

Regional Technology Centres show promising OSR results

Colin Button (Hutchinsons Seeds Manager) reviews the encouraging harvest results of oilseed rape varieties grown in Hutchinsons RTC trials sites across the country this year.

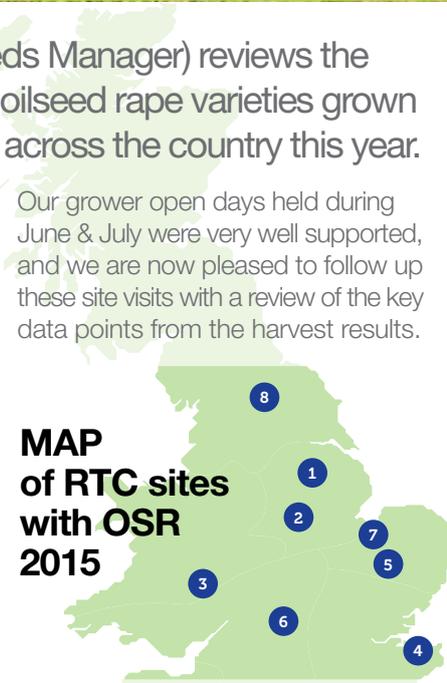
Hutchinsons organise comprehensive trials in a range of locations around the country to provide growers with valuable insights into the performance of leading varieties in familiar growing conditions. Our technology centres also provide the opportunity to independently trial new products and techniques, in both nutrition and fungicide management.

National Trials give Local Data

This season there were eight technology centres (see map right), growing on average thirty winter oilseed rape commercial and candidate varieties from the AHDB Recommended List. This provided the opportunity to compare varietal performance and, through separate trials, the chance to review innovative strategies in crop nutrition and differing fungicide programmes.

Our grower open days held during June & July were very well supported, and we are now pleased to follow up these site visits with a review of the key data points from the harvest results.

MAP of RTC sites with OSR 2015

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1. Warden Farming, Grayingham
 2. Little Ponton
 3. Ludlow
 4. Adisham
 5. Badwell Ash
 6. Great Tew
 7. Stow Bridge
 8. Morton-on-Swale

Trends for the 2015 Crop

In general this year - and right across the country - yields from commercial crops are encouragingly good, with some exceptional crops delivering

HUTCHINSONS

Winter Technical Farmer Conference 2015 "More science – more yield"

>> ADVANCE NOTICE <<

A date for your diary – morning conference sessions, concluding with lunch: **Thursday 19th November** – East of England Showground, Peterborough PE2 6XE

Sessions presented during our conference will feature:-

- Managing soils to deliver higher yielding crops
- Converting solar energy into cereal profits
- Predictable water in unpredictable weather
- The 'Yield Enhancement Network' and how participating growers are achieving breakthroughs in crop yield plateaus.

The above topics will be presented by leading industry experts and our conference speakers will include:-

Prof Achim Dobermann (Rothamsted Research)
Dick Neale (Hutchinsons Technical Manager)
Prof Roger Sylvester-Bradley (ADAS)
Dr David Ellerton (Hutchinsons Technical Development Director)
Prof Tim Osborn (UEA)
Andy Brown (Anglian Water)
Dr Bob Bulmer (Hutchinsons Trials & Research Manager)

Refreshments and lunch will be provided for all delegates. Please note this provisional agenda is subject to change and full details will be confirmed in our next Fieldwise issue.

Booking your places: Spaces will be limited, but growers can book places at these events with a pre-paid reply card published in next month's Fieldwise newsletter, or online at www.hhltd.co.uk

Cereals

Autumn Weed Control Strategies

After a very dry September, reasonable weather last autumn offered good pre emergence spraying opportunities in many winter cereals. Dr David Ellerton (Hutchinsons Technical Development Director) reviews some of the lessons learned from last season and offers guidance on weed control strategies to adopt this autumn.

Weather effects

Despite warm and dry conditions in many fields during the black grass maturation period in June and July last summer, average black grass dormancy levels as tested by ADAS were found to be quite high, although there was a very large variation between samples (Figure 1).

