907	1,652	1,728	3,222	0,35	0,766	0,495	1,36
Levene's Prob(F)					0,004*	0,157	0,137	0,011*	0,938	0,635	0,849	0,258
Rank X2					.	.	.	.	.	.	.	.
P(Rank X2)					.	.	.	.	.	.	.	.
Replicate F					9,812	12,810	14,493	12,805	4,245	5,206	3,614	5,211
Replicate Prob(F)					0,0002	0,0001	0,0001	0,0001	0,0153	0,0065	0,0277	0,0065
Treatment F					19,869	23,671	16,621	15,138	0,967	1,203	0,918	1,525
Treatment Prob(F)					0,0001	0,0001	0,0001	0,0001	0,4842	0,3385	0,5187	0,2006

Crop Code
SPQOL, BVNH, Spinacia oleracea, Spinach = US
Part Rated
PLANT = plant
C = Crop is Part Rated
Rating Type
DESICC = desiccation
GERMIN = germination

SEED = seed

SAMPLE = sample

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Alternativer til diquat til nedvisning af spinat

Trial ID: 20431 Location: Flakkebjerg by Trial Year: 2020
Protocol ID: 20431 Investigator: Anja Lunn
Project ID: Study Director:
Sponsor Contact:

Conducted Under GEP: Yes

Trt No.	Treatment Name	Rate	Unit	Appl Code	Plot	1	2	3	4	5	6	7	8
	Crop Code									SPQOL	SPQOL	SPQOL	SPQOL
	BBCH Scale									BVNH	BVNH	BVNH	BVNH
	Crop Name									Spinach	Spinach	Spinach	Spinach
	Description									spirehastighed	spirehastighed	25/1+1/2	spireevne
	Rating Date					31-07-2020	03-08-2020	06-08-2020	10-08-2020	25-01-2021	01-02-2021		10-02-2021
	Part Rated									PLANT C	PLANT C	PLANT C	PLANT C
	Rating Type					DESICC	DESICC	DESICC	DESICC	GERMIN	GERMIN	GERMIN	GERMIN
	Rating Unit					percent	percent	percent	percent	percent	percent	percent	percent
	Sample Size, Unit									100 SEED	100 SEED	100 SEED	100 SEED
	Collection Basis, Unit									1 SAMPLE	1 SAMPLE	1 SAMPLE	1 SAMPLE
	Number of Subsamples					1	1	1	1	1	1	1	1
	Data Entry Date					03-08-2020	03-08-2020	10-08-2020	10-08-2020	29-01-2021	02-02-2021	02-02-2021	16-02-2021
	Days After First/Last Applic.					4 4	7 7	10 10	14 14	182 182	189 189		198 198
	Trt-Eval Interval					4 DA-A	7 DA-A	10 DA-A	14 DA-A	66 DA-A	80 DA-A		80 DA-A
1	Untreated Check				109	30,0	45,0	55,0	70,0	17,0	20,0	37,0	66,0
					206	40,0	60,0	70,0	82,0	12,0	17,0	29,0	41,0
					304	25,0	35,0	50,0	70,0	45,0	37,0	82,0	94,0
					402	35,0	45,0	70,0	72,0	26,0	39,0	65,0	80,0
					Mean =	32,5	46,3	61,3	73,5	25,0	28,3	53,3	70,3
2	Reglone	0,5	L/ha		108	75,0	80,0	88,0	90,0	31,0	19,0	50,0	59,0
	Agropol	0,15	L/ha		205	87,0	92,0	95,0	95,0	34,0	16,0	50,0	63,0
					302	50,0	75,0	75,0	80,0	55,0	34,0	89,0	93,0
					406	60,0	70,0	75,0	85,0	13,0	9,0	22,0	40,0
					Mean =	68,0	79,3	83,3	87,5	33,3	19,5	52,8	63,8
3	Reglone	2,0	L/ha		105	95,0	98,0	99,0	99,0	20,0	11,0	31,0	54,0
	Agropol	0,15	L/ha		203	95,0	99,0	99,0	100,0	41,0	17,0	58,0	67,0
					306	92,0	98,0	97,0	99,0	20,0	38,0	58,0	71,0
					409	95,0	99,0	99,0	99,0	15,0	11,0	26,0	39,0
					Mean =	94,3	98,5	98,5	99,3	24,0	19,3	43,3	57,8
4	Flydende N 30-2	76	L/ha		103	40,0	55,0	68,0	70,0	45,0	20,0	65,0	72,0
					201	65,0	80,0	78,0	82,0	46,0	15,0	61,0	70,0
					309	45,0	50,0	50,0	70,0	39,0	31,0	70,0	83,0
					407	50,0	65,0	72,0	80,0	27,0	19,0	46,0	62,0
					Mean =	50,0	62,5	67,0	75,5	39,3	21,3	60,5	71,8
5	Flydende N 30-2	76	L/ha		101	50,0	70,0	80,0	85,0	27,0	24,0	51,0	72,0
	Renol	2,0	L/ha		204	70,0	80,0	78,0	90,0	48,0	22,0	70,0	77,0
					307	30,0	45,0	55,0	70,0	41,0	38,0	79,0	92,0
					403	50,0	65,0	75,0	80,0	29,0	25,0	54,0	68,0
					Mean =	50,0	65,0	72,0	81,3	36,3	27,3	63,5	77,3
6	Flydende N 30-2	76	L/ha		107	30,0	50,0	55,0	72,0	21,0	19,0	40,0	57,0
	Agropol	0,15	L/ha		202	50,0	70,0	75,0	85,0	29,0	33,0	62,0	80,0
					308	30,0	40,0	45,0	70,0	69,0	19,0	88,0	95,0
					404	55,0	65,0	75,0	80,0	29,0	24,0	53,0	66,0
					Mean =	41,3	56,3	62,5	76,8	37,0	23,8	60,8	74,5
7	Flydende N 30-2	76	L/ha		104	60,0	65,0	80,0	80,0	34,0	12,0	46,0	67,0
	Silwet Gold	0,1	L/ha		207	55,0	65,0	78,0	90,0	41,0	31,0	72,0	82,0
					301	35,0	55,0	60,0	75,0	36,0	20,0	56,0	73,0
					408	50,0	60,0	75,0	75,0	19,0	27,0	46,0	64,0
					Mean =	50,0	61,3	73,3	80,0	32,5	22,5	55,0	71,5
8	Flydende N 30-2	76	L/ha		102	40,0	65,0	70,0	75,0	62,0	30,0	92,0	94,0
	Beloukha	8	L/ha		208	80,0	80,0	90,0	95,0	50,0	20,0	70,0	84,0
					303	25,0	40,0	55,0	65,0	31,0	37,0	68,0	85,0
					405	70,0	75,0	80,0	90,0	23,0	33,0	56,0	68,0
					Mean =	53,8	65,0	73,8	81,3	41,5	30,0	71,5	82,8
9	Flydende N 30-2	76	L/ha		106	90,0	95,0	95,0	97,0	21,0	5,0	26,0	36,0
	Reglone	0,5	L/ha		209	97,0	99,0	99,0	100,0	25,0	13,0	38,0	45,0
	Agropol	0,15	L/ha		305	90,0	95,0	95,0	96,0	49,0	19,0	68,0	77,0
					401	90,0	98,0	99,0	98,0	24,0	39,0	63,0	80,0
					Mean =	91,8	96,8	97,0	97,8	29,8	19,0	48,8	59,5

