



## AHDB Arable Crop Report

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## EXECUTIVE SUMMARY

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This crop development report covers the crop season through to the end of March 2020. It provides information on drilling and establishment of winter cereals, oilseeds and of the start of spring cereal drilling. Commentary is provided on any weed, pest and disease issues that have affected crops during winter 2019 and early spring 2020. All data presented in this report is based on estimates provided by a network of regional reporters from NIAB TAG, Arable Alliance, Prime Agriculture, SRUC and ADAS, unless otherwise stated.

**Winter cereal** – Drilling of winter wheat and winter barley is now complete, with no additional area expected to be added. Drilling was severely affected by wet weather conditions in autumn, based on ADAS calculations, 80% of the final wheat area was drilled before the end of November, with most of the remainder (17%) drilled in February and March as soil conditions improved. A proportion of fields remained to wet to plant and cropping plans have changed with spring barley expected to replace unplanted wheat. Wet weather hampered herbicide applications intended for autumn, but drier conditions in March have allowed farmers to apply early spring applications instead. Delayed drilling reduced the scale black-grass flushes, and many farmers managed to control those plants that emerged post drilling with post-emergence applications. Drier weather in March allowed farmers to start early fertiliser applications and in backward looking crops, a second application has been applied to try and promote crop growth. Mild and wet weather through the winter aided yellow rust and mildew infections. Where needed T0 fungicides were applied, but in most cases it is expected that control will be achieved with T1 fungicide treatments.

It is estimated that 76% of the intended wheat area is in fair to excellent condition, with 18% in poor to very poor conditions. The remainder is yet to emerge, which is mainly crops sown in February/March. The condition of winter barley and winter oats is similar to wheat, although there are slightly higher proportions of crops in the fair category. This reflects a slightly larger proportion of the intended area actually in the ground and sown before the wet weather set in. Aphid levels were low, with heavy rain not favouring their movement into the crop. Few crops received an aphicide in the autumn due to poor conditions.

**Winter oilseed rape**- The majority of crops were drilled in August, with the remainder drilled in September before the rain started. Crops drilled in August were sown into good seed beds and established well. Those drilled later (September) struggled with crop stress (first dry seed beds, then waterlogging) and cabbage stem flea beetle (CSFB) attacks. Over winter, crops were affected by waterlogging, flea beetle and pigeon grazing, with about 15% of the current area of questionable viability, and an estimated 38Kha of already lost and replaced with other crops (EBS data). There is an expectation that failed crops will be replaced with either spring beans or spring barley. At the end of March, 37% of oilseed rape crops were considered to be in poor or very poor condition, with 60% fair to good and 3% in excellent condition. Nitrogen was applied to the majority of crops during March.

**Spring crops** –The area of spring barley planned for 2020, especially in the English regions, is higher than normal, reflecting the failure to plant some winter cereal areas and also uncertainty of markets for crops such as potatoes. Drilling is underway for spring crops, with weather conditions during the second half of March allowing rapid progress to be made. Approximately 50% of the planned spring barley area was drilled by the end of March. The earliest drilled crops in the South East and South West were starting to emerge by the end of March. Drilling of spring oats and wheat is also progressing well. The dry and windy end to March dried out seedbeds and allowed farmers to complete adequate cultivations before spring crops were planted. Seed bed quality is variable, especially on heavier soils.

## CROP REPORT

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### Weather

Heavy rainfall in October and November resulted in soils rapidly exceeding water holding capacity and becoming too wet to cultivate or drill. This led to disruptions to autumn drilling plans, as fields were inaccessible at the planned timings for crop establishment. The whole of the winter period was wet and February 2020 was the wettest February on record for England and the second wettest for Scotland. This left soils unworkable for much of the period with limited access for spray and fertiliser applications. The [Met Office weather maps](#) show the country received 237% of the average rainfall in February (and some locations seeing over 400% of the long-term average), but rainfall was near normal in parts of Scotland. March came in like a lion and out like a lamb, with heavy rainfall early in the month being replaced by a period of bright, breezy and cold weather in the latter half of the month. This change in weather has led to rapid drying of the soil surface and allowed farmers to make rapid progress catching up with cultivations, drilling, and fertiliser or pesticide applications.

Although weather was wet throughout much of the winter period, temperatures were mild, with the provisional UK mean temperature at 5.1 °C in February, 1.4 degrees above the long-term average. Both mean maximum and minimum temperatures were less than 0.5 degrees above average over much of Scotland and the northern regions, but were 2 to 3 degrees above average in southern England, parts of the Midlands, the East of England and Wales.