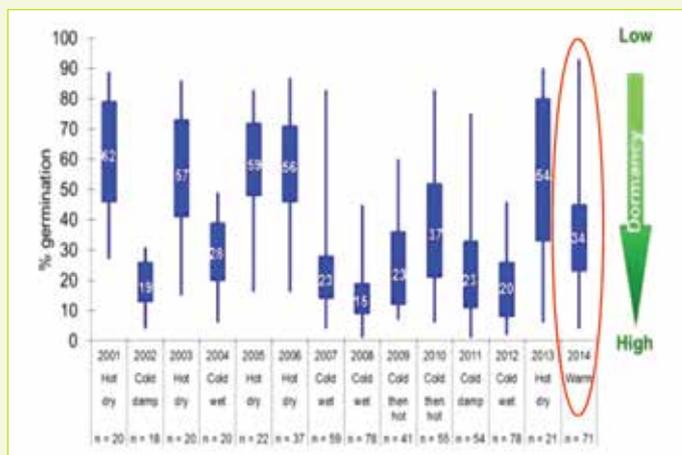


Figure 1: Black grass dormancy levels 2001-14 (source: ADAS)

However the extremely dry weather in September (Figure 2) meant that lack of seedbed moisture delayed weed germination anyway, in most fields, until rains came in October.

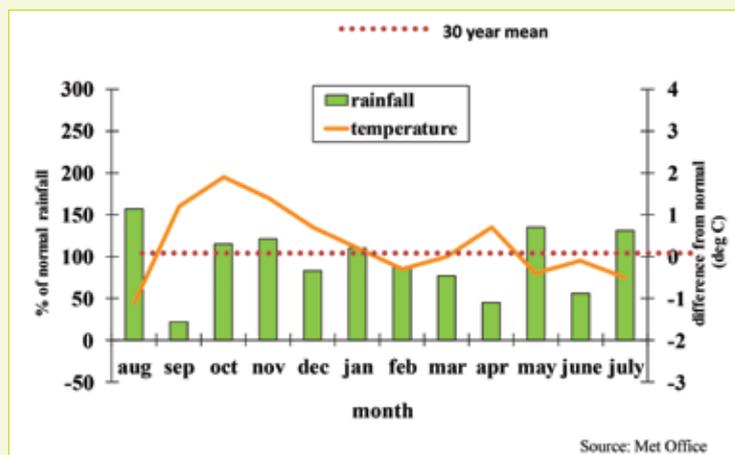


Figure 2: Weather pattern for England, 2014/15

Many growers who managed to retain soil moisture by utilising combinations of shallow cultivations plus rolling and then delayed drilling in the worst black grass fields until mid to late October, managed to spray off initial weed flushes with glyphosate prior to drilling, leading to significantly reduced weed populations.

Where pre emergence herbicides were applied, particularly once rainfall occurred in October, ideal soil moisture levels ensured residual weed control was very successful in most cases; although in some situations efficacy was disappointing, particularly when applied early in very dry conditions.

Results from many trials in the more difficult situations showed the benefit of stacking different active ingredients on top of a base flufenacet treatment, although the optimum choice of ingredient varied considerably from field to field (Figure 3 opposite).

Promote weed germination

To date, relatively wet weather across much of the UK during July and August has resulted in moist soil conditions, ideal for weed germination.

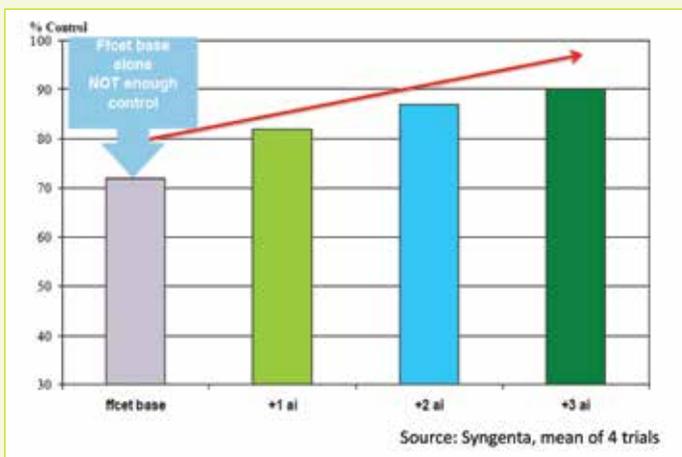


Figure 3: Impact of herbicide stacking on Black grass control

Growers should ensure that they create seedbed conditions that maintain this moisture, promote weed germination and enable them to utilise glyphosate to reduce overall weed levels, not just black grass, before drilling. On the worst black grass fields, delaying drilling will optimise this opportunity.

