ADAS Harvest Report 2010

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(Note: Harvest reports run up to close of play on Tuesday of each week)

Harvest reports produced by ADAS on behalf of HGCA

Summary

Harvest is now complete in most areas of the UK other than some linseed in English regions and some cereals in parts of Scotland. Harvest progress was disrupted by wet weather in most weeks during the harvest period, and particularly during the main wheat harvest weeks in August. Despite this there was steady progress throughout the harvest period and although a high proportion of crops required drying, there were few serious delays and quality was generally maintained. Cereal yields are expected to be lower than the 5 year average, although estimates are difficult due to the larger variations in yields compared to normal. The lower yields, and variability, are due mainly to the prolonged period of dry weather during grainfill in June and July which put crops under stress, particularly on light land. In contrast, oilseed rape yields are expected to be higher than average this year.

Headlines

Wheat – Harvest now almost complete. There is still some wheat left to harvest in parts of Scotland affected by the recent wet weather. Despite wet weather during harvest, progress was steady, and slightly ahead of the 7 year average, until the slowdown for the last 10% of the area. The overall quality of wheat was good although there was a decline in quality where harvest was delayed. The HGCA quality survey, covering early harvested crops, indicates that the average specific weights is 77.8 kg/hl, Hagberg Falling Numbers (HFN) 318 seconds, and although variable, average protein content of 12.9%. Yields are more variable this year due to the impact of dry weather. The estimated UK average yield is expected to be in the region of 7-5-7.6 t/ha (5 year average is 7.9 t/ha).

Winter barley – Harvest of winter barley was completed during harvest week 5 (week ending 17 August). Most of the winter barley was harvested prior to the worst of the wet weather and progress was slightly ahead of the average for the last 7 years. The HGCA quality survey confirms that quality was good with specific weights averaging 67.8 kg/hl and malting nitrogen contents averaging 1.74%, with screenings of about 1.4%. The estimated UK average yield is expected to be in the region of 6.2 t/ha (5 year average is 6.5 t/ha).

Spring barley – Spring barley harvest is now all but complete. Harvest started in the first week of August and progress was ahead of the five year average although recent delays in Scotland have slowed progress at the end. The HGCA quality survey, for early harvested crops, shows an average specific weight of 67.5 kg/hl, malting nitrogen content of 1.59% and screenings of 2.3%. Yields are lower than average and the estimated UK average yield is expected to be in the region of 5.1 t/ha (5 year average is 5.4 t/ha).

Oats – The oat harvest is always prolonged with the start of winter oats in the south at the end of July, but only just finishing spring oats in Scotland now. Quality is generally good with specific weights averaging about 52 kg/hl. The estimated UK average yield is expected to be around 5.6 t/ha (5 year average is 5.9 t/ha).

Winter oilseed rape – Following a later start than normal, harvest was completed in harvest week 6 (week ending 24 August). Progress was close to the five year average. Quality was good with oil content ranging from 39% - 46% dependent upon variety. Yields were good with estimated UK average yield expected to be around 3.7 t/ha (5 year average is 3.3 t/ha).

Weather

Cumulative rainfall during the harvest period was higher than normal with rainfall typically 150-175mm over the 10 weeks, which is around 130% of normal. Rainfall was higher in the western and northern regions where rainfall was up to 180% of normal (Figure 1).

