



Vegetable Conference 2020

Emerger: A new herbicide for potatoes with EAMUs for veg
Best practice & key learnings from 2019



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Agenda

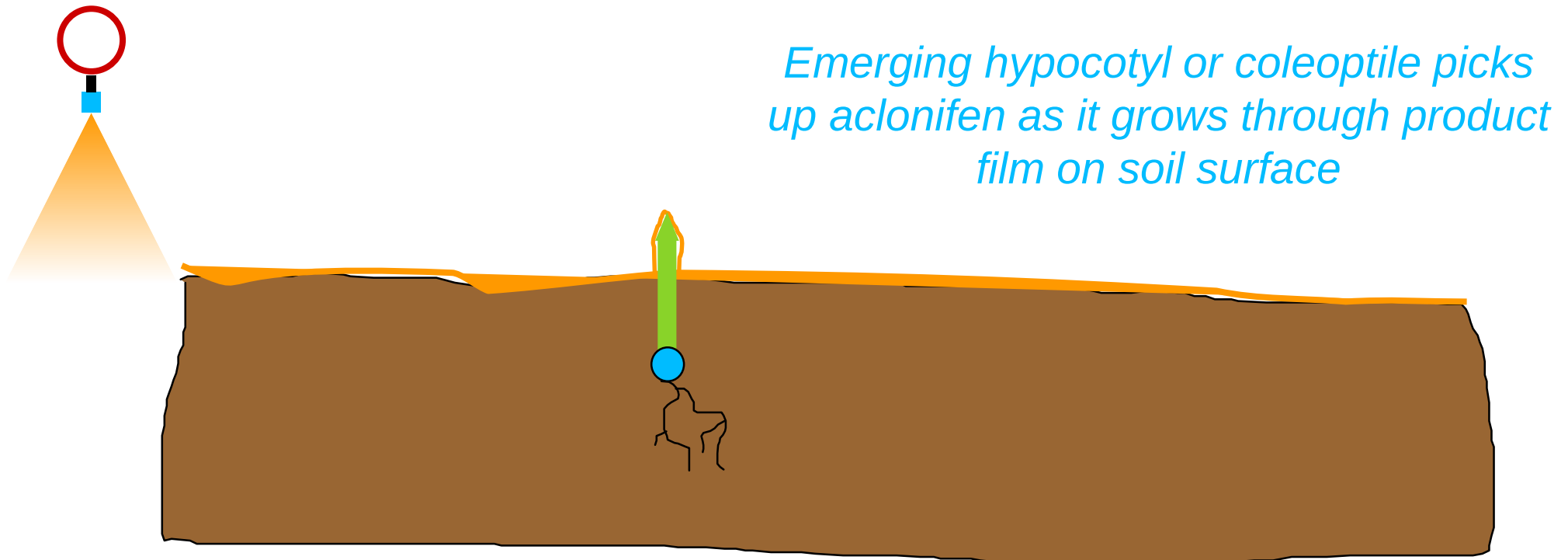


1. Emerger: How does it work?
2. Efficacy: Pre & Post Em
3. Carrots: Crop Safety Learning
4. Onions: Crop Safety Learning
5. Best Practice Summary



How does it work? Reminder on the active substance: MoA, soil mobility, persistence & site of uptake

- // **HRAC Group F3** (bleacher) – the only diphenyl ether
- // **Low water solubility** and **adsorbed strongly** onto soil particles – aclonifen is **virtually immobile** in soil
- // In practice the **residual activity** of aclonifen is **between 2 to 3 months** = “moderately persistent”
- // Aclonifen is taken up by **hypocotyl** (BLW) / **coleoptile** (monocots) or **cotyledons** and is translocated to the **meristems** – very little uptake by **roots**.



Emerger: EAMUs Update

Pre-emergence EAMUs @ 1.75 L/ha

Carrots / Parsnips / Root
Parsley

Onions / Garlic / Shallot

Angelica / Caraway / Celery
leaves / Coriander leaves
/Dill/ Fennel leaves / Lovage
leaves / Parsley / Salad
burnet / Sweet Cicely

Sunflower

Post-emergence EAMUs @ 0.65 L/ha Still pending = Spring 2020 with grower lobbying?