### 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 falls in each of the categories – regional condition scores are available on the crop reporting dashboard on the AHDB website. The data presented below is the current (as of end of March) condition of the crops that remain in the ground and does not include any crops that failed over winter and have already been replaced with alternative crops.

#### Crop Condition definitions:

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

At the end of March, an estimated 27% of the intended area of wheat was in fair condition, with a further 40% in good condition, and 9% considered to be in excellent condition. An estimated 7% of wheat crops were deemed to be in very poor condition at the end of March and concerns were raised over the viability of these crops going forwards. A number of wheat crops have already failed where fields were waterlogged, or seed was planted into cold, wet soils. Approximately 6% of the planted wheat area had either not been planted or was yet to emerge, following late drilling. A similar pattern of condition was seen in the winter barley, with 18% considered poor to very poor, and 37% in fair

condition (**Table 1**). Those crops in poor and very poor condition were typically those drilled into poor quality waterlogged seed beds during the latter part of the autumn, many of which did not receive any pre-emergence herbicide applications due to soil conditions.

**Table 1 – Average crop condition of the drilled area – GB crops**

	Very Poor	Poor	Fair	Good	Excellent	Crops not yet emerged
<b>1: Winter Wheat</b>	7%	11%	27%	40%	9%	6%
<b>2: Winter Barley</b>	2%	16%	37%	35%	10%	0%
<b>3: Oats</b>	4%	10%	27%	48%	5%	6%
<b>4: WOSR</b>	15%	22%	37%	23%	3%	0%

An estimated 15% of the winter oilseed rape area is deemed to be in very poor condition and of questionable viability following poor establishment, waterlogging over winter, pigeon damage and cabbage stem flea beetle attack. A further 22% is considered to be in poor condition. There were some areas that failed over winter (not captured in this data) largely due to cabbage stem flea beetle attacks at establishment stage. These are expected to be re-planted with spring crops or left to fallow.

## Wheat

### *Drilling progress*

Drilling of **winter wheat** is now complete, but wet weather severely affected the intended drilling areas with ADAS calculations indicating a reduction by 17% compared to the Defra June survey figure. It is not expected that any further intended winter wheat areas will be planted this season, with land that is yet unplanted now destined for spring barley production.

Soil conditions dictated cultivation techniques to an extent for crops drilled in February and March. Those on heavier soils switched to light weight, tine drills rather than ploughing or using heavy drills. Where land suffered compacted surface layers due to the rain, surface movement was limited to 3-7 cm before sowing. Those on heavier soils planted at higher seed rates to compensate for cold, wet seed beds.

Rainfall during February and early March caused some land to cap and waterlog, which has caused poor establishment for later drilled crops planted up to mid-March, especially on the heavier soils.

Drilling of **spring wheat** began in the last two weeks of March. The period of settled dry, breezy weather in the second half of the month allowed soil conditions to improve facilitating cultivation and drilling. Seedbed quality was variable, with soils rapidly moving from waterlogged to slightly too dry over the period of about three weeks. Crops drilled early in the month went into slightly cloddy seedbeds that were still too wet, whilst those drilled at the end of the month were going into seed beds that were starting to be over dry. Seed bed quality was reduced on heavy soils where the land had dried out too much between cultivations and drilling. A combination of conventional and direct drilling techniques were used to drill spring wheat, depending on soil type. Typically, lighter soils were ploughed and then drilled, whilst some of the heavier soils were cultivated with discs and allowed to dry for a day or two before being sown.

### *Crop development*

At the end of March, an estimated 12% of the planted winter wheat area had just emerged. There was still 6% of the crop yet to emerge, much of this incorporating crops planted in the last couple of weeks of March. The majority of crops were at 70% GS20-29 (tillering), 15% at GS30 (leaf sheaf erect) and

1% at first node detectable (GS31). Crop establishment was patchy on heavier soils where crops were sown into wet seed beds in October and November. Headlands in particular are either thin or bare and low lying areas of fields which sat waterlogged for much of the winter are similarly affected. A small number of crops (less than 1%) were written off during January and February either due to poor establishment or grass weed burdens where pre-emergence herbicides could not be applied. These will be replaced with spring barley in most cases.

At the end of March, 27% of the intended area of wheat was in fair condition, with the majority (40%) in good condition, and 9% considered to be in excellent condition. There were 7% of crops considered to be in very poor condition and therefore of questionable viability, including many of the later planted crops where they went into overly wet seedbeds. A further 11% were in poor condition at the end of March.

The earliest drilled spring wheat crops were just starting to emerge at the end of March.