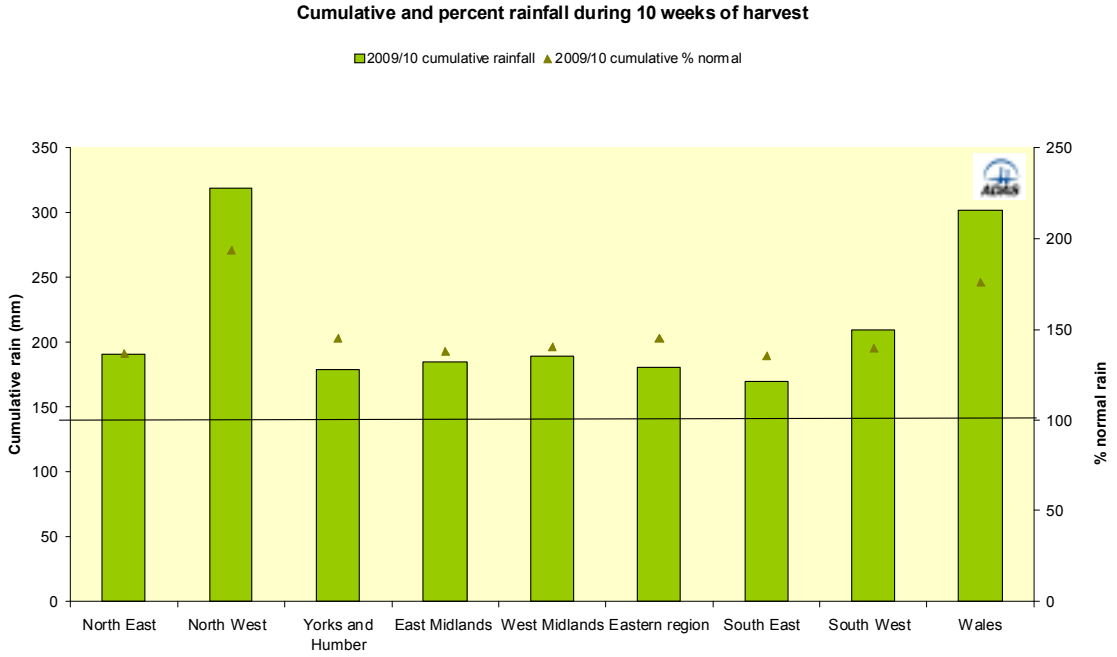
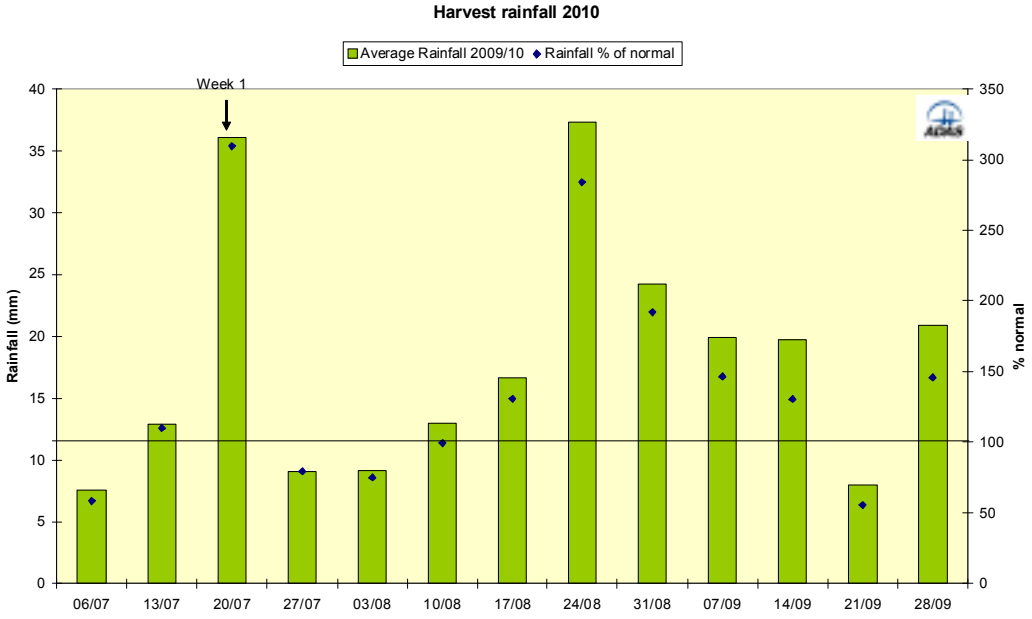


Figure 1 Regional cumulative harvest rainfall compared to % normal
Source: ADAS from met office data

There was rainfall in most weeks of the harvest period (Figure 2). Week 1 was a particularly wet week, although this was mainly in the north and west (Figure 3) and did not have a major effect on progress as winter barley and oilseed rape were only ready for harvest in the southern regions where conditions were drier. There was then a period of 3

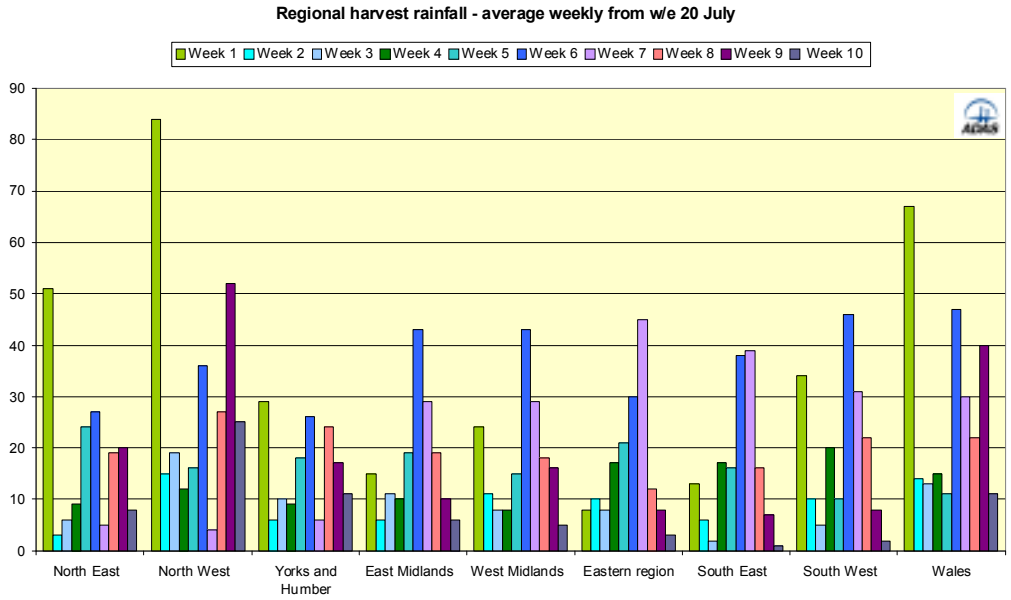
weeks to the 10 August where there was some rainfall but it was lower than average and allowed reasonable harvest progress in all regions as crops matured.