Submitted September 2019 Still pending

Carrots / Parsnips /
Root Parsley

// 1.75 L/ha Pre-em
or
// 1.0 L/ha Pre-em
+ 0.65 L/ha post-em @
~2 TL as a single app

Onions / Garlic / Shallot

// 1.75 L/ha Pre-em
or
// ≤1.0 L/ha Pre-em
+ 0.65 L/ha post-em @ ~1-2 TL
// Sets only – but making case
for drilled

Celery / Leek / Salad Onion

// 0.65 L/ha total dose
// Celery: after planting and 60 day PHI
// Leek and Salad Onion: after planting or
from BBCH12, 28 day PHI



EAMU

Users are required to be in possession of the relevant Extension of Minor Use details. Electronic copies of Extensions of Use can be obtained from the Chemicals Regulation Division (CRD) website [Extension of Authorisation for Minor Use Database](#).

Persons using the product to which an extension of authorisation applies should acquaint themselves with and observe all requirements contained within Regulation (EC) No 1107/2009, including the duty on the holder of any extension of authorisation to notify information on potentially dangerous effects, a contravention of which is a criminal offence under those regulations.

Neither the efficacy nor the phytotoxicity of the product for which this extension of authorisation has been granted has been assessed and, as such, the user bears the risk in respect of failures concerning its efficacy and phytotoxicity.



Efficacy: Pre & Post Em



0.5 l/ha POST- EM 6DAA – field pansy, fat hen, nightshade





Emerger Weed Spectrum – Pre Emergence

European maritime zone aggregated trials across Spring cropping



Broad-leaved weeds – average control

>85%
<i>Amaranthus</i> (7)
Annual Mercury (6)
#
Chickweed (3)
Common Field-speedwell (4)
False Mayweed (7)
Fat Hen (16)
Field Penny-cress (13)
Pale Persicaria (2)
Red Dead-nettle (9)
Scentless Mayweed (5)
Shepherd's Purse (12)
Volunteer Oilseed Rape (8)
#
Wild Pansy (12)

85% > 70%
Black Bindweed (10)
Cleavers (10)
Common Hemp Nettle (3)
#
Field Hemp Nettle (2)
Field Pansy (8)
Redshank (15)
#
Small-flower Cranesbill (3)
#

70% > 55%
<i>Datura</i> (3)
#
Fumitory (4)
Knotgrass (4)
#
Runch (4)
#
Scented Mayweed (8)
#

55% > 40%
Groundsel (6)
#

40% > 0%
Black Nightshade (3)
Fool's Parsley (2)
#

Grass weeds – average control

85% > 70%
Annual meadow-grass (4)
Barnyard Grass (11)
Loose Silky-bent (3)

55% > 40%
Black-grass (3)
Perennial Rye-grass (2)
#

The majority of weeds are scored at the maximum dose rate for Emerger, 1.75 L/ha

A hash indicates the data contained for this weed is from a dose rate of 1.5 L/ha Emerger, due to reduced data being available at 1.75 L/ha

The mean weed control is displayed, a range of responses are seen in individual trials.

() The number of trials is shown in brackets



Emerger Weed Spectrum – Post Emergence, Average Control

EAMU application for 0.65 L/ha (**not yet authorised**)

		 0.33 L/ha	 0.66 L/ha
Weed Species	<i>Amaranthus sp.</i>	76	82
	<i>Chenopodium sp.</i>	90	100
	Sowthistle		100
	Small Nettle	38	50
	Hedge Mustard	40	53

