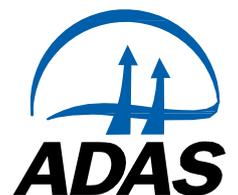




# Arable Crop Report

30 May 2019



## EXECUTIVE SUMMARY

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The weather in the period April to May 2019 was predominantly dry, with below average rainfall in April for the majority of the arable areas in the country. Although slightly more showery weather arrived in May. Temperatures were slightly above normal in most regions. Overall weather conditions were favourable for crop growth, although lack of moisture is a concern on light soils and for later spring sown crops on all soil types.

Overall condition of the GB cereal crop is good to excellent, with low weed, pest and disease pressure. All planned herbicide and fungicide applications were made on time with few weather disruptions. There were crops showing signs of water stress on light sandy soils and thin stony soils by the end of the month.

Oilseed rape crops in Southern, Eastern and Midlands regions have been badly affected by cabbage stem flea beetle, with an estimated 10% of the planted area of winter oilseed rape lost over winter. A further 19% of crops are in poor or very poor condition, and are expected to see yield losses. However, in the North and West the condition of the crop is better with a higher proportion of crops considered to be in good to excellent condition.

Black grass remains the key weed of concern across the southern and Eastern parts of England. Where crops were competitive, herbicides for the most part gave moderate control, but with widespread issues of herbicide resistance, control was rarely complete. At the end of May as the black-grass came into flower it was possible to see flower heads above the crop in a good proportion of cereal fields in these regions. Rye grass and wild oats were also key targets for spring herbicide programmes, although prolonged spring emergence of oats increased the challenges of timing herbicide applications.

The key pest impacting crops in April and May was Cabbage Stem Flea Beetle (CSFB), with larvae feeding on oilseed rape plants resulting in plant losses in fields and in some cases complete crop losses. Aphid numbers were starting to rise by the end of the month in both cereals and oilseeds, although treatment thresholds had yet to be met. Wheat crops were entering the growth stage that is vulnerable to Orange Wheat Blossom Midge (OWBM) at the end of the month.

Disease pressure was low across all crops, with low rainfall and dry conditions reducing the risk of septoria spread in wheat and sclerotinia infection in oilseed rape.

The drier than normal spring, and low reserves of water in the soil ahead of the summer are starting to cause concerns. Crops on light soils are already showing signs of water stress and it is expected that without decent levels of rainfall in the next few weeks crops on medium and heavy soils could also start to show water stress symptoms.

## CROP REPORT

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### Weather

The MetOffice rainfall anomaly maps show that in March, rainfall in the East, Midlands, Southern England and much of Scotland, was close to or slightly below average, with only the upland areas of England and Wales seeing above average rainfall. For April the anomaly maps show that parts of the Eastern region and North West Scotland had less than 20% of the monthly average rainfall. Much of the Eastern half of England (extending well into the Midlands) and the Western half of Scotland had less than 50% of the normal rainfall, with Western England, Wales and Eastern Scotland receiving near average rainfall during April. Some slightly more unsettled weather hit in May, with occasional showers and more heavy rain, but rainfall was still below what is typical for most regions. Fields rarely reached soil capacity and as a result access to fields was possible in most locations throughout the spring.

Temperatures in March and April were on average warmer than normal across the whole country, with a similar trend seen in May. However, the clear sunny days experienced by many also meant that there were repeated frosts in April and early May. In mid and late April temperatures reached their height over the Easter weekend and many saw highs of 25°C in the Southern half of England and up to 20°C for Northern areas.

### Crop Condition

Crop condition was assessed using the USDA approach. This classifies crops into one of five categories, from very poor through to excellent (see details below). The values are given as the percentage of the GB crop area for that crop, that fall in each of the categories – regional condition scores are available on the AHDB dashboard that accompanies this report.

#### Crop Condition definitions:

- Very Poor** Extreme degree of loss to yield potential, complete or near crop failure.
- Poor** Heavy degree of loss to yield potential which can be caused by excess soil moisture, drought, disease, etc.
- Fair** Less than normal crop condition. Yield loss is a possibility but the extent is unknown.
- Good** Yield prospects are normal. Moisture levels are adequate and disease, insect damage, and weed pressures are minor.
- Excellent** Yield prospects are above normal. Crops are experiencing little or no stress. Disease, insect damage, and weed pressures are insignificant.