### **Nutrition**

Nitrogen applications started during the second half of March, and some second applications had already been applied by the end of the month. Farmers are aiming to promote tiller survival and balance workloads around spring drilling. Crops have responded well to nitrogen applications made earlier this month. Even the thinner and poorer crops are gradually looking better. On the more marginally viable crops, there is the dilemma of how much to commit to them in terms of fertiliser inputs.

Manganese applications were made where crops looked deficient.

### **Weeds**

Due to the wet autumn and winter, the majority of the winter wheat area did not receive its planned pre-emergence herbicides, with growers attempting to rectify this with March applications. Heavy rain reduced the amount of weeds germinating, especially on heavier land and February planted crops still remain clear of broadleaved weeds. Spring herbicides were applied or set to be applied with T0 or T1 timings as soil conditions improve. Where possible, farmers are delaying applications of contact acting herbicides until temperatures rise further into April.

**Black-grass** –The vast majority of winter wheat (80%) was drilled late (October or later) this year, which resulted in a marked reduction in the amount of black-grass present in crops, even in crops that missed a pre-emergence herbicide. Dormancy in summer 2019 was high, causing delays to emergence. This was coupled with a wet and cold autumn, which increased dormancy (long-term). The longer emergence is delayed, the less productive black-grass will be, resulting in it producing less seed in crops.

**Broadleaved weeds**- Where no herbicides were applied until March, there was lower broadleaved weed incidence than expected. Weeds such as **chickweed, charlock, poppy, speedwells** and **mayweed** were present, but the numbers and size of these weeds are low. Residual acting herbicides will be applied once there is adequate moisture on crops following this period of dry weather.

### **Pests**

**Slugs** – Wet weather over winter saw a rise in slug activity in January and February on later sown crops. There was a small amount of crop losses due to feeding, especially in wetter areas of the East Midlands and West Midlands. Pellets could not be applied on heavier soils due to difficult conditions for machinery to travel. Activity decreased into March due to drier weather.

**Aphids** – Many crops missed autumn aphicide applications, but aphid numbers were low due to cool wet weather. Delayed drilling also reduced the risk of BYDV transmission. A start was made to spring aphicides applications during March (predominantly on poorly established thin crops), but many crops emerged after the threat had passed. Many winter crops will be beyond the point of suffering impacts from BYDV. In general, BYDV in spring crops tends to be much less of an issue than in winter crops. How quickly spring crops grow away and reach GS31 will be important during aphid migration this spring.

### Disease

Wet weather and mild temperatures have meant that rusts are now present in many crops, especially across susceptible varieties. **Yellow rust** is partially prevalent on many forward crops. Where needed, this is expected to be controlled by T0 fungicide applications. **Septoria** is present on October drilled crops.

## Spring Barley

An estimated 50% of the intended spring barley area was drilled by the end of March. The area of spring barley in England is forecast to increase, replacing failed winter crops and following cropping changes as a result of the failure to plant some winter crop areas.. Drilling is nearing completion in parts of the East of England and Yorkshire, with a good start made in all other regions.

## Winter Barley

### Drilling progress and crop development

Winter barley drilling was complete by early November, with any fields that were too wet to drill left fallow over winter and destined for spring barley. The majority of winter barley was drilled in September (51%) and October (42%), with a smaller area drilled into November (6%). Winter barley has a narrower natural drilling window than wheat, with yield penalties increasing rapidly once drilling is delayed beyond the end of October. Crops drilled much later than normal have shown varied establishment levels, with many emerging poorly in wet seedbeds. Those drilled earlier are now approaching GS31 (first node detectable). Crops tend to be thinner and shorter than usual for the time of year, with hybrid varieties faring better than conventional varieties.

An estimated 61% of crops remained at tillering (GS 26-29) in late March, with 21% at leaf sheath erect (GS 30) and around 8% of crops had the first node detectable (GS 31). Condition of the crop ranged from 45% in good to excellent condition where drilled early and into good seed beds, through to 18% in poor to very poor condition, typically for later sown crops that went into waterlogged seedbeds.

Nitrogen applications, like in wheat, were applied earlier than normal to aid tiller survival.

### Weeds

Winter barley was a higher priority for pre-emergence spray applications than wheat due to more limited post-emergence herbicides being available. As a result, most crops received pre-emergence herbicides where possible. Where pre-emergence herbicides were applied, the level of **black-grass** control was good. Grass weeds such as **brome** and **ryegrass** are now being controlled with contact herbicide applications.

**Broadleaved weeds** – Broadleaved weeds were well controlled by pre or post-emergence herbicides. Spring weed germination is generally low as soils are yet to warm up. Contact acting herbicides will be required during April to target freshly emerging weeds such as **cleavers**.