From the 10 August, the start of the main wheat harvest window, conditions were wetter, particularly in the southern and eastern regions, where wheat crops were ready for harvest and some delays occurred. Despite high rainfall in weeks 7 and 8, the rain was concentrated at the beginning of one week and the end of the second week, giving a period of 8-9 days of relatively settled dry weather which allowed harvesting of delayed crops.



Source: ADAS 2010 from Met-office data

Figure 2 UK weekly harvest rainfall 2010



Source: ADAS 2010 from Met-office data

Figure 3 Regional weekly average rainfall during harvest

Harvest progress overview

The 2010 harvest progressed steadily throughout the 10 week period despite the regularity of the rainfall. Taking all combinable crops together, harvest progress (Figure 4) was more rapid in the first weeks with almost 20% of crops harvested by week 3 compared to a 6 year average of about 10% (A). Harvest progress remained ahead of the 6 year average throughout harvest (B) but the rate of clearance was slower than average from week 5 (C), when wheat harvest starts in earnest, due to regular rainfall which slowed progress. The dry period between wet spells in weeks 7 and 8 allowed more rapid clearance (D) with most crops in England and Wales cleared. Progress in the later weeks into September was very slow due to wet weather affecting harvesting in Scotland with some crops left to harvest at the end of September (E). Towards the end of harvest during weeks 9, 10 and 11 progress slowed due to increasingly wet weather in the areas where crops remained and cultivation and drilling of next years crops started in earnest.

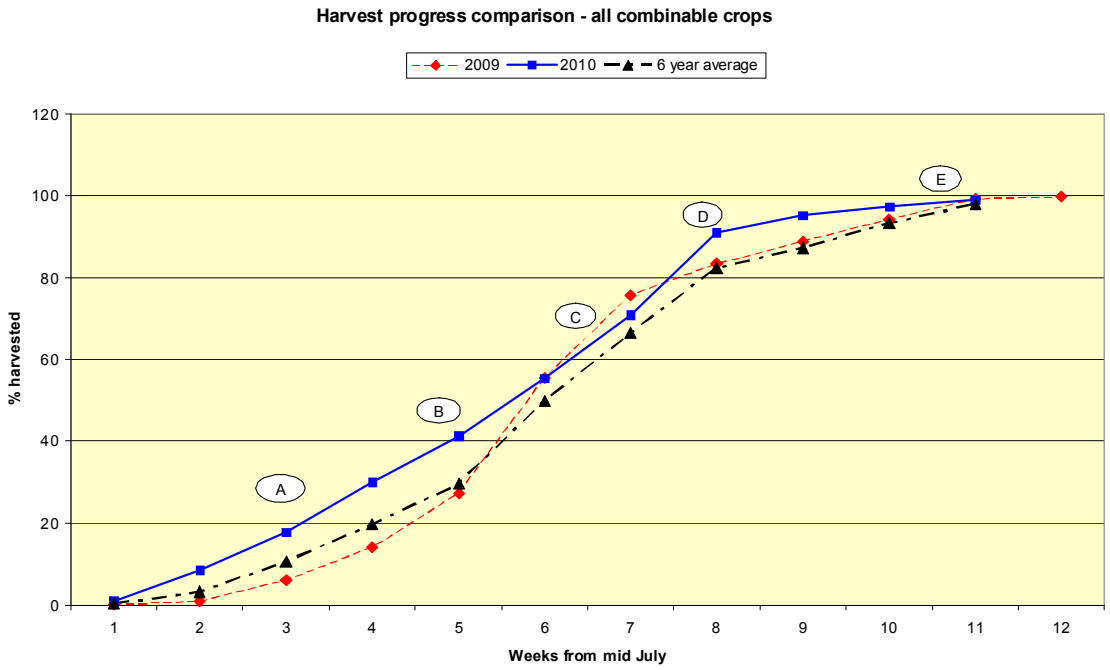


Figure 4 **Harvest progress comparison – all combinable crops 2009, 2010 and 6 year average**

Source: ADAS 2010

Note: Harvest weeks 2010

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11
14-20 July	21-27 July	28-3 Aug	4-10 Aug	11-17 Aug	18-24 Aug	25-31 Aug	1-7 Sept	8-14 Sept	15-21 Sept	22-28 Sept

Combining

The combining profile for 2010 is much flatter than previous years with a maximum weekly combined area of ≈775,000 ha in week 8, compared to a peak of ≈1,100,000 ha in week 6 in 2009 (Figures 5). This is a reflection of the wet weather during the peak wheat harvesting period (weeks 5-8) that slowed the rate of combining.

The start of harvest was similar to previous years, with winter barley harvested from the second week in July. During the first harvest week only winter barley was ready for harvest Good weather across the southern half of the UK meant that combining was possible on 7 out of 7 days, often for 10+ hours a day, however there was a limit to the number of crops that were actually ready for harvest, resulting in just under 300,000 ha of crops harvested during week 2. Week 3 was slightly more showery, resulting in 3-6 days of combining ranging in length from 5-10 hours. Despite this about 350,000 ha were harvested, predominantly winter oilseed rape (≈ 180,000 ha), but with significant areas of winter barley (≈ 75,000 ha) and winter wheat (≈ 95,000 ha) also harvested.