Note: Post em use not yet authorised

Average control taken from 2/3 trials,
post emergence application only



Emerger – Future Pre and Post Emergence Application

NIAB TAG Weed Screen Hinxton 2019

PRE – Emerger 1.25 L/ha + POST – Emerger 0.5 L/ha



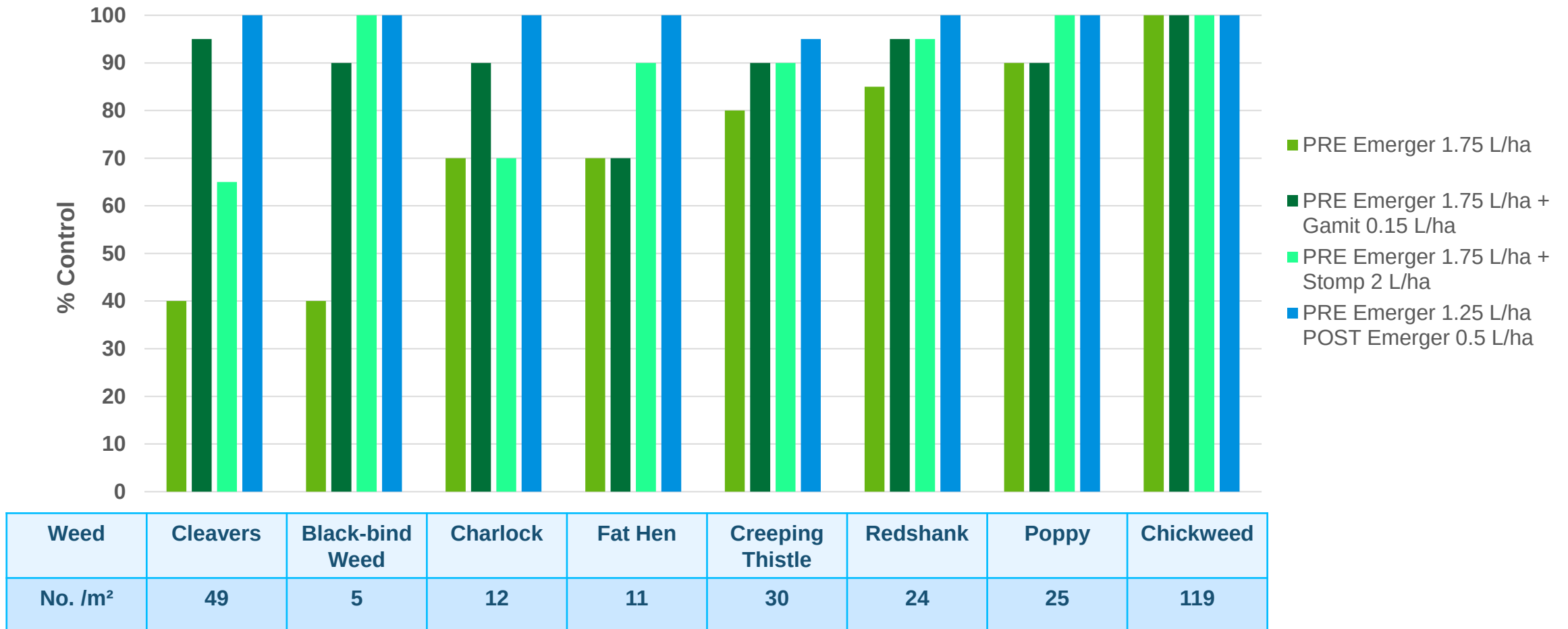
Note: Post em use not yet authorised

PRE- EM – 26th March, POST-EM - 29th April



Emerger Weed Spectrum – Pre/ Post Emergence Options

NIAB TAG Weed Screen Hinxton 2019



Note: Post em use not yet authorised

PRE- EM – 26th March, POST-EM
(around 1TL) - 29th April



Carrots: Key Learnings

Shelford Cover Crop Trial 2019



- // **Irrigation around emergence or early afterwards can cause crop losses** – though mostly only where in tank-mix with other herbicides.
- // **Greater potential for crop effect where tank-mixing with pendimethalin and clomazone +/- DFF.**
Much of the risk is attached to the DFF part. Experienced some crop thinning in the trial with the + DFF mixes (especially where using high doses of ACL, and 100ml DFF)
- // **Possible programme in carrots (once post em approved):**
 - // **Pre- em : 1.0L/ha Emerger**
 - + 2L/ha Stomp
 - +/- 100-150 ml/ha Gamit

Post- em: 0.65l/ha Emerger Single dose

0.33 L/ha x2 Split dose

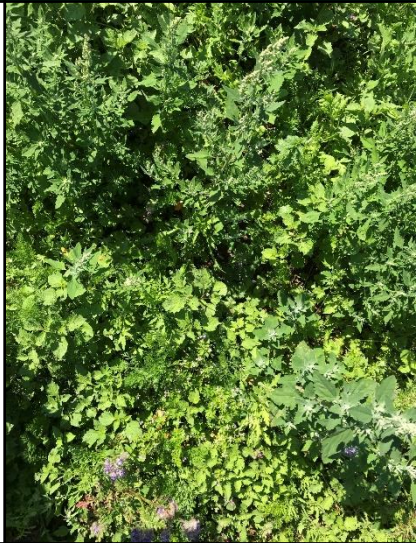
1st @ 1 TL 2nd @ 2 TL

Note: Post em use not yet authorised



Bayer Shelford Cover Crop Trial 2019 - Carrots

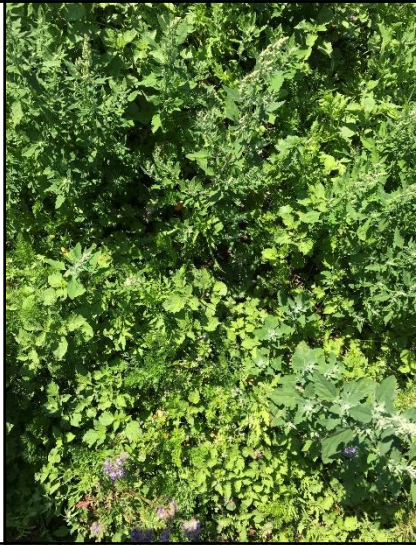
Drilled 4th April - Cv. Nairobi F1 - Pre-em app. 8th April