Crop Code
SPQOL, BVNH, Spinacia oleracea, Spinach = US
Part Rated
PLANT = plant
C = Crop is Part Rated
Rating Type
DESICC = desiccation
GERMIN = germination

SEED = seed

SAMPLE = sample

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Alternativer til nedvisning af Purløg til frø

Trial ID: 20441 Location: Vollerup Trial Year: 2020
Protocol ID: Investigator: Andrius Hansen Kemezys

General Trial Information

Study Director: Peter Hartvig **Title:** Study director
Investigator: Andrius Hansen Kemezys **Title:** Research project staff

Discipline: H herbicide
Trial Status: E established

Last Changed By: Andrius Hansen Kemezys

ARM Trial Created On: 29-06-2020
Initiation Date: 02-07-2020
Completion Date: 17-07-2020

Protocol Revision Date: 22-04-2020

Trial Location

City: Vollerupvej 10 **Country:** DNK Denmark
State/Prov.: Sørbymagle
Postal Code: 4200 **Climate Zone:** EPOMAR EPPO Maritime

Latitude of LL Corner °: 55,348879 N
Longitude of LL Corner °: 11,429316 E

Conducted Under GLP: No
Conducted Under GEP: Yes

Conclusions:

Forsøget blev udført i en purløg mark ca 4 km nordøst for forskningscenter Flakkebjerg. Forsøget blev udført som small plot forsøg med 1 kvadrat meter parceller og har til formål at teste en række midler, som alternativer til diquat for nedvisning af purløg. Testmidlerne var Beloukha, TopGun, Gozai, Spotlight Plus og Roundup Bio.

Sprøjtninger med testprodukter blev udført den 2. juli. Purløg blev bedømt for nedvisning 4, 7, 10 og 14 dage efter sprøjtning. Lige efter den sidste bedømmelse blev der udtaget purløg frøprøver for

Ved bedømmelserne blev der konstateret, at ingen af de testede midler kunne vise tilstrækkelig effekt for nedvisning i purløg. Det var kun referenceled med 2,0 l/ha Reglone som kunne vise tilstrækkelig effekt, som toppede 8 dage efter sprøjtning (68,8% nedvisning).

Spiringsanalyse for spirehastighed og spireevne har ikke vist noget signifikant forskel mellem ubehandlet og de testede led.

Contacts

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City+State/Prov: Slagelse **Mobile No.:** +45 21423192
Postal Code: 4200 **E-mail:** peter.hartvig@agro.au.dk
Country: DNK Denmark

Investigator: Andrius Hansen Kemezys **Title:** Research project staff
Organization: Aarhus University, Department of Agroecology
Address: Forsøgsvej 1, Flakkebjerg
City+State/Prov: Slagelse **Mobile No.:** +4526796484
Postal Code: 4200 **E-mail:** ahk@agro.au.dk

Crop Description

Crop 1: ALLSC Allium schoenoprasum Chives
BBCH Scale: BMON
Entry Date: 21-09-2020
Harvest Date: 17-07-2020

Site and Design

Treated Plot Width:	1 m		**Site Type:**	FIELD	field
Treated Plot Length:	1 m		**Experimental Unit:**	1 PLOT	plot
Treated Plot Area:	1 m2	**Treatments:** 11	**Tillage Type:**	CONTIL	conventional-till
Replications:	4		**Study Design:**	RACOBL	Randomized Complete Block (RCB)

Moisture and Weather Conditions

Overall Moisture Conditions: NORMAL normal
Closest Weather Station: AU Flakkebjerg **Distance, Unit:** 4 km