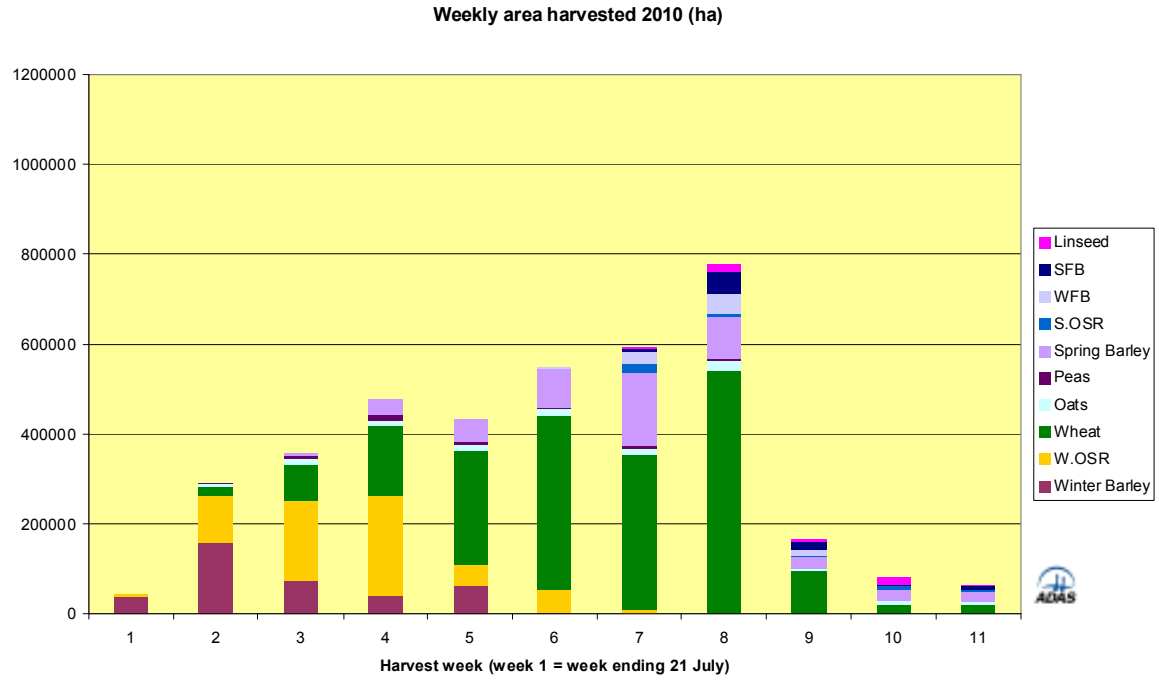


Figure 5 Weekly area harvested

Week 4 was the main period of oilseed rape harvest with about 220,000 ha harvested in seven days. Wheat harvest was also well underway with 150,000 ha harvested. In southern regions there were 6-7 good harvest days available, however further north showers limited harvesting to 1-3 days, although with fewer crops ready for harvest in these wet regions so this had limited impact. This week also saw the start of the spring barley harvest, with more oats and some peas also harvested. Overall about 500,000 ha were harvested during this 7 day period.

By week 5 most of the southern half of the UK had completed the harvest of winter oilseed rape and winter barley and were moving into wheat on a larger scale, however the

showery conditions meant that the total area harvested was slightly less than the previous week at 430,000 ha, 250,000 ha of this was wheat. The last of the winter barley was harvested in week five. Week 6 saw 390,000 ha of wheat harvested, and about 88,000 ha of spring barley. Most of the remaining winter oilseed rape was also harvested in this week, bringing the total area harvested over the seven days to 550,000 ha.

The main period of winter wheat harvest fell in weeks 5 through 8, with 250,000 ha harvested in week five, 390,000 ha harvested in week 6, 350,000 ha harvested in week 7 and 540,000 ha harvested in week 8. During the same period the majority of the English spring barley, oats, peas and beans were also harvested. By week 9 the majority of the remaining crops were left in Scotland and northern regions with just occasional fields left to harvest in the south. Regular, often heavy rainfall hampered progress in these regions leading to a slow completion of harvest over the last three weeks.

Farm grain drying and storage

Given the generally unsettled conditions during the harvest period there was a high demand for drying. Earlier harvested winter barley and oilseed rape required less drying with most barley crops harvested between 15-16% moisture, although some of the later harvested crops in the northern regions were harvested at 16-18% moisture.

Winter wheat and spring barley harvest coincided with an unsettled period of weather and a high proportion of grain required drying from 16-18% moisture. Grain harvested in the dry spell across week 7 and 8 required less drying, but cool overnight temperatures meant that crops were slow to dry in the morning and there was still some drying required.

The later harvested crops in Scotland and northern England have required a greater level of drying with harvested samples often in excess of 18% moisture.

Yield, quality and harvest progress

Yield overview

The estimated average UK yield of cereals is lower than the 5 year average with a much greater degree of variation than in recent years, and therefore some uncertainty over the final figures. One of the main contributing factors is the impact of the dry spell in April and May on establishment of spring crops, and the prolonged dry spell in June and July that affected all regions, but especially those in the south and east. Average soil moisture deficits (Figure 6) show that deficits reached over 120mm during June and July (grain fill) which is sufficient to cause stress in crops on all soil types, but particularly lighter soils.

