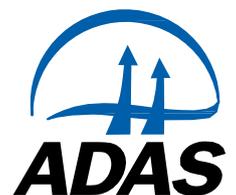




AHDB Arable Crop Report

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SUMMARY

This crop development report covers the crop season through to the middle of May 2020. It provides information on crop development for winter cereals and oilseeds and establishment of spring cereals and oilseeds. Commentary is provided on any weed, pest and disease issues that have affected crops during 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, with the analysis and collation completed by ADAS.

Winter 2019-2020 has presented a number of challenges to farmers. Conditions started dry through until the end of September, allowing for easy establishment of oilseed rape and the first winter barley crops. However, conditions rapidly deteriorated in the last week of September with persistent heavy rains soon turning dry seed beds wet and cloddy. The wet conditions persisted throughout much of the winter period, disrupting drilling plans for winter wheat, oats and the remaining winter barley. A brief break in the weather in early February allowed some field work to be completed and a start to be made on the drilling of any outstanding winter wheat and some spring crops. However, conditions rapidly deteriorated in mid-February and into early March with fields once again waterlogged and inaccessible. Conditions changed again in mid-March with a period of persistent dry, breezy weather affecting much of the country. This rapidly dried seed beds, allowing access for drilling and also facilitated planned herbicide, fungicide and fertiliser programmes. By mid-May soil conditions were overly dry and crops especially on the lighter land were starting to show signs of water stress.

Winter cereals | Establishment of winter cereal crops was good for those drilled before the end of September, however later drilled crops went into cold wet seed beds and subsequent emergence was uneven, especially on heavy soils. A higher than normal proportion of the winter wheat and winter oat area was drilled in the period February –March, with some farms failing to drill all their planned winter crop area. Plentiful sunlight in the spring was slightly countered by cold nights and regular frosts through April and May which slowed crop growth. Development of crops is variable as a result of differing drilling dates and also variable soil conditions across fields and farms. The weather conditions have not favoured the establishment of weeds, pests or disease, and therefore pressure from these remains low in the majority of crops, allowing farmers to reduce cost of pesticide applications slightly. Fertiliser applications were made in a timely manner.

There are very few winter cereal crops deemed to be in excellent condition (just 5% of winter wheat) with the majority of crops deemed to be in fair condition. There are about 8% of winter wheat crops and 5% of winter barley crops that are considered to be in very poor condition and therefore at risk of very poor yield or crop failure.

Winter oilseed rape | Managing winter oilseed rape has been an ongoing challenge for farmers this season. A high proportion of crops, especially in the East of England, suffered from poor establishment, affected by dry soils and early cabbage stem flea beetle (CSFB) feeding. There were some early crop failures as a result. Subsequent heavy rain and poor growing conditions meant that crops were unable to grow away rapidly, leaving them vulnerable to slug damage and pigeon grazing over winter, and then larval CSFB feeding early in the spring. These factors all combined to result in further failures of the winter oilseed rape area. Based on the differences in forecast oilseed rape areas (including both winter and spring) from the first AHDB Early Bird Survey to the second, it is estimated that about 45,000 ha of crops were lost before the end of February and indications from this survey are that a further 20-25,000 ha has been lost (or not planted in the case of spring oilseed rape) since February. Where possible the majority of this area was replaced by spring barley, spring oats and spring beans in February and March, but where failures continued into spring these areas were left to

fallow. At the end of May, 15% of the remaining winter oilseed rape crops were considered to be in very poor condition with the majority of the rest (65%) considered to be in poor or fair condition. Just 20% were considered in good to excellent condition.

Spring crops | Dry weather in March and April meant that many struggled to retain soil moisture when drilling spring crops. As a result establishment was variable, with earlier drilled crops on heavier land faring better. Although establishment has been patchy, crops benefited from low weed and pest pressure this season with reduced pesticide applications needed. The majority of spring barley (80%) is considered in fair to good condition and further 6% is in excellent condition. Establishment of spring oilseed rape was particularly challenging and as a result, an estimated 40% is in poor to very poor condition.