Aarhus University, Department of Agroecology, Flakkebjerg

Application Description

	A
Application Date:	02-07-2020
Appl. Start Time:	09:00
Appl. Stop Time:	10:15
Application Method:	SPRAY
Application Placement:	FOLIAR
Applied By:	AHK
Appl. Entry Date:	27-07-2020
Air Temperature Start, Stop:	21,2 C
% Relative Humidity Start, Stop:	61,4
Wind Velocity+Dir., Start:	1,1 MPS W
Wet Leaves (Y/N):	N no
Soil Temperature, Unit:	18,2 C
Soil Moisture:	SLIDRY
Soil Surface Condition:	FINE
% Cloud Cover:	70
Next Moisture Occurred On:	03-07-2020

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	ALLSC BMON
Stage Scale Used:	BBCH
Stage Majority, Percent:	61

Application Equipment

	A
Appl. Equipment:	small plot
Equipment Type:	PSHCAP
Operation Pressure:	2,0 BAR
Nozzle Type:	TEEJAI
Nozzle Size:	EVS9504
Nozzles/Row:	1
Band Width:	1 m
Boom Length:	1 m
Ground Speed:	3,6 KPH
Minimum Mix/Treatment:	0,08 Liters

Date	By	Context	Notes
29-06-2020	Andrius Hansen Kemezys	STATUS	Automatically added by ARM: Trial Status updated to 'S' during trial creation.
27-07-2020	Anja Lunn	STATUS	Automatically added by ARM: Trial Status updated to 'E' when Rating Date entered.

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Alternativer til nedvisning af Purløg til frø

Trial ID:20441 Location:Vollerup Trial Year:2020
Protocol ID: Investigator:Andrius Hansen Kemezys
Project ID: Study Director:
Sponsor Contact:
Conducted Under GEP:Yes

Trt No.	Type	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Appl Code	Spray Volume	Volume Unit
1	HERB	Untreated								
2	HERB	Reglone	200	gA/L	SL	2	L/ha	A		
	ADJ	Agropol	1000	gA/L	XL	0,15	L/ha	A		
3	HERB	Beloukha	680	gA/L	EC	16	L/ha	A		
4	HERB	Beloukha	680	gA/L	EC	8	L/ha	A		
5	HERB	TopGun Finalsan Koncentrat	187	gA/L	FL	120	L/ha	A		
6	HERB	TopGun Finalsan Koncentrat	187	gA/L	FL	80	L/ha	A		
7	HERB	Gozai - BCP210H	26,5	gA/L	EC	0,8	L/ha	A		
	ADJ	Renol	1000	gA/L	XL	1,5	L/ha	A		
8	HERB	Gozai - BCP210H	26,5	gA/L	EC	0,4	L/ha	A		
	ADJ	Renol	1000	gA/L	XL	1,5	L/ha	A		
9	HERB	Spotlight Plus	60	gA/L	ME	1	L/ha	A		
10	HERB	Spotlight Plus	60	gA/L	ME	0,5	L/ha	A		
11	HERB	Roundup Bio	360	gA/L	SC	2	L/ha	A		

Additional Treatment Information

Type

HERB = Herbicide

ADJ = Adjuvant

Treatment Name

Untreated, , , = |

Reglone, 200, gA/L, SL = diquat|200|

Agropol, 1000, gA/L, XL = oil|1000|

Beloukha, 680, gA/L, EC = pelargonic acid|680|

Gozai - BCP210H, 26.5, gA/L, EC = pyraflufen-methyl|26,5|

Renol, 1000, gA/L, XL = oil|1000|

Spotlight Plus, 60, gA/L, ME = carfentrazone-ethyl|60|

Roundup Bio, 360, gA/L, SC = glyphosate|360|

Form Unit

gA/L = grams active ingredient per liter formulated product

Form Type

SL = soluble concentrate|Liquid||A clear to opalescent liquid to be applied as a solution of the active ingredient after dilution in water. The liquid may contain water insoluble formulants.

XL = other, liquid ingredient|Liquid||Other liquid ingredient

EC = emulsifiable concentrate|Liquid||A liquid, homogeneous formulation to be applied as an emulsion after dilution in water.

FL = flowable|Liquid||

ME = micro-emulsion|Liquid||A clear to opalescent, oil and water containing liquid, to be applied directly or after dilution in water, when it may form a diluted micro-emulsion or a conventional emulsion.

SC = suspension concentrate (= flowable concentrate)|Liquid||A stable suspension of active ingredient(s) in water, intended for dilution with water before use.

Rate Unit

L/ha = Liters Product per Hectare (US=GAL/A)|T

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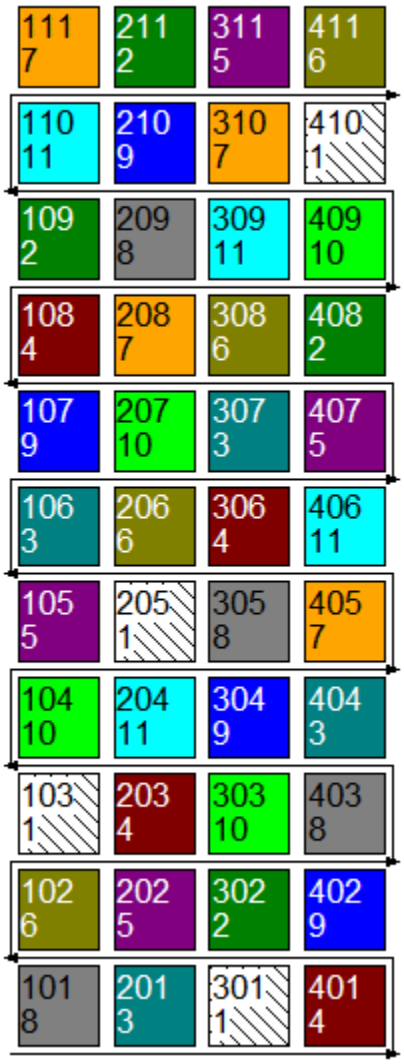
Alternativer til nedvisning af Purløg til frø

