



Bean seed fly - insecticide and bioinsecticide trials in Warwickshire and 'Smart' traps

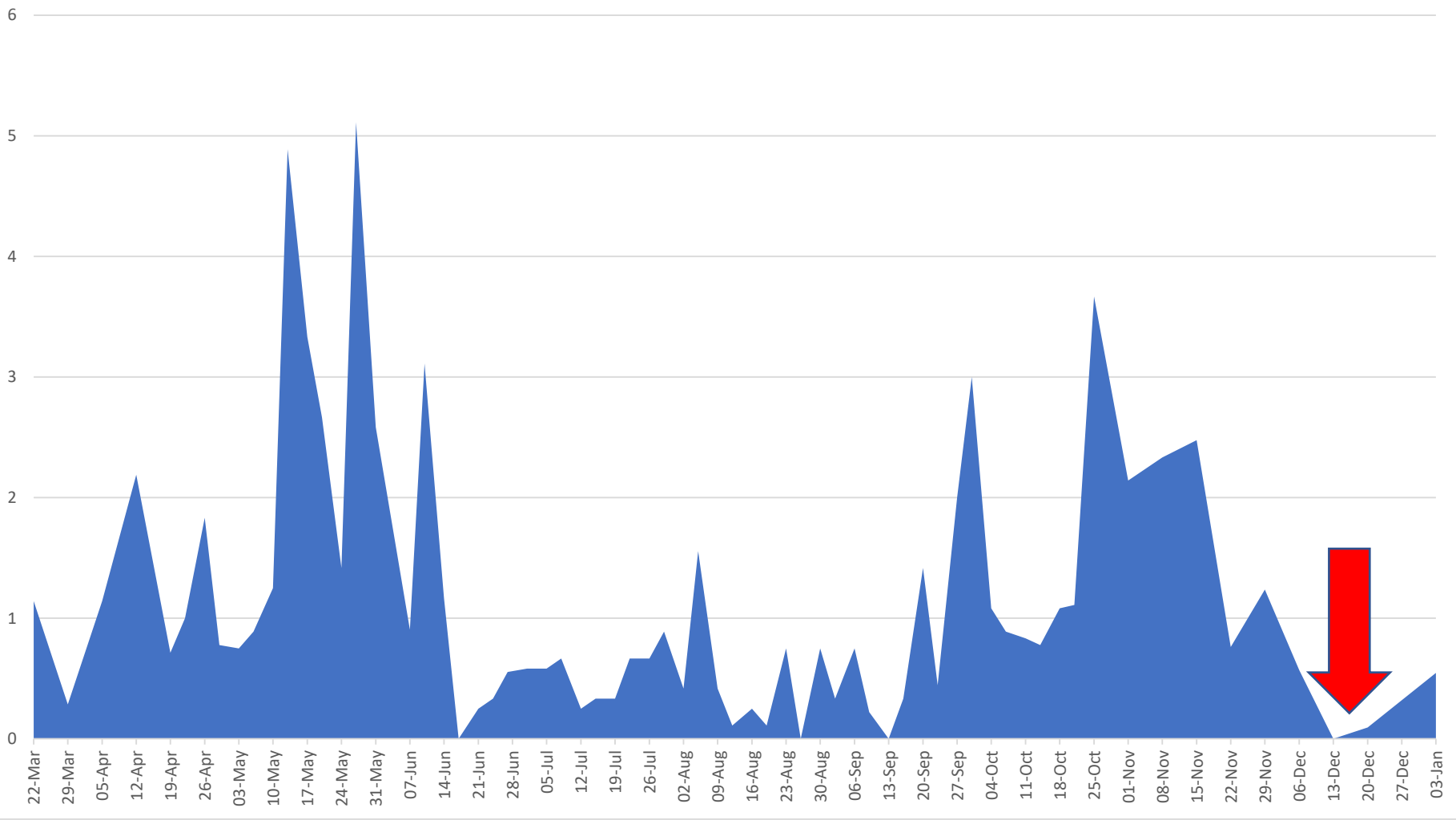
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Bean seed fly webinar, 5th January 2023