Other contributory problems in winter wheat include the high level of black-grass in many wheat crops, particularly in the south and east where resistance is common. The wet weather in November and the cold weather in March affected the ability to spray and the efficacy of sprays resulting in much higher levels of the very competitive weed in many fields. Where there were dense patches within fields on board combine yield counters were reported to have recorded yield drops of 2-4 t/ha compared to unaffected parts of the fields.

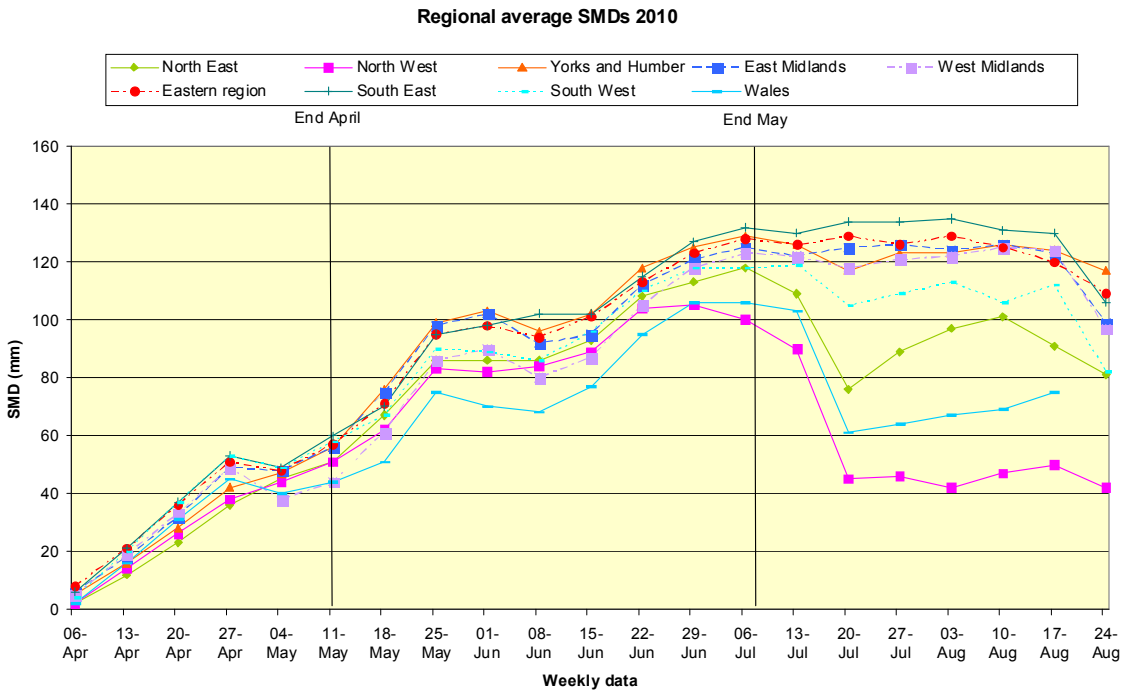


Figure 6. Soil moisture deficits April – August 2010
Source: ADAS from met office data

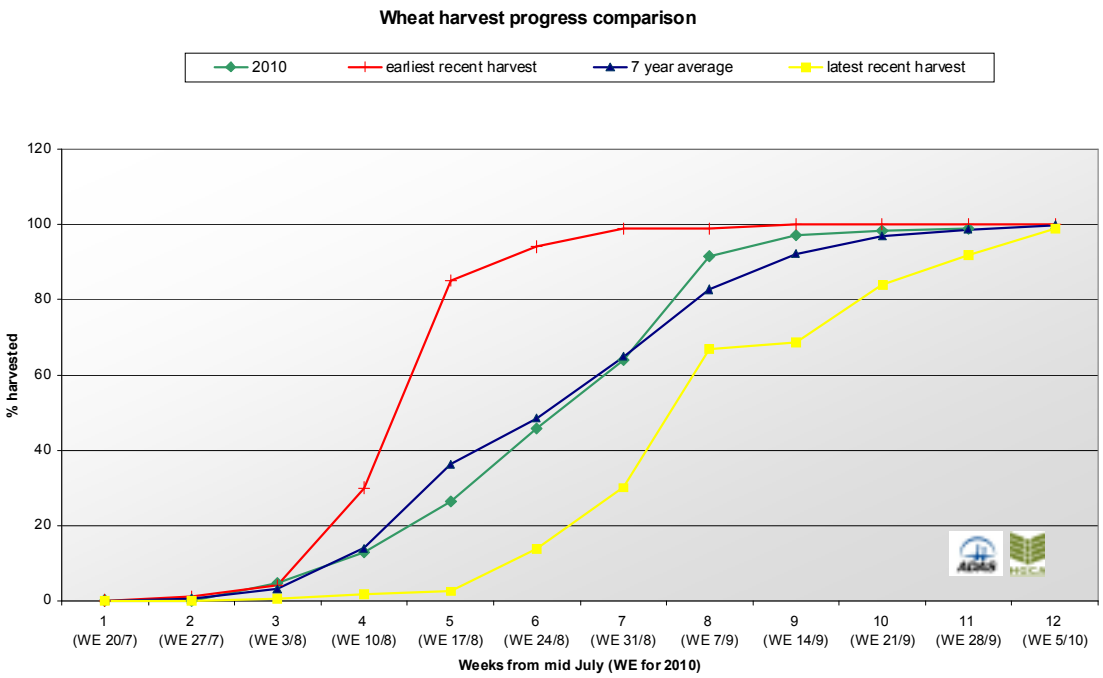
Crop summaries

Winter wheat

Harvest progress: 99% complete
Estimated average national yield: 7.5-7.6 t/ha

Progress

Wheat harvest progress has been close to the 7 year average throughout the harvest period, although good weather in weeks 7 and 8 allowed progress to get slightly ahead bringing completion of harvest in most regions a week ahead of average. Some crops are still to be harvested parts of Scotland affected by the recent wet weather.