Trial ID:20441 Location:Vollerup Trial Year:2020
Protocol ID: Investigator:Andrius Hansen Kemezys
Project ID: Study Director:
Sponsor Contact:
Conducted Under GEP:Yes

Trial Map Treatment Description

Trt	Code	Description
1	CHK	Untreated
2		Reglone 2 L/ha;Agropol 0.15 L/ha
3		Beloukha 16 L/ha
4		Beloukha 8 L/ha
5		TopGun Finalsan Koncentrat 120 L/ha
6		TopGun Finalsan Koncentrat 80 L/ha
7		Gozai - BCP210H 0.8 L/ha;Renol 1.5 L/ha
8		Gozai - BCP210H 0.4 L/ha;Renol 1.5 L/ha
9		Spotlight Plus 1 L/ha
10		Spotlight Plus 0.5 L/ha
11		Roundup Bio 2 L/ha



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Trial ID: 20441 Location: Vollerup Trial Year: 2020
Protocol ID: Investigator: Andrius Hansen Kemezys
Project ID: Study Director:
Sponsor Contact:
Conducted Under GEP: Yes

Pest Type								W Weed
Pest Code								ALLSC
Pest Scientific Name								Allium schoenoprasum
Pest Name								Chives
BBCH Scale								spirehas
Description								spirehastighed
Rating Date		06-07-2020	08-07-2020	10-07-2020	13-07-2020	15-07-2020	17-07-2020	20-10-2020
SE Name								
SE Description		% Necrosis	% Necrosis	% Necrosis	% Necrosis	% Necrosis	% Necrosis	percent
Part Rated								PLANT 1
Rating Type		PHYNEC	PHYNEC	PHYNEC	PHYNEC	PHYNEC	PHYNEC	
Rating Unit		%	%	%	%	%	%	1
Sample Size, Unit		1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	100 SEED
Collection Basis, Unit		1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 SAMPLE
Reporting Basis, Unit		1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	
Number of Subsamples		1	1	1	1	1	1	1
Crop Stage Scale		BBCH						
Crop Stage Majority		86						
Data Entry Date		27-07-2020	27-07-2020	27-07-2020	27-07-2020	27-07-2020	27-07-2020	21-10-2020
Days After First/Last Applic.		4 4	6 6	8 8	11 11	13 13	15 15	110 110
Trt-Eval Interval		4 DA-A	6 DA-A	8 DA-A	11 DA-A	13 DA-A	15 DA-A	
Number of Decimals		1	1	1	1	1	1	
Trt Treatment No. Name	Rate Rate Unit	Appl Code	1	2	3	4	5	6	7
1Untreated			0,0b	0,0d	0,0d	0,0f	0,0g	0,0e	96,5a
2Reglone	2L/ha	A	50,0a	67,5a	68,8a	58,8a	50,0a	36,3a	96,0a
Agropol	0,15L/ha	A							
3Beloukha	16L/ha	A	0,0b	0,0d	1,3d	6,3ef	7,5fg	0,0e	96,5a
4Beloukha	8L/ha	A	0,0b	4,5cd	6,3cd	7,5ef	7,5fg	1,3e	95,8a
5TopGun Finalsan Koncentrat	120L/ha	A	0,0b	5,0cd	10,0c	15,0de	18,8de	11,3d	97,0a
6TopGun Finalsan Koncentrat	80L/ha	A	0,0b	9,5bc	10,0c	15,0de	13,8ef	3,8e	97,0a
7Gozai - BCP210H	0,8L/ha	A	0,0b	12,5b	18,8b	27,5bc	32,5bc	26,3b	98,0a
Renol	1,5L/ha	A							
8Gozai - BCP210H	0,4L/ha	A	0,0b	12,5b	15,0bc	30,0b	30,0bc	20,0bcd	95,3a
Renol	1,5L/ha	A							
9Spotlight Plus	1L/ha	A	0,0b	12,0b	22,5b	30,0b	36,3b	27,5b	96,5a
10Spotlight Plus	0,5L/ha	A	0,0b	10,0bc	15,0bc	25,0bcd	25,0cd	16,3cd	94,3a
11Roundup Bio	2L/ha	A	0,0b	2,0d	7,5cd	18,8cd	25,0cd	23,8bc	97,8a
LSD P=.05			3,08	4,83	6,04	7,62	7,51	7,41	3,60
Standard Deviation			2,13	3,35	4,18	5,28	5,20	5,13	2,50
CV			46,9	27,16	26,3	24,85	23,23	33,97	2,59
Grand Mean			4,55	12,32	15,91	21,25	22,39	15,11	96,41
Levene's F				0,61	2,28	0,937	1,299	1,663	0,953
Levene's Prob(F)				0,794	0,037*	0,513	0,272	0,132	0,50
Rank X2			.	.	.	.	.	.	.
P(Rank X2)			.	.	.	.	.	.	.
Replicate F			1,000	1,822	0,952	1,433	2,094	1,458	0,706
Replicate Prob(F)			0,4064	0,1645	0,4279	0,2525	0,1220	0,2457	0,5562
Treatment F			200,000	128,038	81,078	36,766	31,958	24,534	0,749
Treatment Prob(F)			0,0001	0,0001	0,0001	0,0001	0,0001	0,0001	0,6742