Bean seed flies per trap per day - yellow water traps Wellesbourne 2022





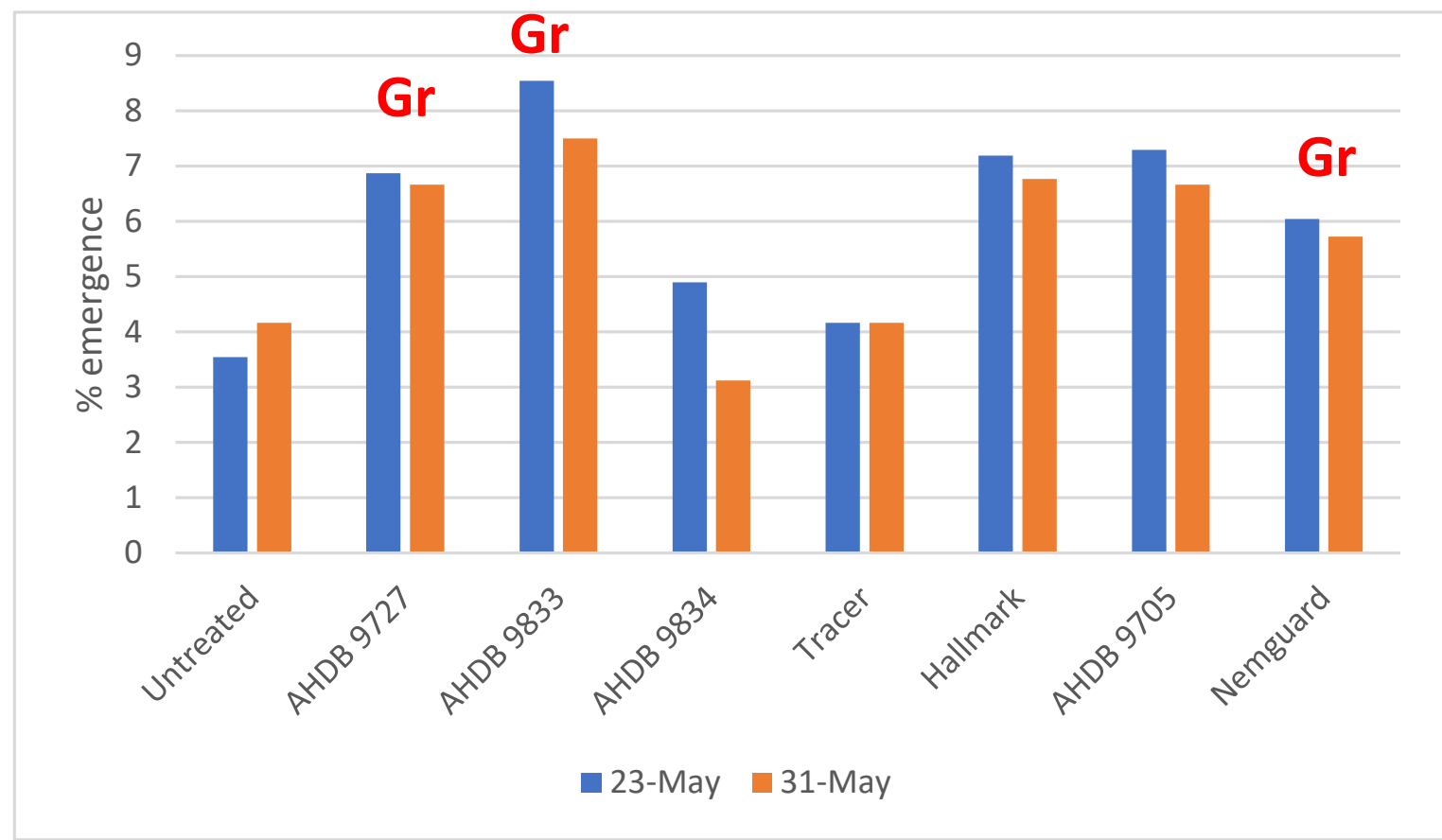
Treatments in all 2022 trials

Untreated	
AHDB 9727	Granule
AHDB 9833	Granule
AHDB 9834	Spray
AHDB 9705	Spray (Bio)
NemGuard	Granule (Bio)
Tracer	Spray
Hallmark Zeon	Spray





Percentage emergence of leek plants per treatment (5m x 4 rows) (sown 21 April 2022)