Pre-em	Untreated	Emerger 1.75	Emerger 1.75 Stomp 2.5 Gamit 0.1	Emerger 1.75 Stomp 2.5 Gamit 0.2
Post-em	/	/	/	/
27 th June 81 DAA				



Bayer Shelford Cover Crop Trial 2019 - Carrots

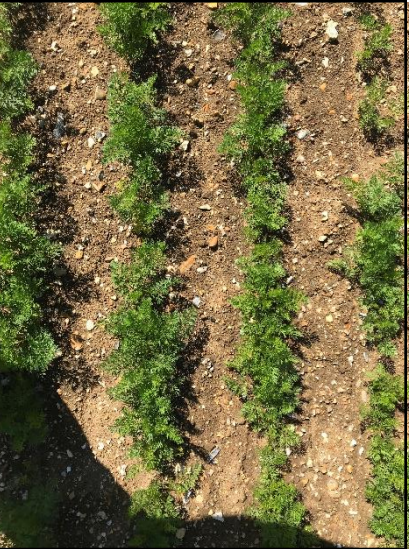
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Post-em	/	/	/	/
27 th June 81 DAA				



Bayer Shelford Cover Crop Trial 2019 - Carrots

Drilled 4th April - Cv. Nairobi F1

Pre-em	Untreated	Emerger 1.75 Stomp 2.5 Gamit 0.1	Emerger 1.75 Stomp 2.5 Gamit 0.1 Hurricane 0.1	Emerger 0.75 Stomp 2.5 Gamit 0.1
Post-em	/	/	/	0.5 Emerger fb. 0.5 Emerger
27 th June 81 DAA 35 DAC				

Note: Post em use not yet authorised

Pre-emergence: 8th April
Post-emergence: 1TL 17th May, 2TL 24th May



Onions



Bayer Shelford Cover Crop Trial 2019 – Drilled Onions

Drilled 4th April - Cv. Hypark F1 (532,682 seeds/ha)

Pre-em	Emerger 0.75 l/ha	Emerger 1.75 l/ha	Stomp 1 l/ha Wing-P 1.25 l/ha Flexidor 0.1 l/ha	Emerger 0.75 l/ha Stomp 1 l/ha Wing-P 1.25 l/ha Flexidor 0.1 l/ha
Post-em	/	/	/	Emerger 1 l/ha Buctril 0.3 l/ha
14th June 67 DAA 21 DAB				

