

FIELD LAB: LEATHERJACKET CONTROL

Field lab report: spring treatments

This field lab started in 2016 in Wigtownshire to find out the best way to control leatherjackets without the use of Dursban. The field lab is currently focusing on:

- Alternative sprays based on plant extracts
- Considering the leatherjacket's lifecycle as part of a control strategy
- Minimising damage to grass and crops

The story so far...

Dursban, a spray used to control leatherjackets, was banned in spring 2016, and no chemical alternative is currently available. We set up a field lab on a farm in Wigtownshire, in the southwest of Scotland, in November 2016, to measure the effectiveness of a potential alternative: *Rigel-G* garlic spray. We were surprised to find that it was very effective. We thought that this was because it was sprayed at the right time (November) when the leatherjackets are very small and vulnerable. Will it work in the spring when the leatherjackets are bigger?

Spring spraying

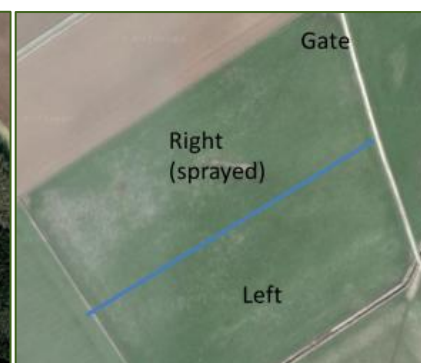
Three new field lab sites were set up in the north-east of Scotland, with farmers who were concerned they had a leatherjacket problem. Each was split in two: with one half sprayed, and the other unsprayed. The sites were sampled before and after spraying.



Site 1: Drum Farm, Keith



Site 2: Mains of Haddo, Tarves



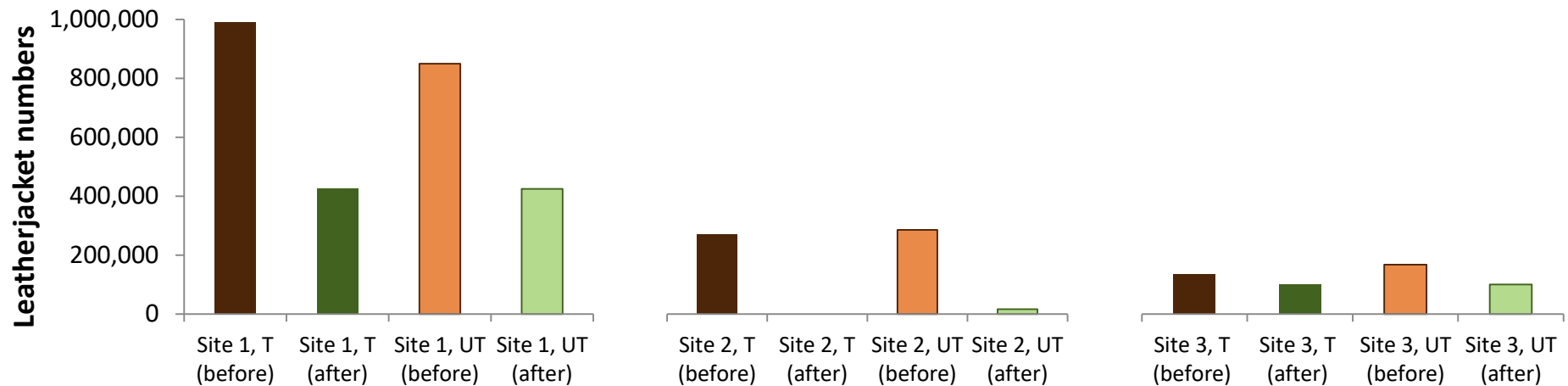
Site 3: Ladywell Farm, Insch

What happened?

The spray didn't seem to have any effect on leatherjacket numbers. The numbers did go down, but this happened in both parts of the field: sprayed and unsprayed (see results on the next page).

Two of the fields were ploughed (at sites 2 and 3), and this cultivation would have contributed to a reduction in numbers. Interestingly, all fields sampled were below the Dursban spray threshold, and so it would have been uneconomical to spray anyway. This demonstrates the importance of monitoring.

Results: leatherjacket numbers before and after garlic spray treatment



Key: T = treated; UT = untreated

What does this mean?

Our results so far indicate that the garlic spray does control leatherjackets, but only when they're at their most vulnerable – immediately after egg hatch in late autumn. If you wait until spring to spray (the usual time Dursban was used) then it probably won't work. We only had one site for the first November spray, so we could do with more results, to be more sure that the spray does actually work.

Next Steps

All sites will be treated again in November 2017, along with some new sites in South West Scotland. The garlic spray (kindly supplied to the trial by *Orion FT*) is currently quite expensive, and although we are hopeful larger-scale quantities might reduce costs we don't know yet how much the price can come down by, so we will also look at other things that can be done to control leatherjackets. This includes cultural controls (ploughing, rolling, etc.); timings of cultivations; tight grazing; and things that can be done to interrupt the life cycle. The [leatherjacket lifecycle field lab note](#) provides more detail about the whole of the leatherjacket's life cycle. If you want to be part of this field lab then get in touch with dmichie@soilassociation.org.

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