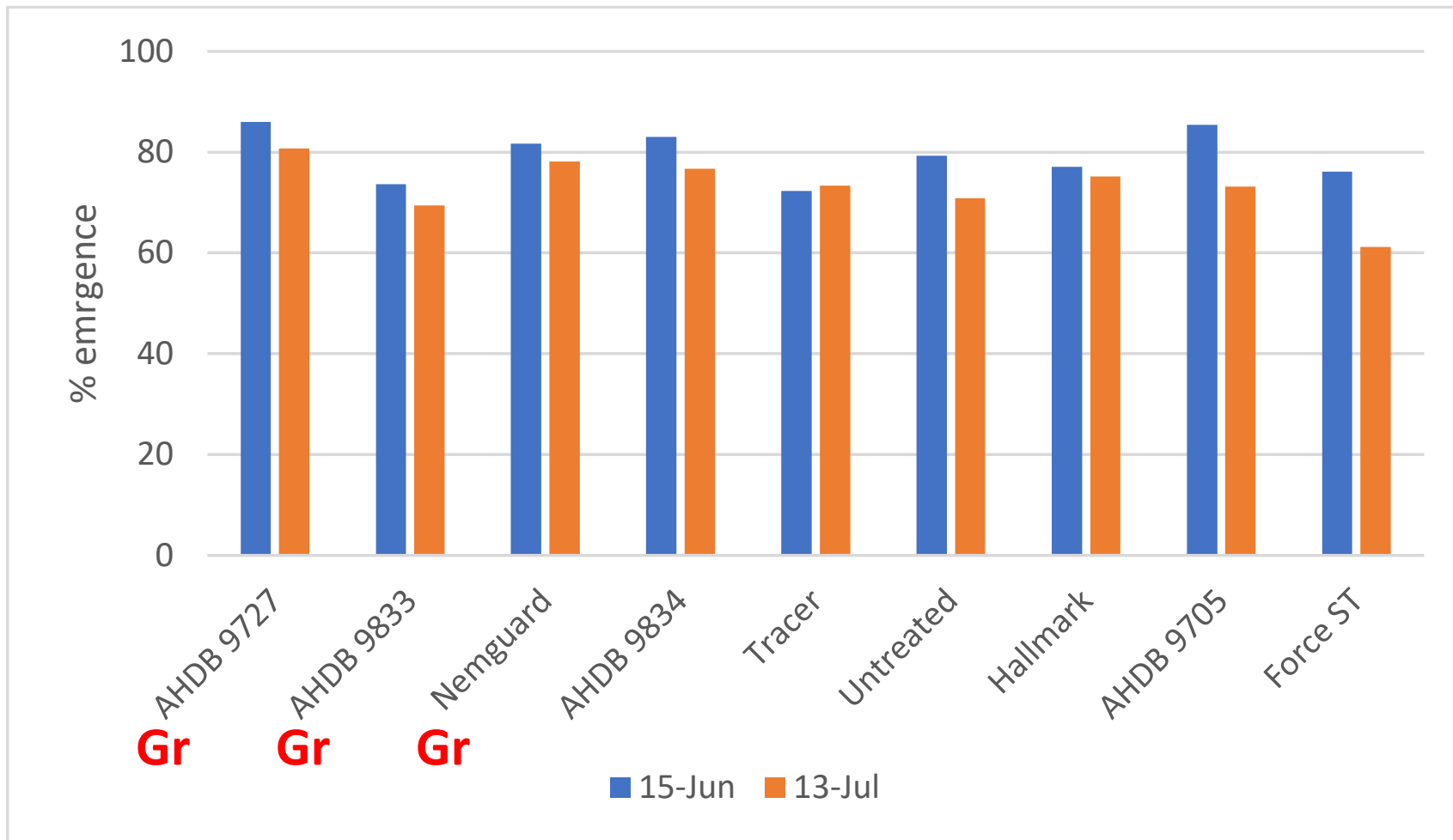


- Very low percentage emergence.
- None of the treatments successfully controlled damage and there were no statistically significant differences between treatments when considering emergence.

Gr = granules



Percentage emergence of salad onion plants per treatment (3m x 2 rows) (sown 18 May 2022)



- There were no statistically significant differences between treatments when considering emergence.
- There was little difference between the untreated control and Force seed treatment assessed in adjacent beds.