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Pest Type				W Weed
Pest Code				ALLSC
Pest Scientific Name				Allium schoenoprasum
Pest Name				Chives
BBCH Scale				spireevn
Description				spireevne
Rating Date				28-10-2020
SE Name				GERMIN
SE Description				percent
Part Rated				PLANT 1
Rating Type				
Rating Unit				1
Sample Size, Unit				100 SEED
Collection Basis, Unit				1 SAMPLE
Reporting Basis, Unit				
Number of Subsamples				1
Crop Stage Scale				
Crop Stage Majority				
Data Entry Date				28-10-2020
Days After First/Last Applic.				118 118
Trt-Eval Interval				
Number of Decimals				
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	8
1	Untreated				97,8a
2	Reglone	2	L/ha	A	97,5a
	Agropol	0,15	L/ha	A	
3	Beloukha	16	L/ha	A	97,0a
4	Beloukha	8	L/ha	A	96,3a
5	TopGun Finalsan Koncentrat	120	L/ha	A	97,8a
6	TopGun Finalsan Koncentrat	80	L/ha	A	97,0a
7	Gozai - BCP210H	0,8	L/ha	A	98,5a
	Renol	1,5	L/ha	A	
8	Gozai - BCP210H	0,4	L/ha	A	95,8a
	Renol	1,5	L/ha	A	
9	Spotlight Plus	1	L/ha	A	97,8a
10	Spotlight Plus	0,5	L/ha	A	95,0a
11	Roundup Bio	2	L/ha	A	98,3a
LSD P=.05					3,05
Standard Deviation					2,11
CV					2,18
Grand Mean					97,14
Levene's F					0,971
Levene's Prob(F)					0,486
Rank X2					.
P(Rank X2)					.
Replicate F					1,526
Replicate Prob(F)					0,2280
Treatment F					1,045
Treatment Prob(F)					0,4322

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls).
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Alternativer til nedvisning af Purløg til frø

Trial ID: 20441 Location: Vollerup Trial Year: 2020
Protocol ID: Investigator: Andrius Hansen Kemezys
Project ID: Study Director:
Sponsor Contact:

Conducted Under GEP: Yes

Pest Type
W, Weed = Weed or volunteer crop
Pest Code
ALLSC, Allium schoenoprasum, Chives = US
Part Rated
PLANT = plant
Rating Type
PHYNEC = phytotoxicity - necrosis /burn
Rating Unit
% = percent

PLOT = total plot
SEED = seed

PLOT = total plot
SAMPLE = sample

PLOT = total plot
Crop Stage Scale
BBCH = BBCH uniform plant stages

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Alternativer til nedvisning af Purløg til frø

