



New ADAS trials show crimping kills black-grass seeds

New trials undertaken by ADAS have shown that preserving cereals with Crimpsafe 300 kills 100% of the black-grass seeds ensiled with the crop.

Black-grass is one of the most serious weed problems faced by UK cereal growers and efforts to reduce its incidence have started to focus on non-chemical control. As the grass weed has gained increasing resistance to herbicides, attention has gradually turned to management practices, ranging from strategic ploughing and delayed autumn drilling, to opting for spring- instead of autumn-sown cereals.

Now, a new trial carried out by ADAS has shown that crimping cereals achieves a 100% kill of any black-grass seeds harvested and ensiled with the crop (*see table overleaf*). This decreases black-grass seed return to the soil and renders the harvested black-grass seed completely unviable for future germination. It therefore opens the way for changes in management practices which could help farmers cut the burden of black-grass on their farms.

Furthermore, farmers have every reason to feel completely confident about bringing crimped grain on to their own farms for use as livestock feed. They can now do so in the knowledge that any black-grass seeds it may contain will not germinate on their property.

This is likely to encourage farm-to-farm trading which offers significant financial benefits to farmers, whether buying or selling.

Dr Laura Davies, ADAS weed researcher, who carried out the trial said the practices involved with crimping looked very promising as a means of reducing the black-grass burden on a farm.

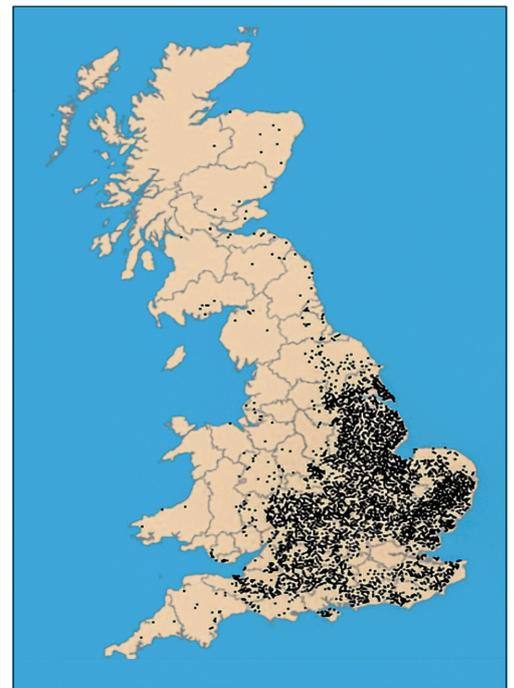
Her trials also showed that black-grass seeds collected at the time of harvesting for crimp (in the second half of June) had lower germination rates (18.6%) than those harvested with a conventional, dry cereal crop in the second half of July (42%).

The early harvest associated with the crimping process also increased the amount of black-grass seed removed from the field, compared to conventional harvest timing.

She said the opportunities of harvesting barley early for crimp should be further investigated, including its long-term impact on reducing the build-up of weed seeds in the soil.

“Many people are not aware that cereals for crimping can be harvested at least three weeks before conventional harvest,” she said. “We would like to investigate the impact of early harvest on reducing the weed seed bank and emergence of black-grass in subsequent crops.

“We are encouraged that this trial demonstrated that the crimping process itself will kill black-grass seed, making it unviable. This suggests that early harvest and crimping could be an effective part of a multifactorial approach to black-grass control.”



The spread of black-grass in the UK, shown by farms which have taken preventative measures.

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Germination of black-grass seed collected at crimped grain harvest, at black-grass seed shedding, and seed stored in crimped grain for one month.

Treatment	Black-grass seed collection times	% Germination (average across three replicates)
Field collection at time of crimping	June 2017	18.6
One month crimped	June 2017 (+1 month crimped)	0
Mature seed	July 2017	42

Buying in crimp is a safe option

Independent nutritionist, Stephen Caldwell (*pictured*), has been a long-term advocate of crimped grain and has encouraged many of his dairy farmer clients to include it in their rations.

He says it is safer for the rumen than dry, rolled cereals or a compound feed, and can be fed in higher quantities.

“My job is to look for the best nutritional option for my clients at an affordable price,” he says. “Crimped cereals win on several counts for me as the cows perform well on it because it is so rumen-friendly, without any negative action on rumen function and intakes; it’s very straightforward, usually coming straight from another farm in one journey; and because of this, it’s both cost-effective and good for the environment.

“Dairy producers are paid for milk solids but milk quality won’t be high if you don’t have good rumen function, so for me, that’s the number one reason for using crimp.

“When forage intakes are consistent, you can certainly feed a high-yielding dairy cow 6-8kg/cow/day of crimp without worrying, but you could not do that with dry cereals.”

As a grassland advisor too (his company is SC Nutrition (UK) & Grass Science), Stephen is acutely aware of the menace of black-grass.

“I’ve never heard of livestock producers encountering black-grass by buying in crimp and these trials may explain why. If the trials have proved that crimping kills the seed, then that’s an added bonus. I certainly would not want black-grass coming into my grass swards,” he says.



Black-grass facts

- Initially predominantly in East Anglia but black-grass has spread north and west.
- The ninth most common weed in 1989, by 2009 it was number one.
- Around half of the UK’s wheat production area is affected.
- 80% of black-grass populations show resistance to one or more herbicide.
- Non-herbicide control can include changing cultivations, drilling, competitive crops and preventing seed return.
- Crimping has now been shown to completely destroy black-grass seed viability.

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