The crucial “last part of the jigsaw” to achieving successful weed control is the choice of a suitable herbicide programme.

Selecting a Pre emergence combination

In most cases, programmes should begin with a pre emergence application using a combination of active ingredients. The mix should include flufenacet as the base ingredient, plus additional pendimethalin, diflufenican, picolinafen, flurtamone, prosulfocarb, triallate, flumioxazine or flupyrsulfuron (depending upon the field’s grass weed population).

Pre emergence grass weed control is particularly important in winter barley, where there are few options available for post emergence application. Even fewer options are available for pre and post emergence weed control in winter oats and growers are likely to have to take advantage of EAMUs (formerly SOLAs), albeit at the grower’s risk.

The choice of herbicide combinations should take in to account field-by-field knowledge of previous performance of products on grass weeds or, ideally, on the results of resistance tests. Broad leaved weed spectrum should also be carefully considered in matching products to individual fields. Strategies for control of black grass, ryegrass and bromes are broadly similar and all of the above active ingredients offer good control of annual meadow grass, albeit at reduced dose rates.

On a positive note for annual meadow grass, chlorotoluron has returned to the market – at a significantly reduced dose - in combination with diflufenican and pendimethalin. Varietal restrictions still apply, so it is essential to check tolerance before making any application. At present this product is only cleared post emergence of the crop from the 1 to 3 leaf stage up until the end of October, although it is likely that the product will soon get clearance for use from pre emergence up to the end of February.

Whichever combination of active ingredients are chosen, it is vital that the first application is made pre emergence rather than delaying to post emergence of the crop.

Trials have shown reductions in grass weed control of over 20% in some cases from a delay of only a few days.

When pre emergence applications are planned, growers should remember the importance of sowing at the correct depth to avoid crop damage. Drill-depth restrictions will vary between products but seed which is covered by 33mm of settled soil should be suitably protected for most products.

Herbicide Stacking

As a general principle, the more serious the grass weed infestation the higher the herbicide dose required and the greater the number of active ingredients that should be applied - a technique known as ‘stacking’.

This is particularly important when there is known resistance to post emergence ALS inhibiting active ingredients, such as iodosulfuron, mesosulfuron or pyoxsulam. Where post emergence applications of ALS products with grass weed activity are necessary, they should be made once the majority of grass weeds are at 1 to 3 leaves and weather/climatic conditions are suitable for active growth. It is also important to include a residual component to extend the length of control.

Applications made in the autumn are usually more consistent than those made in the spring (when target weeds are also larger and enhanced metabolism resistance is more of an issue). In addition, delaying until the spring usually results in lower yields, due to an extended period of weed competition prior to application.

Nevertheless, timing trials with contact herbicides show very clearly that seedbed moisture, as well as temperature and weed size, is critical to achieve optimum control, so applications should only be made where conditions are appropriate.

Accurate spray application

Delivering the product to the target via the sprayer is as important as choosing the right products to use. When the target is the soil, then spray quality is less critical and provided good and even coverage is achieved, a satisfactory result should follow. When the target is an emerged weed (grass or broadleaved), then in addition to ensuring active weed growth and dry leaves at application, attention should also be paid to:-

- Suitable forward speed (for good boom stability)
- Spray quality (fine-medium)
- Boom height (suitable to the type of nozzle being used e.g. 110°FF should run at 50cm above the target).

All of the above details can play a major part in determining optimum efficacy of autumn contact herbicides.

Autumn weed control in cereals is a vital part of optimising yields by minimizing weed competition. The correct choice of product, dose and timing are essential elements in successful weed control programmes. **Your local Hutchinsons agronomist will be able to guide you as to the ideal product combinations on your farm this autumn.**

Effective Slug Control Strategies

Dr David Ellerton (Hutchinsons Technical Development Director) looks at the most effective strategies for slug control this autumn and considers the best approaches to help protect water courses this coming season.

Yet again, last autumn was extremely mild and, although September was very dry, heavier than average rainfall in October led to slug problems in many crops. Recent wet weather this summer means growers need to be vigilant in monitoring crops for damage this coming autumn, to ensure crops are protected during early stages of growth.