The mild dry weather experienced through the winter and into early spring have favoured cereal crop growth and development. There have been few issues of weed, pest or disease problems, little in the way of winter losses and no issue with fertiliser applications. As a result where winter crops had established well in the autumn they remain in good condition in the spring. At the end of May an estimated 83% of wheat was in good to excellent condition, with a further 13% in fair condition. Winter barley crops are all doing well with 89% judged to be in good to excellent condition, with the remainder considered to be fair. Oats (winter and spring varieties) have 82% of the crop judged to be good to excellent, with a further 13% in fair condition. Spring barley 75% of the area is judged to be in good to

excellent condition, with 21% in fair condition (reflecting some challenges with establishment in dry conditions for later sown crops). Across the cereals there are about 1-4% of crops that are in poor condition, this reflects crops on lighter sandy soils, or thin stony soils that are showing water stress symptoms as a result of the dry conditions this spring.

**Table 1 – Average crop condition – GB crops**

	Very Poor	Poor	Fair	Good	Excellent	Total
<b>1: Winter Wheat</b>	1%	4%	13%	60%	23%	100%
<b>2: Spring Wheat</b>	0%	2%	6%	60%	32%	100%
<b>3: Winter Barley</b>	0%	1%	11%	70%	19%	100%
<b>4: Spring Barley</b>	0%	3%	21%	50%	25%	100%
<b>5: Oats</b>	0%	4%	13%	65%	17%	100%
<b>6: WOSR</b>	5%	14%	32%	39%	11%	100%
<b>7: SOSR</b>	9%	12%	35%	42%	1%	100%

It is the oilseed rape crop that has seen the biggest challenges this season. This is particularly evident in Southern England, the Eastern region, East Midlands and Yorkshire where between 15-30% of crops were in poor condition at the end of May and 3-20% were in very poor condition. At the GB level 14% of the national area is estimated to be in poor condition, 5% in very poor condition and 32% in fair condition. Winter oilseed rape crops were slow to establish in the autumn due to relatively dry soil conditions. This slow establishment left those crops in areas with flea beetle vulnerable to adult grazing damage and subsequent egg laying. Thin crops were vulnerable to pigeon damage over winter and also suffered further from cabbage stem flea beetle larval damage through the winter and spring.

It is estimated that up to 10% of the original planted area of winter oilseed rape have been lost this season, predominately in Eastern region, South East, South West and East Midlands. Many of the crops lost early in the season were replanted with alternative winter crops, although there were crops that continued to be lost in the spring, in some cases these were replanted with spring oilseed rape or other spring crops, spring barley or spring oats. Where very poor crops remain in the ground it is estimated that yields may be reduced by 20-40% compared to normal for the farm. Many of the crops affected by CSFB larvae had poor pod set and often short pods, in a minority of cases growers have opted to silage the crop rather than take it through to harvest.

## Wheat

### *Crop development*

Good seed bed preparations in September and October meant that crops established well, and winter survival was good. At the end of May the majority of winter wheat had the flag

leaf emerged (GS 39) or had boots swollen (GS 45). Increased use of growth regulators was required at GS 39 in response concerns over increased lodging risk in thick forwards crops.

Water availability in May was reduced on lighter soils and stony areas due to low rainfall and high soil moisture deficits. On these soil types there are already crops showing signs of water stress with leaf rolling and tiller loss.

### Weeds

With the majority of crops now finishing stem extension opportunities for weed control are now complete. Spring herbicide applications provided effect control of most broad-leaved weed species as mild weather provided no barriers for good herbicide timings. Spring graminicides gave reasonable levels of black-grass and ryegrass control.

**Black-grass** – Where crops were thin control of black-grass was poor particularly in the East and South East of England. Many areas are showing variable results with plenty of crops showing black-grass ears above the crop, despite full control programmes being applied. Where populations are high steps need to be taken to minimise seed shed.

**Brome** – Sterile and meadow species of brome were reported in headlands and field edges with many farmers cutting before it seeds.

**Ryegrass** – There were occasional reports of difficulties in controlling ryegrass across the South East and also the South West, with spring applied herbicides providing poor levels of control.

**Broad-leaved weeds** – Later germinating weeds such as fat hen, charlock and cleavers received additional herbicide input at flag leaf fully emerged (GS 39). However, dry conditions meant that post-emergence herbicides were not as effective as they usually are. There were a number of reports of an increase in burr chervil this year but sulfonylureas provided effective control.