CROP REPORT

Weather

Rainfall in February was above normal in most regions, with the majority of GB receiving double its normal rainfall. Weather conditions started to improve from mid- March and much of April and early May, with most regions remaining largely dry and monthly rainfall at 20-75% of normal. The [Met Office weather maps](#) show the country received only 40% of its average rainfall in April and 151% of average sunshine. The transition from waterlogged, to overly dry, soil happened relatively quickly, with strong winds during March and April rapidly drying soils. The improvement in soil conditions meant that fields were accessible for planned pesticide and fertiliser applications, and facilitated cultivation and establishment of spring crops. There were a couple of brief, but decent (10mm +) periods of rain during April in most of the key arable areas that supported the establishment of spring crops and aided uptake of nitrogen fertilisers. However, with the patch nature of rain there were some locations that received less. Persistent dry weather and strong winds quickly dried seedbeds. Both winter and spring crops on a range of different soil types were showing signs of water stress by mid-May. Plenty of sunshine over April and May allowed daytime temperatures to rise well above normal on numerous days. However, clear skies resulted in night temperatures falling, with regular overnight frosts recorded during April and into May across much of the country. Although daytime temperatures were often well above average for the time of year, the cold night temperatures slowed crop growth.

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 mid-May) 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:

- 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 majority of GB cereal and oilseed crops were classed as being in fair condition (ranging from 31% of spring oilseed rape to 48% of winter barley). The oat and spring barley crops are overall in the best condition with 42% of spring barley in good condition and a further 6% in excellent condition, whilst 37% of oats are in good to excellent condition. The oilseed rape crop continues to struggle and of those crops that are still in the ground (i.e. not including those that have already failed and been replaced) approximately 15% of winter oilseed rape and 17% of spring oilseed rape are considered to be in very poor condition. In winter wheat approximately 8% of the area is deemed to be in very poor

condition. There are small areas of spring barley and spring oilseed rape that were drilled late in Scotland and have yet to emerge.

Table 1 – Average crop condition of the current area – GB crops

	Very Poor	Poor	Fair	Good	Excellent	Crops not yet emerged
1: Winter Wheat	8%	18%	43%	26%	5%	0%
2: Spring Wheat	9%	24%	45%	21%	1%	0%
3: Winter Barley	5%	22%	48%	21%	4%	0%
4: Spring Barley	4%	9%	38%	42%	6%	1%
5: Oats	4%	17%	42%	34%	3%	0%
6: WOSR	15%	26%	39%	18%	2%	0%
7: SOSR	17%	23%	31%	27%	1%	1%

Failed oilseed rape areas

Oilseed rape is the crop that has been affected most by the challenges of the difficult establishment conditions followed by the wet winter and then subsequent issues with pest damage. The initial AHDB Early Bird Survey estimated that the oilseed rape area (winter and spring) in the UK would be 406,000 ha. The majority of this was expected to be winter oilseed rape and therefore drilled in August and September. The updated February Early Bird Survey reduced the oilseed rape area to 361,000 ha – indicating a loss of about 45,000ha of crops to this stage. Most of these crops would have been replaced with spring crops. Indications, based on our reporters' estimates of current crop areas, are that a further 20-25,000 ha may have been lost since February, or not planted in the case of planned spring oilseed rape. It should be noted that the method for assessment of crop areas is different, so the numbers need to be treated with some caution. Of the crops that are still in the ground, 15% are in very poor condition and expected to suffer large reductions in yield compared to normal for the farm.

The worst affected crops are in Southern England, the East of England, East Midlands and Yorkshire, where 20-30 % of crops were in very poor condition. Winter oilseed rape crops were slow to establish in the autumn due to cold and wet 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 into spring. Crops fared better in the West, where those that did establish well had insecticides applied to deter any further larval damage. 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