Trial ID:20441 Location:Vollerup Trial Year:2020

Protocol ID: Investigator:Andrius Hansen Kemezys

Pest Type										W Weed	W Weed
Pest Code										ALLSC	ALLSC
Pest Scientific Name										Allium schoenoprasum	Allium schoenoprasum
Pest Name										Chives	Chives
BBCH Scale										spirehas	spireevn
Description										spirehastighed	spireevne
Rating Date					Jul-6-2019	Jul-8-2020	Jul-10-2020	Jul-13-2020	Jul-15-2020	Jul-17-2020	Oct-20-2020	Oct-28-2020
SE Name												GERMIN
SE Description					% Necrosis	% Necrosis	% Necrosis	% Necrosis	% Necrosis	% Necrosis	percent	percent
Part Rated											PLANT 1	PLANT 1
Rating Type					PHYNEC	PHYNEC	PHYNEC	PHYNEC	PHYNEC	PHYNEC		
Rating Unit					%	%	%	%	%	%	1	1
Sample Size, Unit					1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	100 SEED	100 SEED
Collection Basis, Unit					1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 SAMPLE	1 SAMPLE
Reporting Basis, Unit					1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT		
Number of Subsamples					1	1	1	1	1	1	1	1
Crop Stage Scale					BBCH							
Crop Stage Majority					86							
Data Entry Date					Jul-27-2020	Jul-27-2020	Jul-27-2020	Jul-27-2020	Jul-27-2020	Jul-27-2020	Oct-21-2020	Oct-28-2020
Days After First/Last Applic.					-362 -362	6 6	8 8	11 11	13 13	15 15	110 110	118 118
Trt-Eval Interval					7 DA-A	11 DA-A	11 DA-A	11 DA-A	11 DA-A	11 DA-A	110 DA-A	110 DA-A
Number of Decimals					1	1	1	1	1	1		
Trt No.	Treatment Name	Rate	Unit	Appl Code	Plot	1	2	3	4	5	6	7	8
1	Untreated				103	0,0	0,0	0,0	0,0	0,0	0,0	96	3
					205	0,0	0,0	0,0	0,0	0,0	0,0	97	0
					301	0,0	0,0	0,0	0,0	0,0	0,0	93	2
					410	0,0	0,0	0,0	0,0	0,0	0,0	100	0
					Mean =	0,0	0,0	0,0	0,0	0,0	0,0	97	1
2	Reglone	2	L/ha	A	109	40,0	60,0	65,0	60,0	50,0	35,0	98	0
	Agropol	0,15	L/ha	A	211	55,0	70,0	70,0	60,0	50,0	40,0	95	2
					302	50,0	70,0	70,0	60,0	50,0	35,0	95	1
					408	55,0	70,0	70,0	55,0	50,0	35,0	96	3
					Mean =	50,0	67,5	68,8	58,8	50,0	36,3	96	2
3	Beloukha	16	L/ha	A	106	0,0	0,0	0,0	0,0	5,0	0,0	94	0
					201	0,0	0,0	0,0	10,0	10,0	0,0	97	0
					307	0,0	0,0	0,0	10,0	10,0	0,0	97	2
					404	0,0	0,0	5,0	5,0	5,0	0,0	98	0
					Mean =	0,0	0,0	1,3	6,3	7,5	0,0	97	1
4	Beloukha	8	L/ha	A	108	0,0	5,0	10,0	10,0	10,0	0,0	96	0
					203	0,0	8,0	5,0	10,0	10,0	5,0	93	2
					306	0,0	5,0	5,0	5,0	5,0	0,0	96	0
					401	0,0	0,0	5,0	5,0	5,0	0,0	98	0
					Mean =	0,0	4,5	6,3	7,5	7,5	1,3	96	1
5	TopGun Finalsan Koncentrat	120	L/ha	A	105	0,0	5,0	20,0	15,0	20,0	20,0	96	0
					202	0,0	5,0	5,0	10,0	15,0	5,0	97	0
					311	0,0	5,0	5,0	20,0	20,0	10,0	97	1
					407	0,0	5,0	10,0	15,0	20,0	10,0	98	2
					Mean =	0,0	5,0	10,0	15,0	18,8	11,3	97	1
6	TopGun Finalsan Koncentrat	80	L/ha	A	102	0,0	10,0	10,0	10,0	10,0	0,0	98	0
					206	0,0	10,0	10,0	15,0	10,0	0,0	99	0
					308	0,0	8,0	10,0	15,0	15,0	5,0	97	0
					411	0,0	10,0	10,0	20,0	20,0	10,0	94	0
					Mean =	0,0	9,5	10,0	15,0	13,8	3,8	97	0
7	Gozai - BCP210H	0,8	L/ha	A	111	0,0	10,0	15,0	30,0	35,0	30,0	97	0
	Renol	1,5	L/ha	A	208	0,0	15,0	20,0	30,0	40,0	35,0	99	0
					310	0,0	15,0	25,0	30,0	35,0	25,0	98	1
					405	0,0	10,0	15,0	20,0	20,0	15,0	98	1
					Mean =	0,0	12,5	18,8	27,5	32,5	26,3	98	1
8	Gozai - BCP210H	0,4	L/ha	A	101	0,0	20,0	25,0	40,0	40,0	30,0	93	0
	Renol	1,5	L/ha	A	209	0,0	10,0	10,0	30,0	30,0	20,0	100	0
					305	0,0	10,0	15,0	30,0	30,0	20,0	93	2
					403	0,0	10,0	10,0	20,0	20,0	10,0	95	0
					Mean =	0,0	12,5	15,0	30,0	30,0	20,0	95	1
9	Spotlight Plus	1	L/ha	A	107	0,0	10,0	25,0	30,0	40,0	30,0	96	1
					210	0,0	20,0	30,0	40,0	45,0	35,0	98	1
					304	0,0	10,0	15,0	30,0	35,0	25,0	98	0
					402	0,0	8,0	20,0	20,0	25,0	20,0	94	3
					Mean =	0,0	12,0	22,5	30,0	36,3	27,5	97	1
10	Spotlight Plus	0,5	L/ha	A	104	0,0	10,0	15,0	30,0	30,0	20,0	94	0
					207	0,0	15,0	15,0	20,0	20,0	10,0	88	2
					303	0,0	10,0	15,0	25,0	25,0	15,0	96	1
					409	0,0	5,0	15,0	25,0	25,0	20,0	99	0
					Mean =	0,0	10,0	15,0	25,0	25,0	16,3	94	1
11	Roundup Bio	2	L/ha	A	110	0,0	0,0	10,0	15,0	25,0	25,0	94	1
					204	0,0	0,0	5,0	10,0	20,0	20,0	98	1
					309	0,0	8,0	10,0	30,0	35,0	30,0	100	0
					406	0,0	0,0	5,0	20,0	20,0	20,0	99	0
					Mean =	0,0	2,0	7,5	18,8	25,0	23,8	98	1

Pest Type
W, Weed = Weed or volunteer crop
Pest Code
ALLSC, Allium schoenoprasum, Chives = US
Part Rated
PLANT = plant
Rating Type
PHYNEC = phytotoxicity - necrosis /burn
Rating Unit
% = percent

PLOT = total plot
SEED = seed
BBCH = BBCH uniform plant stages

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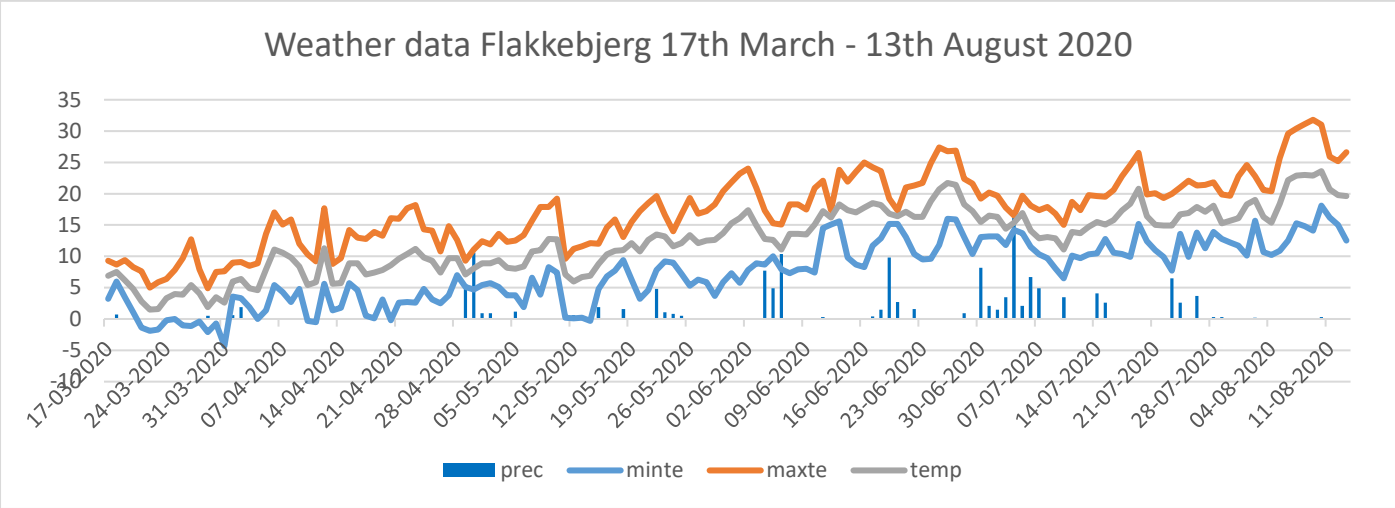
Bilag 1. Vejrdata