N.B. Nemguard is not currently authorised for use on salad onion in UK





Supplementary pot trial

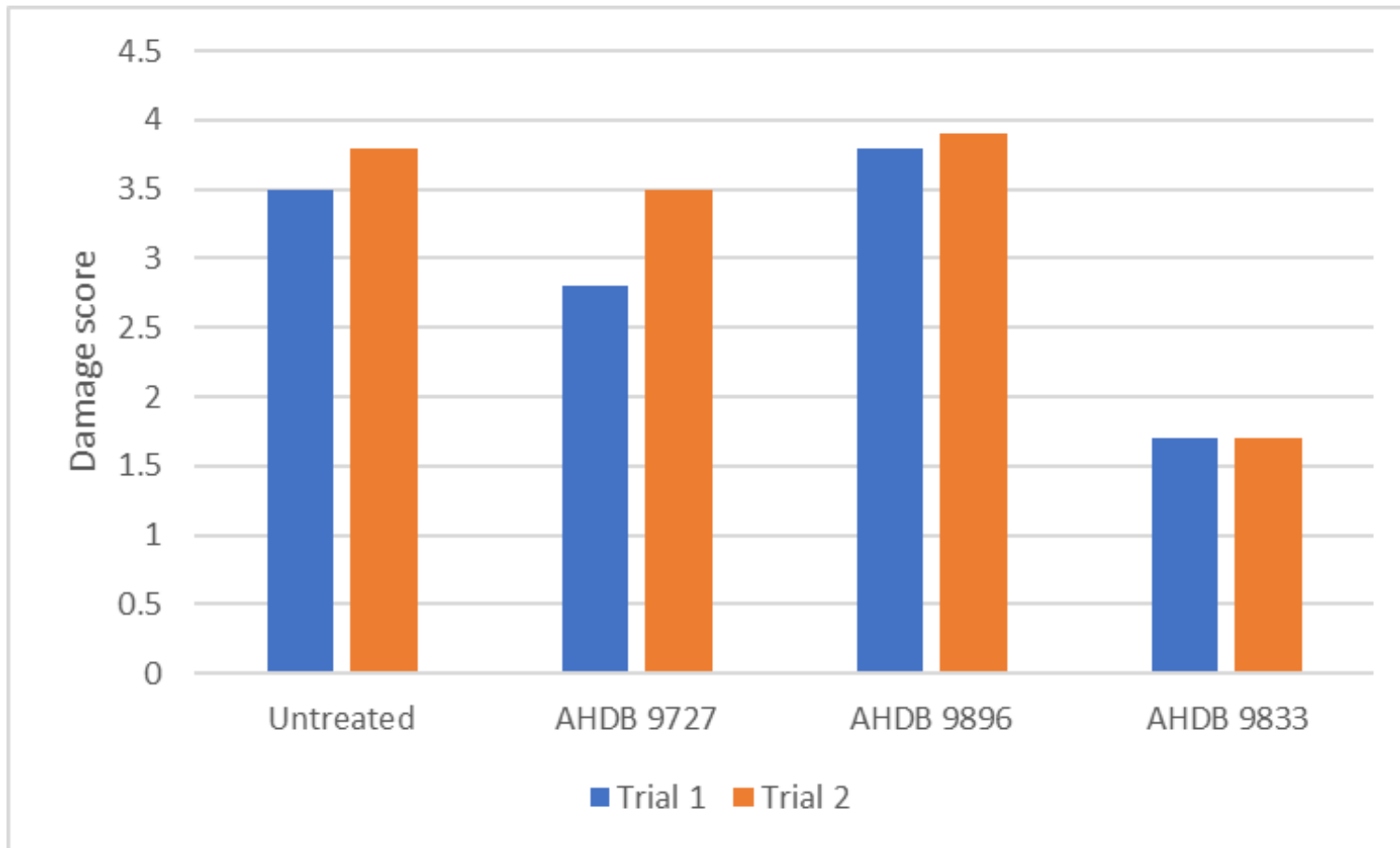
- FP7 pots (10 per treatment x 2 repeats) filled up to 3cm from the top with M2 compost and one French bean seed (cv Jameson) sown in each pot.
- Pre-weighed granule samples added to the pots in a band across the seed and the pot was topped up with a further 2 cm of compost.
- Pots inoculated with 20 bean seed fly eggs from the Warwick culture.
- Pots randomized, caged, watered and maintained at 20°C (16:8 hours, light:dark) for two weeks.
- Pots removed and seedlings scored for damage (0 = no damage, 1 = damage to leaves only, 2 = Bald head, 3 = no leaves and 4 = dead).
- Seedlings dissected to find larvae. Compost mixed with cold water to allow pupae to float to surface. Larvae and pupae counted.