Drilling of winter wheat was a protracted process with an estimated 78% of the area drilled in the autumn (September, October, November) often into wet cloddy seed beds, whilst the majority of the remainder was drilled in February (with occasional fields drilled in January and March). Difficult drilling conditions, combined with seed going into wet seedbeds, led to patchy establishment of autumn drilled winter wheat. Crops planted into heavier soils where fields were waterlogged for a good part of the winter tend to be in poorer condition than those planted on light and medium soils. Where compaction affected headlands and in field corners, crops are either very thin or failed. Those crops which were drilled in September, before the worst of the weather set in, established well and tend to

be in the best condition. Variations in weather have affected crop development, with cold weather slowing growth and development causing further variations in growth stage over and above those caused by drilling date. In mid-May, growth stages typically ranged from 3rd node detectable (GS 33) through to boots swollen (GS 45), with occasional late drilled backwards crops still at first or second node detectable (GS 31-32). Dry and windy weather in May has meant that some crops are now beginning to show signs of water stress and tiller loss has started to occur, especially on lighter land.

By mid-May, 43% of the current wheat area was in fair condition, with 26% in good condition and 5% considered in excellent condition. There were 18% in poor condition, these were mainly crops on heavier soils that struggled to establish in wet conditions earlier in the year. A further 8% were in very poor condition, with questionable viability. It is estimated that about 1% of the area that was originally drilled failed and was either replaced with spring crops, or left fallow depending on the timing of the decision over whether or not to keep the crop.

Weeds

With the majority of crops now at, or beyond, GS 33, weed control applications are now complete. Planned pre-emergence herbicides were disrupted in the autumn. However, slow weed development reduced pressure and allowed acceptable control to be achieved with spring applications.

Broadleaved weeds- These were slow to appear this spring due to the dry conditions in March and into April. Typical weeds such as **chickweed** and **mayweeds** were present, but these were well controlled by spring herbicide applications. **Volunteer oilseed rape, fat hen, charlock** and **bindweed** are weeds which appeared more readily than usual this season, but were controlled well with early spring post-emergence herbicides. **Groundsel** is becoming an issue where early control was not possible during the wet conditions in autumn.

Black-grass- The later drilling of crops due to wet conditions meant that there was a marked reduction in the presence of black-grass this season, especially where crops established well and have good ground cover. Where crops are thin, control of black-grass was poor particularly in the East and South East of England. Some use of glyphosate to kill crop and black-grass will be required in these crops to reduce seed shed.

Pests

Overall pest pressure to date is low. Where crops were drilled in early February on fields following oilseed rape there were occasional incidences of **slug** damage, but these dropped as conditions dried out. **Aphids** affected early drilled crops (September), especially where no aphicide could be applied. These are showing small patches of **BYDV** (barley yellow dwarf virus).

Disease

Mild and dry weather conditions through April and May meant that disease pressure remained 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 started in mid-May as flag leaves started emerging (GS 37-39); a key target for these is **yellow rust** this season.

Rusts- Yellow rust is now affecting later drilled crops. Yellow rust pressure remains high in Southern and Central England. However, T0 and T1 fungicides appear to have controlled the disease well. Consideration will be given to further rust control at the T2 timing.

Septoria- Levels remain low due to dry conditions this spring, as a result T1 fungicide rates were reduced.

Mildew- Levels were low throughout the spring, with only occasional crops on more fertile soils showing some symptoms of mildew where there was sufficient rain to encourage rapid crop growth. Any mildew issues are expected to be controlled with T2 timings in most cases.

Spring wheat

Drilling of spring wheat was slightly delayed as a result of the wet conditions in autumn and winter, as farmers had to allow time for fields to dry out. However, the rapid switch to dry, breezy weather in late March and April meant that soils rapidly moved from too wet to too dry. Preserving seedbed moisture proved particularly challenging for many, especially those on heavier soils. Strong winds at the time of drilling and little subsequent rain has affected establishment and where soils were overworked, crops suffered patchy germination. Lack of moisture meant tiller production and retention was less than optimal with many crops looking thin in mid-May.

By mid-May the majority of the spring wheat area was at tillering (GS 20-29) or leaf sheath erect (GS 30), with more forward crops at first node detectable (GS 31).

Overall weed pressure was low due to lack of available moisture. Drilling into dry seed beds meant that there was no adequate moisture to apply a pre-emergence herbicide, which has led to a slight increase in grassweeds. Post-emergence contact acting herbicides provided good control of broadleaved weeds such as **fat hen**, **mayweed**, **cleavers** and **bindweed** where applied.