### Pests

**Aphids** – The South East and Eastern region are noticing high aphid numbers but are yet to reach a level that would cause significant damage to the crop. Elsewhere aphid numbers remain low. **BYDV** levels are low with symptoms more common on crops that had no autumn insecticide treatment.

**Orange wheat blossom midge** – At the end of May crops were just starting to come into ear, which is the growth stage that is vulnerable to OWBM infestation. Midge emergence is affected by a number of factors including soil condition, temperature and wind speed. Therefore weather conditions the ear emergence period will determine the level of infestation. With limited control options available to farmers there is little that can be done to control the pest.

**Wheat bulb fly** – No significant problems, just isolated occurrences on organic fenland soils.

### Disease

Mild and dry weather conditions through the spring meant that disease pressure remains relatively low. In addition ground conditions were such that there were plenty of opportunities to access fields, with travelling conditions and weather rarely interfering with spray timing. T1 fungicides were applied as planned when crops started stem extension (GS 31-32) and provided good levels of control of septoria and rusts. T2 fungicide applications

were being made in late May (GS 37-39), which will predominantly target any residual septoria.

**Septoria**– Septoria is spread from the lower leaves of the crop to the upper leaves by rain splash, therefore although septoria is apparent on all varieties, it is contained to leaf 4 and is offering little concern. Fungicide applications were made as planned with little interruption, allowing effective control of any disease present.

**Mildew** – Levels remain low this spring with most mildew only appearing at stem level. Specific mildew fungicide input was lower than average this year.

**Rusts** – No major issues found with **brown rust**. Most crops that received early treatments for **yellow rust** remain clean, but susceptible varieties that did not receive a treatment do show some evidence of infection. Overall rusts appear to be largely under control.

### *Spring wheat*

Establishment of spring wheat varieties was a challenge in the dry conditions, with crops on lighter land and those planted in March and April being slow to establish. Early sown crops – February, had sufficient access to moisture and established well.

At the end of May the majority of the spring wheat area was at 3<sup>rd</sup> node detectable (GS 33) at 26% or 2<sup>nd</sup> node detectable (GS 32).

Mildew is the main disease for spring wheat currently but so far has been of little concern.

## Winter Barley

### *Crop development*

Overall good establishment across all regions especially amongst hybrid varieties. The crop has responded well to the mix of dry and wet weather. Growth stages at the end of May ranged from ear emergence (GS55) through to end of flowering (GS70), with the majority of crops in flower.

Despite the mild dry spring many winter barley crops were relatively short at GS39, and therefore many did not receive a late season PRG. However, there are already reports of small areas of lodging where canopies are dense even in cases where late season PGRs were applied.

### *Weeds*

Autumn applied herbicides provides good levels of early grass weed and broad-leaved weed control. There were some spring germinating **broad leaved weeds**, but spring herbicide applications provided effective control. **Black-grass** infestations were suppressed more successfully than in wheat due to the dense canopy of the barley managing to limit surviving black-grass plants ability to tiller. **Ryegrass** and **brome** presented similar challenges, but with no significant effect on yield.

### *Pests*

Similar pest issues to those found in wheat, **aphids** are being spotted but not in abundance. Products such as Deter seed treatments proved an effective control for those that used it. Consensus is that at the end of May **aphid** numbers were not high enough to require

treatment. **BYDV** has only appeared in areas where no autumn insecticide was applied or where timing was incorrect, these instances were not widespread.

### *Disease*

Overall very low levels of disease found. **Brown rust** was an issue in early February through to April and in some cases a T0 fungicide was required to control early infections, but brown rust has not been an issue since. **Mildews** dried up over the spring with little need for fungicide treatment. **Rhynchosporium** was well controlled by T1 fungicide applications in most cases, except in Scotland and susceptible varieties.

## Spring Barley

### *Crop development*

Favourable climate conditions in February gave the opportunity for spring barley to be sown from late January onwards. An estimated 23% of the area was planted in January/February, with 28% planted in March, 39% in April and 10% in May. The early planted crops established well making them robust enough to withstand cool weather in mid-March and early-April. Those who delayed drilling to miss a black-grass flush had lower levels of emergence (due to dry seed beds) with many crops appearing thin.

Spring barley growth stages range from tillering (GS 27) on the early May planted crops, though to ear emergence (GS59) on the earliest planted crops, with the majority of crops at flag leaf emergence (GS39) to boots swollen (GS45).