Product	Rate (kg product/ha)	g product/pot
AHDB 9727	16	0.066
AHDB 9896	20	0.080
AHDB 9833	15	0.060

Plus untreated control!

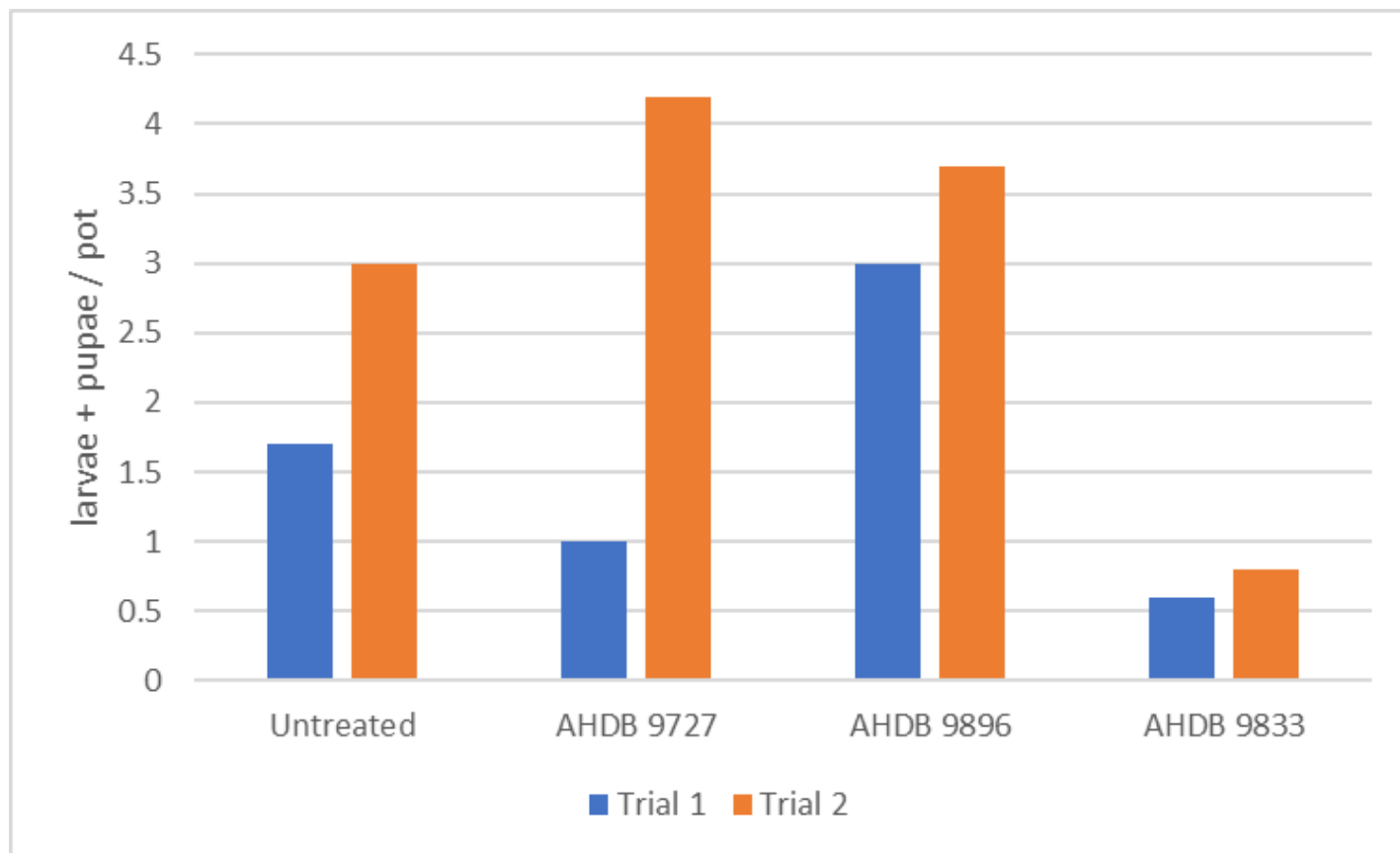


Mean bean seed fly damage score for French bean plants in pot trials at Warwick Crop Centre.