Source: ADAS 2010

Figure 7 Winter wheat harvest progress comparison (week 1 = WE 20th July)

Yield

Estimated average UK **wheat** yield is expected to be 4-5% below the 5 year average at about 7.5-7.6 t/ha. Yields ranged from 5.0 – 8.5 t/ha on lighter land to over 12 t/ha on the heavier soils of the Eastern region. Better yields from wetter regions were insufficient to compensate for the poorer yields from dry regions. Overall there were fewer reports than in recent years of very high yielding crops. The yields of winter wheat were highly variable this year with soil type and rainfall having a strong influence, and the average estimate should be treated with caution.

Quality

The quality of **winter wheat** was generally good this year. Provisional quality data are available from the HGCA Cereal Quality Survey (up until Sept 17th 2010) these values relate to early harvested crops, with a bias towards those in the south and east as a result.

Specific weights were generally high compared to recent years with Group 1 wheats averaging 77.8 kg/hl and Group 4 wheats averaging 76.2 kg/hl (Table 1). Hagberg falling numbers were variable but generally good. In early cut milling wheats they averaged 312 seconds and levels above 250 were generally maintained for most crops other than some later harvested northern crops. Protein levels were slightly higher than last years proteins at 12.9% in group 1 varieties, although proteins were highly variable, with some failing to meet specification. Levels of mycotoxins have been relatively low, with rejections due to DON rare.

Table 1. HGCA Cereal quality survey results for the last 5 years – wheat averages

Group 1 - Milling Wheat		2006	2007	2008	2009	2010
Specific weight	Kg/hl	76.8	76.3	76.6	78.1	77.8
Hagberg falling number	sec	376	246	252	312	318
Protein	%	13.7	12.8	12.0	12.8	12.9

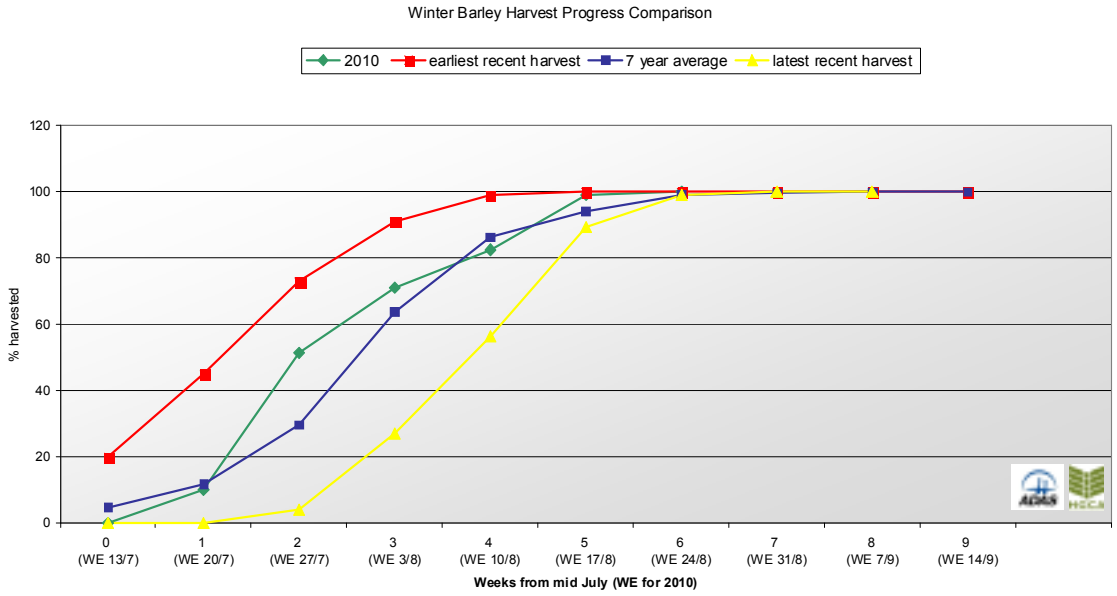
Group 2 - Wheat		2006	2007	2008	2009	2010
Specific weight	Kg/hl	78.3	76	76.2	77.6	78.3
Hagberg falling number	sec	358	259	258	314	322
Protein	%	12.8	12.4	11.5	12.2	12.4

Winter barley

Harvest progress: Harvest complete
Estimated national average yield: 6.2 t/ha 5% down on UK 5 year average

Progress

Winter barley progress tended to be slightly ahead of the 7 year average, with completion a week ahead of average (Figure 8).