Once more, use of metaldehyde-based slug pellets last autumn led to exceedances of the Drinking Water Directive limit of 0.1 ppb in many areas, in some cases the highest level recorded in the catchment. This has highlighted the need for close adherence to industry stewardship guidelines on metaldehyde use, made even more important by the recent revocation of methiocarb based pellets.

Although the overall threat from slugs is potentially high, field monitoring and judging the risk of slug damage on a field by field basis remains critical to avoid unnecessary pellet applications, whilst still protecting crops from slug attack.

Monitoring with traps & baits

Ideally, bait trapping for potential slug problems in oilseed rape should commence in the previous crop and also in stubbles for cereals. The thresholds for oilseed rape are four or more slugs per trap in the previous crop and one slug per trap in the previous stubble.

The cereal threshold is four or more slugs per trap. Trapping is only an effective means of monitoring slug activity when the soil surface is moist and slugs are active.

A risk assessment, including the current and previous crops, field history, soil type, seedbed quality, weather conditions and planting date, can be used in conjunction with trapping to judge the need for chemical control. An additional tool to identify high risk situations for water contamination from a range of active ingredients including metaldehyde is being trialled this autumn. This is the 'WaterAware' App which has been developed by Adama and is available to download onto Apple or Android smart phones and tablets (Figure 1).

This helps growers to identify the potential risk of water contamination from chemical applications and should be used to help avoid peaks appearing in water from metaldehyde and a range of oilseed rape herbicides.

Crops are most vulnerable to slug damage in the first four weeks of growth - the cut off point for monitoring cereals is the start of tillering and for oilseed rape the four leaf stage.

Effective treatment

Slug pellets will continue to be the most important means of controlling slugs this autumn, ideally aiming for a minimum of about 40 pellets per square metre, but other measures including seedbed cultivations

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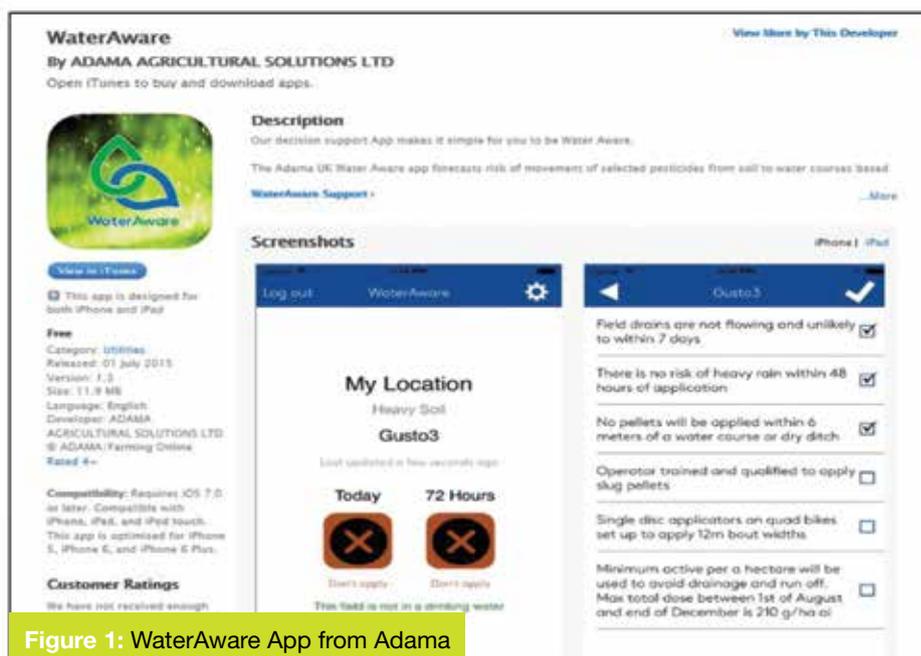


Figure 1: WaterAware App from Adama

>>> with adequate consolidation, seed dressings and depth of drilling can have a significant impact. With the demise of methiocarb there are now only two active ingredients available for slug control - metaldehyde and ferric phosphate. However for those growers who still have stocks of methiocarb based slug pellets, it is important to remember that they must be used by 19th September, 2015.