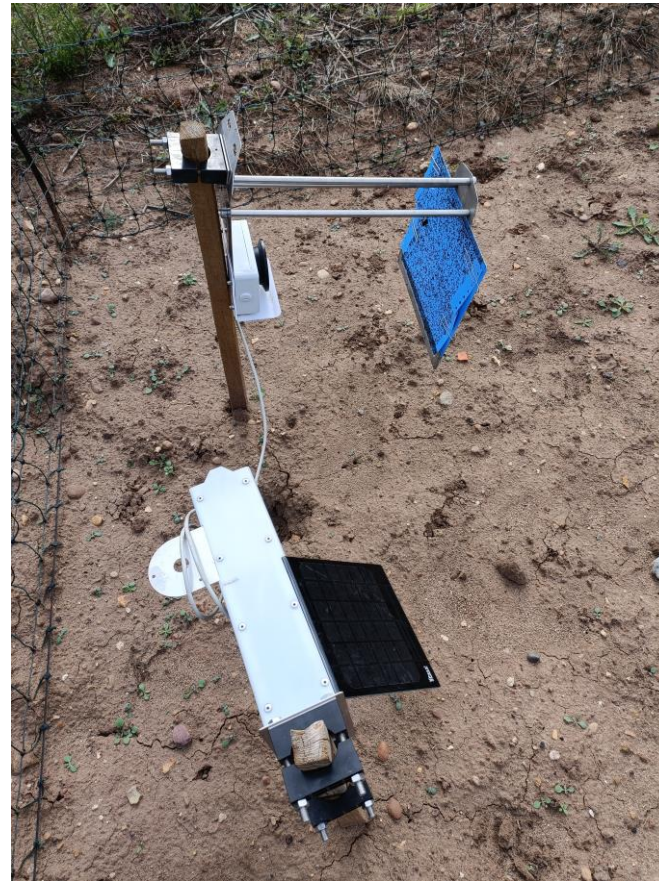
- Although ineffective in field trials, AHDB 9833 worked quite well in pot trials despite the high insect pressure applied (20 eggs per pot/seed).
- Might be due to the careful and precise positioning of the granules but may be other factors such as temperature and the relative response of the growing seed versus the growing and feeding larvae.

Mean number of larvae plus pupae per pot



- Difference between the two pot trials in the numbers of insects recovered - done in the same controlled environment room, two weeks apart.
- May suggest that small differences in conditions could lead to large differences in insect survival, with or without chemical treatment.

SMART traps

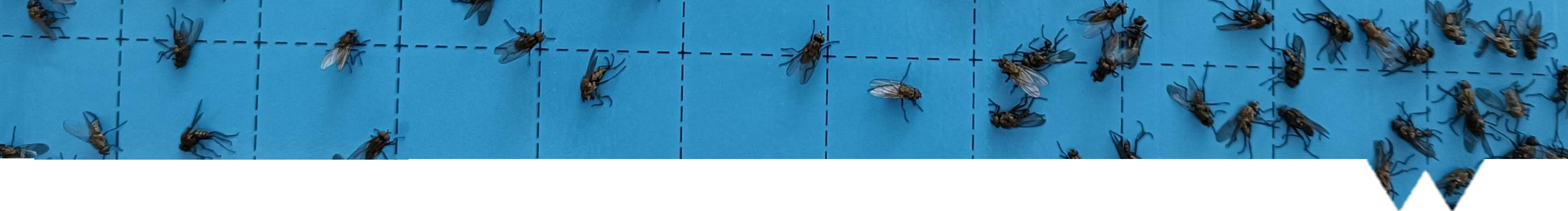


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Conclusions

- Field trials - none of the treatments managed to deal with a large infestation of bean seed fly.
- Lab trial – showed some treatment differences. More to think about...
- Can monitor bean seed flies remotely – SMART traps. Need to manage traps – replace stickies regularly. More to think about...



Thank you:

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- Team at Wellesbourne

