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Technical Update
Aug '21

HARVEST POINTERS

Attention will be focused on harvest, but consideration must be given to new season crop husbandry to ensure optimum crop establishment and aid weed control.



A blast of heat in mid-July helped advance the start of harvest this year, although the associated thunderstorms and heavy downpours in some areas will have hindered and delayed progress. As ever, as soon as fields are cleared the rush to prepare the soil for the next crop begins. Cultivation strategy will be dictated by individual farm systems and/or requirements to manage soil structure, but also by the predominant weed issues in the individual field.

After oilseed rape, some consideration needs to be given to reducing the potential carryover of volunteer plants later in the rotation. Volunteer oilseed rape has been identified as a key source of contamination for increased erucic acid in harvested seed. At harvest an average of 5000 seeds/m² may be lost. Moving the shed seed into dry soil provides the ideal conditions for dormancy, i.e. darkness and water stress. Approximately 5% of dormant seeds will remain viable for between 3 and 15 years. Cultivations should be delayed for 4 weeks after harvest, especially when the soil is dry. Where the soil is moist, shallow cultivations (5cm) will keep the seed where it can germinate easily and be sprayed off prior to drilling to reduce populations.

For many, the primary focus will be on grass weed control and cultivation strategy can have a big influence on reducing

weed numbers. A lot of emphasis is placed on stale seedbeds, particularly for blackgrass control. These are not always successful for encouraging blackgrass to germinate, especially if soils are dry. In moist soils a shallow cultivation immediately after harvest followed by rolling for consolidation and good seed/soil contact will encourage rapid black-grass emergence. However, dormancy of the current year's seed can impact on the speed of the 'flush'.

In dry conditions it is better to leave stubble untouched. Dews can wet the soil surface and access shed seed after harvest, encouraging germination. Seed left on the surface is also more likely to be desiccated and eaten by birds or insects. Burying the seed prevents this and gives the opportunity for a later 'flush' as soils are wetted again. Experience with multiple stale seedbeds does not show any great improvement in control over a single 'event'.

Sterile and great brome need darkness to germinate and a cultivation soon after harvest to cover seed with soil will aid rapid emergence, although a layer of chopped straw can also suffice. Meadow, Soft and Rye bromes become dormant if covered by soil or straw. These seeds need to be left on the soil surface for at least a month to complete ripening and breaking of dormancy. However, where a mixture of species occur, ploughing is likely to be overall more effective than shallow-till cultivations.

Ryegrass tends to germinate over a longer period than blackgrass. For that reason alone, stale seedbeds will tend to be less effective, although they will be likely to remove some early flushes of weeds.

Wild oat seed is viable around 10 days after fertilisation and is shed from the ear over a protracted period. Seed dormancy varies with population and position of the seed on the plant. Leaving soil untouched allows predation and mortality to occur, with seed losses as high as 85%. Burying seed can increase levels of dormancy and persistence in the soil. As with all stale seedbeds, cultivation with rolling is necessary to encourage significant seed germination.

OILSEED RAPE

CROP ESTABLISHMENT



Generally better establishment last autumn in conditions that favoured oilseed rape growth and reduced Cabbage Stem Flea Beetle (CSFB) activity, combined with much improved price prospects, may give more confidence to encourage an expansion in oilseed rape area this autumn. However, the key to success is still getting the crop away and into a condition to tolerate and minimise the threat from CSFB et al.

Drill Date: Drilling early increases the ability of the crop to tolerate the grazing damage from the adult CSFB. The plants will simply be bigger when the beetles return from their aestivation or 'summer rest', typically in late August/early September. The downside is that early drilling results in higher larval populations which can impact on crops through into the early spring. Later drilling may reduce the larval threat, although AHDB work showed that larval numbers only reduced significantly in crops drilled into mid-late September. Whatever the drill date, the key to successful oilseed rape establishment is to only sow when there is sufficient soil moisture. Minimising soil disturbance to conserve moisture and ensuring good seed to soil contact are critical factors to getting the crop away quickly.

Seed Rates: Trials looking at seed rates showed no difference in larvae per plant in crops planted from 40 - 120 seeds/m². Yields also were similar across the range of seed rates tested. On balance there is little evidence for increasing seed rates on conventional varieties much over the 'standard' 40 seeds/m². Selecting varieties with good autumn vigour is another factor in achieving good establishment and investing in hybrid varieties can make a significant contribution here.

Cultural Control: Various cultural control techniques have been tried and tested over recent years with varying degrees of success. Chief amongst these were drilling into long stubbles and the use of companion crops. These reduced the attractiveness of the crop at emergence and sheltered it from the attentions of the adult CSFB.

Crop Nutrition: Ensure that base nutrients and soil p.H. are all at adequate levels to avoid any restriction to growth. Early post-drilling N will help early growth; up to 30 kg/ha is allowed to be applied to oilseed rape in the autumn under NVZ rules. Post crop-emergence foliar application of nutrients and growth promoters e.g. Universal Bio, Canola Bio and Incite maintain and support on-going rapid growth and leaf emergence.

CROP NUTRITION

FARMING RULES FOR WATER

Farming rules for water: are you on the right track?

The immediately required guidance on Rule 1 of Farming Rules for Water, for organic materials planned for spreading this autumn should be announced by the Environment Agency on 2nd August.

Rule 1 aims to ensure that 'all reasonable precautions' are taken to prevent diffuse pollution following the application of organic manures and manufactured fertilisers. To comply with Rule 1 all nutrient applications have to be planned to ensure they are applied in quantities that are sufficient to meet, and not exceed, the crop and soil requirements.

In essence, this restricts autumn application of organic manures containing readily available N (RAN) to crops that have an autumn N requirement e.g. oilseeds and grass.

The lack of an autumn window for applications of all livestock manures, biosolids, digestate and other organic materials which contain RAN is likely to have a significant impact on manure and nutrient management on all farms, as in many circumstances it will not be practical to apply manure in spring. An assessment of the impact of the Farming Rules for Water has been published by AHDB and is available at: <https://ahdb.org.uk/an-assessment-of-the-impact-of-farming-rules-for-water>

This issue is likely to be an evolving situation and will require further work in this area to support farmers and advisers.

FOOD & HEALTH

INDEPENDENT REVIEW

National Food Strategy
Independent Review

The much anticipated National Food Strategy was published on 15th July. It sets out a strategy to address obesity, health outcomes, food system resilience, the environment, net zero and costs.

The report is extremely detailed and has 14 recommendations, some of which may have direct impact on farming; not least a recommendation to guarantee the budget for ELM payments to 2029. The full details can be found at: <https://www.nationalfoodstrategy.org/>

The report is not binding, but the Government has committed to respond with a white paper within 6 months. However, there are many other current issues that will also challenge and influence Government food and farming policy and impact on how the strategy may be implemented.