For many years, metaldehyde has been the main active ingredient that farmers choose to use for slug control. Nevertheless it needs to be managed carefully to avoid problems with drinking water contamination, as experienced last autumn and winter. An industry led initiative coordinated by the Metaldehyde Stewardship Group (MSG) has established clear guidelines (see table 1.) for operators to follow – the aim being to avoid this product being restricted or possibly withdrawn from use completely.

Metaldehyde has four routes by which it can enter water:

- **Direct** – e.g. inadvertently spreading pellets into watercourses
- **Point source** – e.g. spills on hard surfaces which eventually get into drains
- **Surface run off** from fields following heavy periods of rain
- **Water moving through the soil** that carries metaldehyde with it into the field drainage system.

Avoiding water contamination

Scientific studies have highlighted field drainage as the main route by which metaldehyde reaches water courses. Moisture moving down the soil profile will take metaldehyde down into the drainage system and from there into ditches and streams. In order to limit water contamination, the annual maximum metaldehyde dose for the calendar year has been set at 700g of active ingredient per hectare and a maximum total dose of 210g ai/ha between 1st August and 31st December, the period when there is the greatest risk of metaldehyde peaks occurring.

Table 1: Metaldehyde Stewardship Group (MSG) best practice application guidelines

- Use minimum active per hectare to avoid drainage and run-off losses
- Maximum application rate 210g metaldehyde/ha*
- Maximum total dose from 1st August to 31st December: 210g metaldehyde/ha* for additional protection of water, suppliers/ BASIS advisors may recommend rates reduced to 160g a.s./ha or less*
- Maximum total dose rate: 700g metaldehyde/ha/calendar year*
- No pellets to be applied within 6 metres of a watercourse
- Do not apply when heavy rain is forecast
- If drains are flowing do not apply metaldehyde based slug pellets

**from any combination of metaldehyde products*

Currently the MSG and a number of water companies have set up metaldehyde pilot catchments in which high risk fields have been identified. Farmers with these fields are being requested to refrain from applying metaldehyde in order to protect water and levels in nearby water sources will be monitored to assess the impact of these measures. There have been encouraging results to date, although the success or otherwise is largely dependent on the involvement of farmers in the catchment.

In the meantime, more needs to be done to ensure there is no repeat of metaldehyde peaks appearing in water this autumn. Clearly minimising the amount of active ingredient applied to fields will make a significant difference. Selection of high quality pellets to reduce breakdown and minimise dust during application may also help. Yet one of the key methods would be switching to other products with different modes of action, where there is a high risk to water.

Alternative product – Ferric phosphate

The only other viable alternative for broad acre crops now is ferric phosphate which was launched in the arable market in 2009, the first new molluscicide for 30 years.

Its key benefits are that it is as effective as metaldehyde, but is very specific to target only slugs and snails and so presents no threat to wildlife. It is also virtually insoluble in water and therefore may be used in situations at high risk of metaldehyde entering water, such as:

- Vulnerable water catchment areas
- Catchment sensitive farming areas
- Headland treatments adjacent to watercourses (where other pellets may not be used)
- Poorly drained heavy soils.

It is important to remember that, unlike metaldehyde, slugs which ingest ferric phosphate do not die on the surface of the soil where they can easily be found, but will crawl under the soil to die underground. However, they will rapidly stop feeding and so the crop will quickly recover following treatment.

Preserving active ingredients

In summary if growers adopt sustainable slug control policies of:

- only applying high quality slug pellets where risk of slug damage is high
- abiding by the MSG guidelines
- switching into an alternative mode of action in situations where there is a risk of metaldehyde entering water

then it should be possible to preserve the remaining molluscicide active ingredients in the market place.

It is crucial that the agricultural industry joins together in adopting best practice strategies to minimise the risk of metaldehyde reaching water courses and so maintain this vital active ingredient in the battle against slugs.

Please discuss optimum slug control strategies with your Hutchinsons agronomist to protect both the crop and water sources.

For more information on any of our products or services please contact your local Hutchinsons agronomist or contact us at:

HUTCHINSONS

H L Hutchinson Limited • Weasenham Lane
Wisbech • Cambridgeshire PE13 2RN

Tel: 01945 461177

Fax: 01945 474837
Email: information@hlh ltd.co.uk

www.hlh ltd.co.uk