### *Weeds*

**Black-grass** – Pre-emergence herbicides were applied to control black-grass, although dry conditions at planting limited the effectiveness of these applications with many seeing moderate control at best.

**Wild oats and rye grass** – Where black-grass was sufficiently controlled AxialPro worked well to control wild oats and rye grass on crops, but herbicide timing has proven difficult due to wild oats emerging over a longer period of time.

**Broad-leaved weeds** – Contact herbicide applications were delayed due to dry soil conditions, which meant that earlier emerging weeds had become relatively large so herbicide rates increased to account for this.

### *Pests*

No specific issues with pests have been reported except for rook numbers which are building on farm.

### *Disease*

Disease pressure remained low with April and most of May being so dry. **Rhynchosporium** lesions are few and far between and brown rust has not been an issue. As T2 timing approaches fungicides will be used to top up and protect the canopy rather than eradicate disease.

## Oats

### *Crop development*

The majority of winter oats were sown in October with some sown in late September and the occasional crop sown into November. All crops established well due to favourable conditions in the autumn and winter. At the end of May winter oats ranged in growth stage from flag leaf emerging (GS37) through to ear emergence (GS59) with the occasional forwards crop starting flowering. The majority of crops were at flag leaf emergence. Spring rains brought on rapid growth and in some cases applications of PGRs were required.

Sowing of spring oats started in February with about 25% of the area sown, a further 32% was sown in March, 33% in April and the remainder in May. At the end of May spring oat growth stages ranged from late tillering (GS29) through to boot formation (GS45), with the majority of crops at the early stages of stem elongation (GS 30-32).

### *Weeds*

There are limited options available for pre-emergence and post-emergence herbicides increasing the challenges of weed control compared to other cereals, with increased reliance on later drilling dates and crop competition. Where spring herbicides were used, especially in tank mixes with PGRs there was an increased incidence of crop scorching compared to recent years. Control of **black-grass** and **ryegrass** was poor to moderate due to limited control options. Canopies have been robust enough to out compete most **broad-leaved weeds** and so have not required a late herbicide application.

### *Pests*

No current issues, **aphids** found but have not reached a sufficient level to be a problem.

### *Disease*

Disease level low this year with small amounts of **mildew** found on the base of stems, this has been controlled either by dry conditions or fungicide applications at GS 31/32.

## Winter Oilseed Rape

### *Crop development*

Winter OSR has been a challenge for many growers this year, with poor establishment, cabbage steam flea beetle adults and then larvae feeding on crops and pigeon grazing all combining to result in crop losses and poor crop stands.

The majority of winter oilseed rape crops were at mid to late pod set (GS 5,5-5,9) at the end of May, with backwards crops at early pod set (GS 5,3) and the more forwards crops at seeds full size and green (GS 6,3). Growth stages across fields were often variable as a result of the impact of CSFB larval feeding.

### *Weeds*

Weed control was good with OSR that established well and provided good competition to the weeds. **Black-grass** and **ryegrass** can be seen in large quantities where the crops are thin,

in decent crops these were controlled where a full contact and residue herbicide was applied. Where herbicides were missed or timings misjudged grass weeds flourished and may cause some yield losses. **Mayweed** was evident on headlands with some thistles beginning to appear above the crop. Although these late emerging weeds will have appeared too late to cause yield losses, farmers will still need to keep an eye out for them in terms of crop quality and erucic acid levels. Crops remain mostly clean.

### *Pests*

Since March some crops managed to recover from **pigeon** and **CSFB** damage, although in many cases larval feeding has continued to impact the crop and reduce its yield potential. **Mealy cabbage aphids** started appearing in most crops during late May, but remain below the threshold for requiring insecticide applications. Scotland has seen unusually high numbers of **pollen beetle**.

### *Disease*

Very low levels of disease found with many OSR crops needing single to no fungicide treatments. **Light leaf spot** is active in Western regions particularly Wales, but not in concerning quantities. **Sclerotinia** risk was low this season with little rainfall during flowering, but most crops received a broad spectrum fungicide during early flowering to provide protection just in case. On poorer crops some farmers decided not to treat for **sclerotinia**.

### *Spring oilseed rape*

**CSFB** is active within spring drilled OSR but not at serious levels where the crop cannot grow away from this pest. Insecticide applications allowed spring OSR to establish well.

### **Contact**

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