Figur 1. Gennemsnitig (temp), Minimum (minte) and maximum (maxte) temperatur og nedbør (prec).

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Bilag 2. Forsøgsplaner

20431 & 20441

Nordic Field Trial System

Forsøgsplanlægning
AgroTech

050822020 Alternativer til nedvisning af Spinat og Purlog til frø

Til Oversigt

SEGES
Agro Food Park 15
8200
Aarhus N

Planansvarlig: Torben Pedersen
Telefon: 72203396
Email: TEP@teknologisk.dk

FORMÅL: At undersøge forskellige strategiers muligheder ved nedvisning af spinat og purlag til frøproduktion.

BAGGRUND: Efter forbuddet mod anvendelsen af Reglone skal der findes nye muligheder for at nedvisne spinat og purlag til frøproduktion før høs

FORSØGSBETINGELSER: Forsøget skal anlægges på arealer med spinat eller purlag til høst 2020
Det er vigtigt, at sortsnavnet indberettes i PC markforsøg straks efter forsøget er afsat. Frøkonsulenter fra Jensen-Seed eller Vikeraa Seed er behjæ areal og sort.

DESIGN DATA: Fuldstændigt blokforsøg, 1 faktor (Randomiseret), 4 Gentagelser. Parcelfordeling: randomiseret. Høstparcel minimum 50m².

Generel behandling:

Kategori	Middel	Omfang	Mgd./ha.	Gprovnr.
Udsæd og såning	Så-dato, hovedafgrøde	Kun forsøg		

GENEREL BEHANDLING: På forsøgsarealet må der IKKE foretages anden nedvisning end forsøgsbehandlingen.

Forsøgsled og forsøgsbehandlinger:

Faktor 1: Nedvisning			
Led	**Tid**	**Behandling, mgd./ha *)**	**Specifikation, mgd./ha *)**
1	30-07-2020 3-4 dage før høst	2 l Reglone 0,15 l Agropol	
2	30-07-2020 3-4 dage før høst	16 l Beloukha	
3	30-07-2020 3-4 dage før høst	8 l Beloukha	
4	30-07-2020 3-4 dage før høst	120 l TopGun Finalsan Koncentrat	
5	30-07-2020 3-4 dage før høst	80 l TopGun Finalsan Koncentrat	
6	30-07-2020 10 dage før høst	0,8 l Gozai 1,5 l Repol	
7	30-07-2020 10 dage før høst	0,4 l Gozai 1,5 l Repol	
8	30-07-2020 10 dage før høst	1 l Spotlight Plus	
9	30-07-2020 10 dage før høst	0,5 l Spotlight Plus	

*) l/kg pr. ha. svarer til ml/g pr. 10 m²

VEJLEDNING TIL FORSØGSBEHANDLING:
OBS vedr. vandmængder. Der anvendes 200 l. vand ved Gozai i led 6 og 7. I de andre sprøjtninger anvendes 300 l. vand
- Alle led 1-5 behandles ultimo juli, 3 - 5 dage før høst.
- Led 6-9 behandles 10 dage før høst.

Vejrdata på sprøjtetidspunkt indberettes i notat på enkeltforsøget. Temperatur, skydække og tidspunkt for sprøjtning noteres.

KEMIKALIER: Kemikalier leveres fra Teknologisk Institut.

Måletider

Niveau	Måleparameter	Analyse

P01	29-06-2020, Ved anlæg		
	Forsøg	JB NR vurderet, evt. teksturanalyse indberettes.	
P02	30-07-2020, Før 1. behandling		
	led	FOTO drone.	
P03	Stadium 89, Før høst		
	Forsøg	FAGLIG VURDERING dato for.	
	Parcel	NEDVISNING %, 0-100, .	
	Parcel	FOTO drone. Se tekstafsnit DRONE	
P04	Stadium 90, Ved høst		
	led	KERNE/FRØ-PRØVE til DLF (lærredspose). Prøvestørrelse: 2 kg. Der udtages delprøver fra hver parcel. Hvis prøverne er våde, SKAL prøverne sendes STRAKS efter høst. Se tekstafsnit KERNE-FRØ PRØVE.	SPIREEVNE, %
			RENHED, % i råvare ved maskinrensning
			RENT FRØ, % i maskinrenset vare
	led	KERNE/FRØ-PRØVE2 til DLF (plastpose). Prøvestørrelse: 0,1 kg. Der udtages delprøver fra hver parcel. Hvis prøverne er våde, SKAL prøverne sendes STRAKS efter høst.	VAND, % i kerne/frø
	Parcel	PARCELUDBYTTE kg kerne/frø (ukorrigeret).	
	Parcel	SPILD, FRØ kg/ha. Se tekstafsnit SPILD	

DRONE Der skal tage dronefoto af forsøget med RedEdge kamera til beregning af NDVE/NDVI.
HØST: Forsøget høstes, når afgrøden er moden. Kontakt evt. frøkonsulent inden forsøget høstes.
Det kan være nødvendigt, at høste forsøget ad flere gange, hvis afgrøden modner forskelligt. Dette aftales med Barthold Feidenhans´l.
Dato for høst for de enkelte led skrives i et notat.
Prøver fra høst skal sendes straks efter hver høsttid.