Overall pest pressure was low, **aphids** were prevalent on some crops, but not in high enough numbers to require treatment.

Yellow rust was seen on February drilled crops, but was controlled well by T0 fungicide applications, it will be targeted with T1 applications if needed. **Mildew** and **septoria** levels remain low across the country.

Barley

Crop development

The significant proportion (44%) of winter barley was drilled in September in relatively dry conditions into good seedbeds, as a result establishment of these crops was good. Those drilled later in the season are looking thinner, especially on headlands. Hybrid varieties typically fared better than conventional varieties, even if drilled slightly later.

An estimated 13% of crops remained at flag leaf showing (GS 37) in mid-May, with 22% at flag leaf fully emerged (GS 39) and around 47% of crops had the boot swollen (GS 45). Condition of the crop ranged from 25% in good to excellent condition where drilled early and into good seed beds, through to 27% in poor to very poor condition, typically for later drilled crops that went into waterlogged seedbeds.

Weeds

Where earlier drilled crops received their planned pre-emergence herbicides, control was effective and these crops had low levels of spring emerging weeds. With many broadleaved weeds slow to emerge, there was little need to apply herbicides to these crops this spring. In later drilled crops, where pre-emergence herbicides were missed, spring herbicide applications were required to target broad-leaved weeds such as **groundsel**, **mayweed** and **charlock**.

Pests

Similar pest issues observed to those found in wheat. Spring **aphids** were present during May, but not in abundance and by the end of May, **aphid** numbers were not high enough to require treatment. **BYDV** only appeared in areas where no autumn insecticide was applied or where timing was incorrect, these instances were not widespread. Overall pest pressure remained low.

Diseases

Similar to wheat disease pressure is low. **Net blotch** was the most prevalent disease in the run up to T1 fungicide applications, but was well controlled by fungicides. Dry conditions meant that **rhynchosporium** symptoms remained low compared to normal. **Brown rust** was present 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.

Spring barley

Drilling progress and crop development

As of the middle of May all of the intended spring barley was drilled. Spring barley was a favoured option for replacing planned winter wheat areas which did not get drilled and failed oilseed rape crops. The majority of spring barley was drilled in March (45%) and into April (46%), with few early drilled crops due to the heavy rainfall in February (9%). Establishment was patchy on heavier soils and where seedbeds lost moisture through excess cultivation. Those crops which were drilled later in the window tended to go into overly dry seed beds and many crops appear thin as a result.

Spring barley growth stages are variable and range from emerged and tillering (GS 27) on the later drilled crops, though to first node detectable (GS 31) and second node detectable (GS 32) on the earliest drilled crops. There is a very small percentage of later drilled crops still yet to emerge.

Weeds

Black-grass – Pre-emergence herbicides were applied to control black-grass and despite dry seed beds control was good.

Broad-leaved weeds – A range of broadleaved weeds emerged all be it slowly, the most common being **charlock, cleavers, poppy, mayweed, fat hen** and **bindweed**. Where needed herbicide applications are planned at robust rates to combat dry conditions.

Pests

Aphids are present in crops, particularly in northern regions, but not in high enough numbers to warrant insecticide treatments. Risk of **BYDV** transfer is expected to be low. **Slugs** and other establishment pests such as **rooks** and **rabbits** caused occasional damage early on in spring, but crops have grown away from early damage.

Disease

Disease pressure remained low with April and most of May being so dry. **Net blotch** was present in occasional crops and if needed with be controlled with planned T2 fungicides.

Oats

Crop development

The majority of winter oats were drilled in September and October, with the occasional crop drilled into February and March. Delays to drilling led to crops looking thinner than usual and some crops are now showing signs of nutrition stress with symptoms of leaf discoloration. By mid-May, winter oats ranged in growth stage from second node detectable (GS32) through to boot swollen (GS 45), with the occasional forwards crop at ears fully emerged (GS 60).