### **Pests**

Overall pest pressure remained low over winter, with the majority of crops now past growth stages where feeding pests would cause any yield reducing damage. Few crops received aphicide applications, and although **aphid** numbers were low, there is concern there **BYDV** will be an issue this spring. There is the option for farmers to add an aphicide to T0 timings if autumn sprays were missed, to help alleviate this pressure.

### **Diseases**

**Net blotch** and **rhyncosporium** are present in the majority of crops. Some T0 fungicides have been applied to forward crops to limit the spread of these. **Mildew** levels remain low, with very few thick, lush crops that are conducive for mildew development. T1 fungicides are now being considered for earlier drilled crops to get early control of rhyncosporium. Later sown crops are still a fair way off the right growth stage for T1s.

## **Oats**

### **Drilling progress and crop development**

Drilling of winter oats is complete, most drilled in September and October (79%), with small areas drilled as late as February (5%) and March (7%). Those crops drilled in the autumn have all emerged, with just those drilled in February and March yet to emerge, approximately 6%. The majority (71%) were at GS20-29 (tillering) by the end of March and 14% were at GS30 (leaf sheath erect).

There were some winter oat varieties being drilled as spring oats to fulfil contracts and will be classed as spring oats at harvest. It is estimated that about 45% of the planned spring oat area was drilled by the end of March.

Autumn sown oats established well. The majority of winter oats were considered in good to excellent condition (53%), whilst a 14% was classed as very poor to poor.

First nitrogen applications were applied during March.

### **Weeds**

Very few crops received any herbicides in the autumn, but oats are normally grown on fields with little or no grass weed pressure. This means the priority for many growers was to use any small spray windows to apply herbicides to other crops. By the end of March, where herbicides were not applied, broadleaved weed pressure from **cleavers**, **volunteer oilseed rape**, **charlock**, **poppy** and **speedwells** was starting to build.

### **Pests**

Very few crops received autumn insecticide sprays, but pest pressure remained low throughout the winter on oats. Aphicides are expected to be applied in April to prevent **BYDV** spread.

## Disease

Mildew levels remain low, largely due to crops being thinner and more backward than is usual at this time of year.

## Winter Oilseed Rape

### *Drilling progress and crop development*

Drilling of winter oilseed rape was completed in September. Early sown crops (those sown at the beginning of August) were drilled into good seed beds, with adequate moisture and as a result established well. Later drilled crops, those drilled in late August and early September, went into drier seed beds and were slow to emerge with poor crop establishment. Those who missed the early planting window had stressed crops, which were then vulnerable to attack by cabbage stem flea beetle.

Crop losses occurred over winter due to ongoing challenges such as waterlogging, flea beetle and pigeon grazing. Crops which failed early were re-sown with winter wheat where conditions allowed. Those crops that failed more recently are typically being replaced with either spring beans, or spring barley. At the end of March, 15% of crops were considered to be in very poor condition and of questionable viability, with a further 22% of crops in poor condition. However, there were about 26% of crops considered to be in good to excellent condition.

The majority of crops are now at green bud stage (56%), with 19% at yellow bud stage.

Nitrogen was applied during March and much of the second dressing has been applied or imminent. Where crops are particularly poor, second dressings were being delayed until a decision is made over the viability of the crop.

## Weeds

Weed control is extremely variable from farm to farm, or even on the same farm.

Where farmers experienced difficulties with establishment due to cabbage stem flea, they tended to reduce or delay applications of broadleaved weed herbicides. This has left high burdens in the crop, competing with small, unproductive plants further increasing the challenges these crops face.

## Pests

**Cabbage stem flea beetle** – Initial grazing by adult flea beetle on young newly established plants caused establishment problems in the autumn. During February and March, larvae migrated to the stems causing crop stunting. This has become evident in the past month as unaffected plants have quickly become twice the size of those where larvae are present. Crops which were backward due to waterlogging and pigeon grazing were most affected by flea beetle larvae. Well established and forward crops tend to have larvae confined to the leaves, with little impact on growth.

**Pigeon**- Damage increased in February and March, with some previously good crops now severely grazed by pigeons. With March largely being cool and dry, crops have not had chance to rapidly grow away from the pigeon pressure.

## Disease

**Light leaf spot** pressure was relatively low over winter, appearing as odd lesions and only occurring on untreated crops. Where crops received a fungicide in January, there was no incidence. Few autumn

fungicides were applied (targeted at **phoma**) and because of this, efforts have been made to catch up in the spring, but untreated **phoma** is becoming a growing issue.

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