Source: ADAS 2010

Figure 8 Winter barley harvest progress comparison (week 0 = WE 13h July)

Yield

Estimated average UK **winter barley** yield is expected to be 5% below the 5 year average at about 6.2 t/ha. Yields were highly variable with 6 row barleys on heavier land yielding up to 10+ t/ha, whilst on lighter soils yields dropped to 6.5 t/ha. Two row varieties yielded slightly less ranging from 4-7 t/ha.

Quality

Winter barley quality was good with specific weights averaging 67.8 kg/hl and nitrogen levels at 1.74% on average.

Table 2. HGCA Cereal quality survey results for the last 5 years – winter barley averages

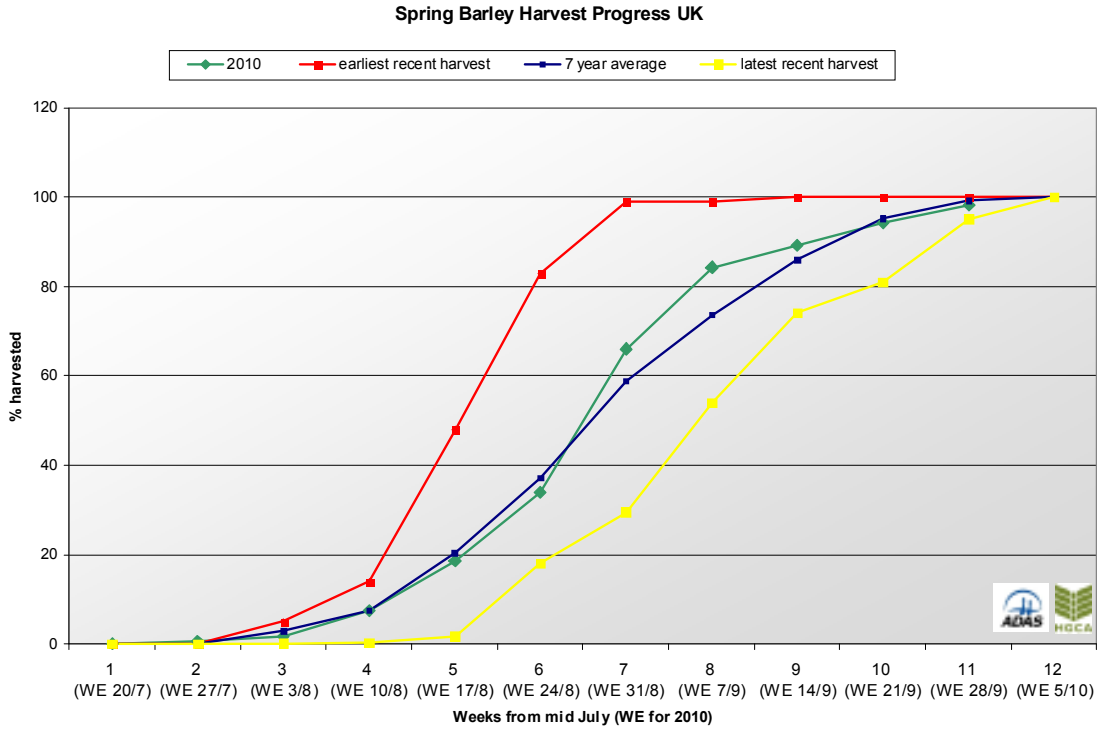
Winter Barley		2006	2007	2008	2009	2010
Specific weight	kg/hl	68.3	64.9	65.8	66.8	67.8
Nitrogen	%	1.78	1.81	1.64	1.67	1.74
Screenings (2.25mm)	%	3.2	3.8	2.1	1.3	1.4

Spring barley

Harvest progress: 98% UK area, 100% English & Welsh area, 97% Scottish area.
Estimated national average yield: 5.0-5.2 t/ha