Drilling of spring oats started earlier than most other spring crops, with about 21% of the area drilled in January and February. A further 34% was drilled in March and the remainder (45%) in April. This meant that most seedbeds contained adequate moisture for crops to establish well, but a dry spring limited tiller development. By mid-May, spring oat growth stages ranged from emerged through to second node detectable (GS 32), with the majority of crops at the early stages of leaf sheath erect (GS 30).

Weeds

There was little or no opportunity to apply any herbicides in the autumn to winter oat crops. As a result, broadleaved weed control relied upon contact acting herbicides applied this spring. Despite the general issues with **groundsel** across all cereal crops, other weed pressure was low, mostly due to the very dry weather. Grass weeds remained minimal, with little to no issues.

Pests

No current issues. **Aphids** found in crops, with small areas of individual plants infected with **BYDV** but the overall incidence is low.

Disease

Mildew levels remained low and many did not need to apply T1 fungicides. Where there are ongoing issues with mildew and **rusts** these are expected to be controlled with T2 applications.

Winter Oilseed Rape

Crop development

Winter OSR was a challenge for many growers this year and the crops are highly variable with occasional very good crops, but far more poor crops. The challenges were greatest on heavier soils, where crops continued to be written off from January through into April. The worst affected crops were those which lay in wet and waterlogged areas for months, then rapidly dried out resulting in poor nitrogen uptake. These crops tended to have established poorly during the wet autumn and winter, with cabbage stem flea beetle (CSFB) adults and then larvae feeding on crops and pigeon grazing all combining to result in crop losses and poor crop stands. In some cases poor crop stands remain, where it was too late to replace the crop, but little additional investment in fertiliser or pesticide has been made. Farmers will take a view whether the stand is worth harvesting closer to the time.

There are large areas of winter oilseed rape that have failed (see earlier section). Where crop failures were evident early enough, the majority of crops were replaced with alternative crops. Spring beans were a popular option, along with spring oats and spring barley. Where crops failed later in the season,

or where choices were made not to spend any more money on the crop, the land was sprayed off and left to fallow, or in some cases the crop remains. Most remaining crops are short and have thinner plant stands than ideal.

The majority of winter oilseed rape crops were at mid to late pod set (GS 5,5-5,9) by mid-May, with backwards crops at yellow bud stage (GS 3,7) and the more forwards crops at 100% potential pod set (GS 5,9). Growth stages across fields were often variable, as a result of the impact of CSFB larval feeding and poor establishment.

The majority of spring oilseed rape was planted in March, with the remaining area planted in April. At mid-May, 17% of spring oilseed rape was considered to be in very poor condition and of questionable viability. A further 23% of crops were in poor condition, as crops attempted to establish in dry seedbeds. However, there were about 28% of crops considered to be in good to excellent condition, mostly on heavier land where some soil moisture was retained further down. The majority of crops are currently at 2-4 true leaves (GS 1,2-1,4)(37%), with the most forward crops at 6 true leaves (GS 1,6) (8%).

Weeds

Pre-emergence and early post-emergence herbicide applications in the autumn gave good control of volunteer cereals and early broad-leaved weed flushes. Winter applications of propyzamide or carbetamide (mostly made in January) provided a good level of **black-grass** control. Where early herbicides were missed, weed competition from broadleaved weeds further exacerbated establishment issues. Winter crops are now beyond the point where further herbicides applications can be made, but there are reports of high levels of **groundsel** and patches of **runch** in some thinner crops.

Pests

Cabbage stem flea beetle- (CSFB) larvae continued to hold back crops and damage has resulted in crop failure for some and left others with questionable viabilities of crop. Larvae feeding was prevalent throughout March and into April for crops that were still in the ground.

Seed weevil- Increased pressure this season compared to recent years, they were present in abundance during early flowering of crops and thresholds were exceeded in some areas in the north. Where needed, crops were treated with insecticides, with occasional crops requiring a second insecticide to be applied towards the end of flowering to control populations.

Disease

Very low levels of disease are present in winter OSR crops. **Light leaf spot** pressure remained low having only been seen on more susceptible varieties earlier in the season. Most crops received a single fungicide treatment for **sclerotinia** control. This is due to crops flowering relatively quickly and the risk of infection low due to conditions being so cool and low humidity for so long.

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