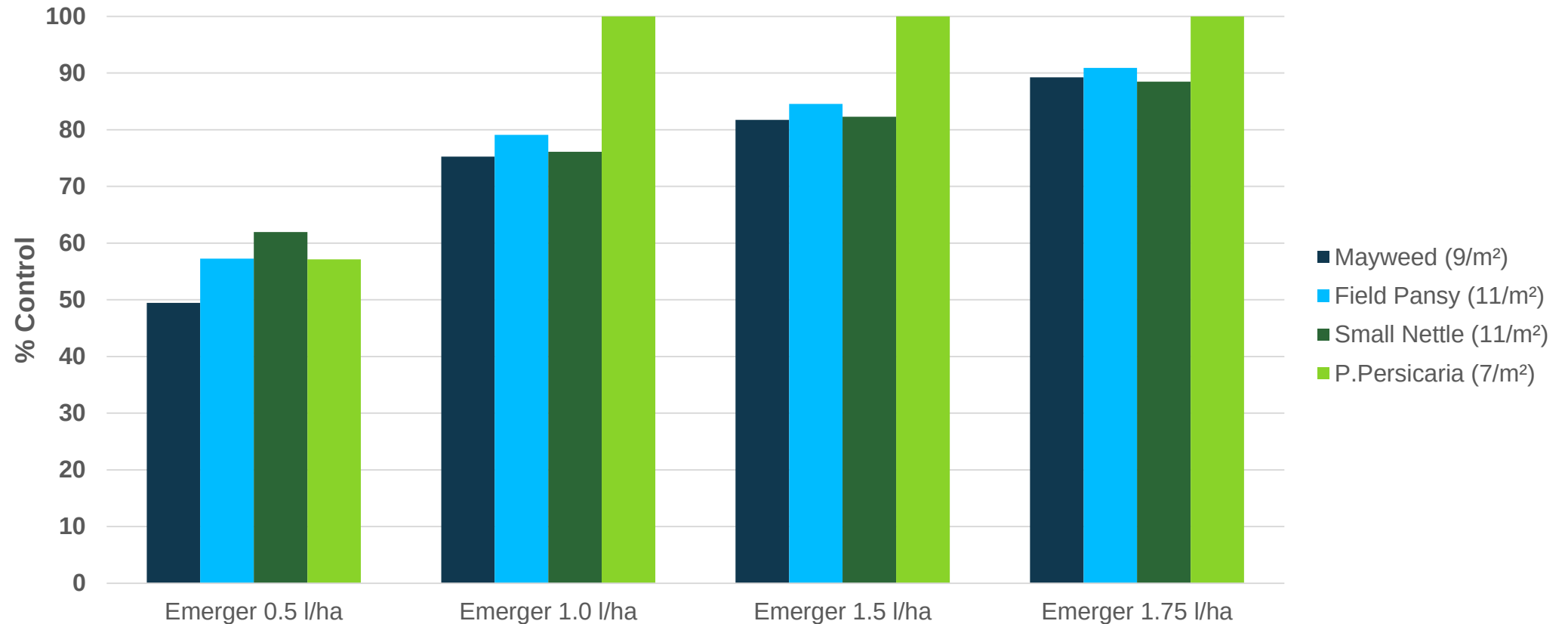
Note: Post em use not yet authorised

Pre-emergence app: 8th April
Post-emergence app: 24th May (around 2TL)



Drilled Onions – Emerger, Pre-emergence Efficacy

Richard Austin Agriculture, 2019 Trial in Suffolk



Cv. Setton, Drill Date: 3rd April, Pre-em: 9th April,
Assessment: 44DAA



Onions: Key Learnings



Learning from 2019 Shelford Cover Crop Trial

- **Drilled onions – beware of pre em use in drilled crops even at low rates**
 - Especially cold, wet conditions after drilling – long period of exposure due to slow emergence can cause large crop losses
 - 1.75 L/ha pre em at Shelford did visibly slow and thin the crop
 - Safer on stronger soils but limited use pre em on drilled crops
- **Sets likely to be safer – pre em**
 - Tank mix – Wing P + Stomp +/- Flexidor but probably still be cautious about dose rate – **suggest best not over 1L/ha Emerger even for sets.**
- **Post em on onions likely to be best use for Emerger (once approved)**
 - 1 litre Emerger relatively safe when applied at 2 TL on sets but bear in mind the Shelford crop was fairly well waxed this year.
 - Small yellow spots on leaves and/or a yellow “football sock” band around the leaf where the spray has collected in the leaf axil. These grow out fine.
 - **Hope to use “little and often” theory** - to maximum total post-em dose, likely 0.65 L/ha, probably with first applications including some kind of other residual top-up – e.g. pendimethalin or Wing-P. Later post-em applications (up to 2TL) could include other more contact materials.
 - **Note that in onions, once bromoxynil has been lost, there will be a massive hole for post-em contact materials – especially for weeds like fat hen.**

Note: Post em use not yet authorised



Best Practice Summary

Important points to consider



Favourable physical-chemistry profile (low water solubility, low soil mobility, persistence) ✓

Pre-em tank mix options ✓

Good efficacy in all environmental conditions (even dry, warm and high light levels) ✓

Low level of resistance risk – dual MoA ✓

Post-emergence activity useful & safe (subject to EAMU approval) ✓

Phytotoxicity risk dependent on crops ability to metabolize aclonifen ✗

Crop stress from weather conditions, waterlogging, nutrition etc. ✗

Irrigation around emergence or early afterwards can cause crop losses ✗

Friable and level seedbeds are required to form a consistent film of aclonifen ✗

Any soil disturbance (e.g. wind-blow, hoeing) post application reduces efficacy ✗

Note: Post em use not yet authorised



The Small Print

Emerger contains aclonifen. Buctril contains bromoxynil. Wing - P contains dimethenamid-p and pendimethalin. Hurricane contains diflufenican. Stomp Aqua contains pendimethalin. Flexidor contains isoxaben. Gamit contains clomazone. Emerger and Buctril are Trade Marks of Bayer. All brands listed may be Trade Marks of other manufacturers and proprietary rights may exist.

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For further information, please visit www.cropscience.bayer.co.uk or call Bayer Assist on 0808 1969522

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Thanks for your attention!
Any questions?



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