KERNE/FRØ PRØVE: Prøve til RENHED, RENT FRØ og spireevne udtages således, at der ca er 2 kg frø pr led, hvilket svarer til 1 spandfuld.
Se "Instruktion for udtagning af prøver i frøgræsser"

Bemærk prøverne sendes direkte til DLF, Højerupvej 31, 4660 Store Heddinge.

SPILD: I forsøg med vækstregulering er det ekstra vigtigt at registrere, hvis der har været spild ved høst. En præcis opgørelse af spildet er meget vigtig for tolkningen af resultaterne. Derfor er det af stor betydning, at spildet opgøres så præcist som overhovedet muligt, og der bruges den nødvendige tid på arbejdet. Anvend mappen "Værktøj til bedømmelser af spild i frøgræsmarker" eller Se "Instruktion for opgørelse af spild i forsøg"

INDBERETNING: Markens/forsøgets grundoplysninger samt alle optællinger, behandlinger og bedømmelser indberettes løbende til Teknologisk Institut. Alle grundbehandlinger anføres med dosis, middel og dato. Forsøget afsluttes med et notat i PC-markforsøg vedrørende faglig vurdering.
Som påmindelse er oprettet en måleparameter FAGLIG VURDERING – her indberettes datoen for notatet.
Følgende forhold beskrives i notat:
- Vejret ved behandling
- Beskrivelse af såbed ved etablering
- Afgrødetæthed
- Tørke og andre betydende klimatiske betingelser
- Beskrivelse af den omgivende mark
- Beskrivelse af afgrødens tilstand ved høst

BETALING FOR UDFØRT FORSØGSARBEJDE: Ydes til forsøg, der er gennemført efter planen og indberettet rettidigt med alle de ønskede oplysninger og bedømmelser.

KONTAKTPERSON – FRØGRÆS Spørgsmål vedr. forsøgsplanen og faglige tilbagemeldinger rettes til Specialkonsulent Barthold Feidenhans´l : 87 40 54 25 / 40 30 17 78 eller på mail: baf@seges.dk.

Faresymboler

Middel	Symbol(er)
Agropal	GHS05 GHS07
Belvedere	GHS05
Gotal	GHS05 GHS08 GHS09
Roxtane	GHS05 GHS09 GHS08 GHS06
Renol	GHS05
Spotlight Plus	GHS07 GHS09
TopGun Ekselsa Koncentrat	GHS07

Peter.Hartvig@agro.au.dk
AU Flakkebjerg
Department of Agroecology
DK-4200 Slagelse
Tel. + 4587156000

Oplysninger til forsøgsplanlæggeren

Standardforsøgsled	5
Afgrøde	Spinat
Projektnummer	5169
Fagkonsulent	BAF
Forsøget er dataleverandør til Sortinfo. (Afprøvningstype, kilde)	
Udsendelsesdato	06-06-2020
Designejer	PC-Markforsøg (lokalt)
Bestillingstype	Forhåndstildeling
Max antal	2
Oprindelse ved kopiering fra glapot	050812020
Kategori	
Sponsor	
Betaling for forsøgsarbejde 2019	
Betaling for forsøgsarbejde 2020	
Sum i alt i høstår	0
Tilskudstekst	
Engelsk titel	Desiccation in clover
Der udføres nettomerudbytteberegning.	

Tilføj bilag

Beskrivelse: Upload bilag

Teknologisk Institut, Agro Food Park 15, DK-8200 Aarhus N. DK; +45 7220 3320 E-mail: landsforsoegene@teknologisk.dk

AARHUS UNIVERSITY
DCA - DANISH CENTRE FOR FOOD AND AGRICULTURE

Certificate

GEP approval is granted to

Testing unit: **Aarhus University**
Department of Agroecology (weeds)
Flakkebjerg
DK-4200 Slagelse

The approval applies to the execution of GEP efficacy trials of pesticides within

Testing areas: **Field Trials**
Fruit growing / Forestry

GEP

The GEP Recognition Unit at the Danish Centre for Food and Agriculture, Aarhus University, controls organisation, staff, premises, trial fields, trial equipment, standard operation procedures and trial reports. The testing unit is subject to continuous control and inspection.

The certificate is valid for a period of 6 years. Expiration date: 31 December 2025

Date of approval: 1 January 2020

Signed: 11 December 2019

Henrik Brødsgaard
Danish Environmental Protection Agency

Else Thordahl Meyer
Aarhus University

Peter Kryger Jensen
Aarhus University

Regulation 1107/2009 concerning plant protection products and ministerial order no. 815 dated 18 June 2018 from Danish Ministry of theEnvironment states that investigations of the efficacy of plant protection products carried out in Denmark for registration purposes must be performed by testing units which have been approved to carry out these investigations by the Danish Centre for Food and Agriculture, Aarhus University.

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