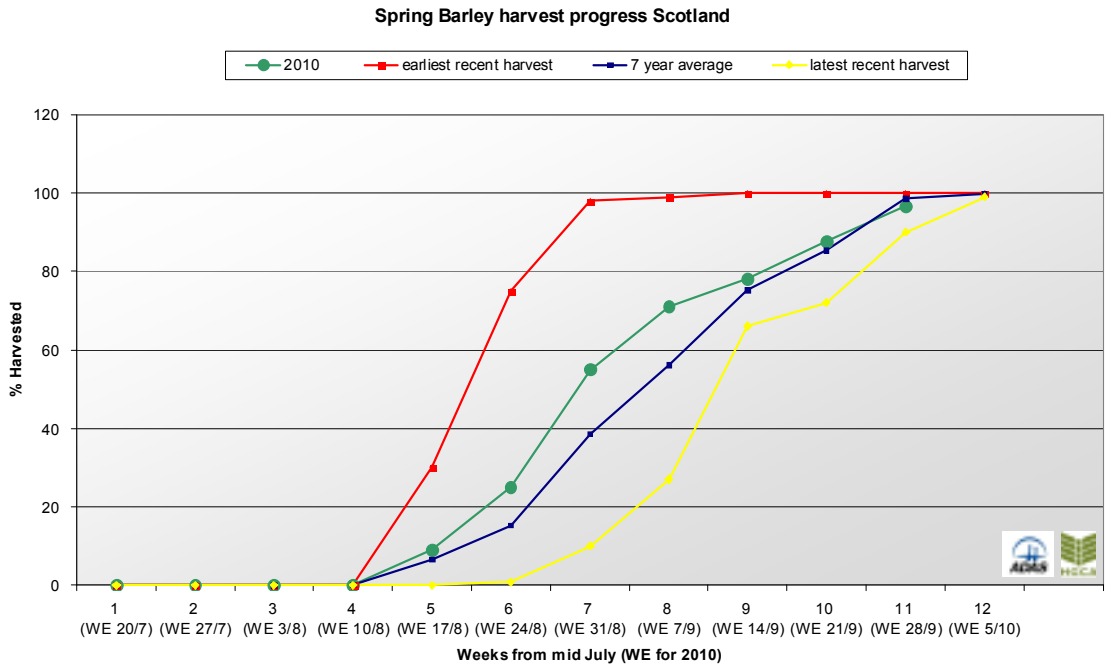
Progress

The harvest of spring barley has been close to or slightly ahead of average through out most of harvest (figure 9). Over the last three weeks of September the Scottish growers have struggled to harvest the remaining area of spring barley in wetter parts, as a result rate of harvest reduced (figure 10).



Source: ADAS 2010

Figure 9 Spring barley harvest progress comparison UK (week 1 = WE 20th July)



Source: ADAS 2010

Figure 10 Spring barley harvest progress comparison Scotland (week 1 = WE 20th July)

Yield

Estimated average UK **spring barley** yield is expected to be below the long term average at around 5.1 t/ha, with yields ranging from 4.0 t/ha to 7.5 t/ha.

Quality

The quality of **spring barley** was good with average specific weights of 67.5 kg/hl (HGCA survey data) and average nitrogen content of 1.59%. Crops grown on lighter land typically had slightly higher nitrogen levels than those on heavier soil types.

Table 3. HGCA Cereal quality survey results for the last 5 years –spring barley averages

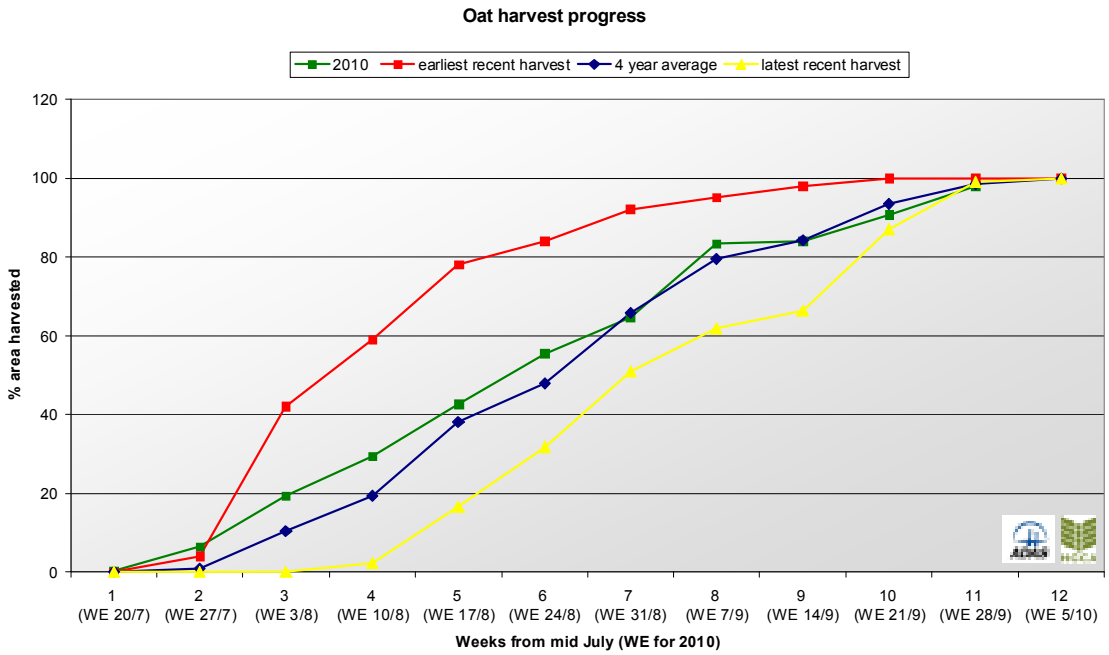
Spring Barley		2006	2007	2008	2009	2010
Specific weight	kg/hl	67.1	63.6	65.8	66.9	67.5
Nitrogen	%	1.70	1.67	1.56	1.58	1.59
Screenings (2.25mm)	%	4.8	4.3	2.2	1.7	2.3

Oats

Harvest progress: 100% UK area
Estimated national average yield: 5.5-5.6 t/ha

Progress

As with the other cereal crops the harvest of oats this season has been close to average with steady progress made through out the period (figure 11).



Source: ADAS 2010

Figure 11 Oats harvest progress comparison (week 1 = WE 20th July)

Yield

Estimated average UK **oat** yield is expected to be 5% lower than the long term average at 5.6 t/ha ranging from 4.0 t/ha (naked oat varieties) to over 8.0 t/ha for many winter sown crops

Quality

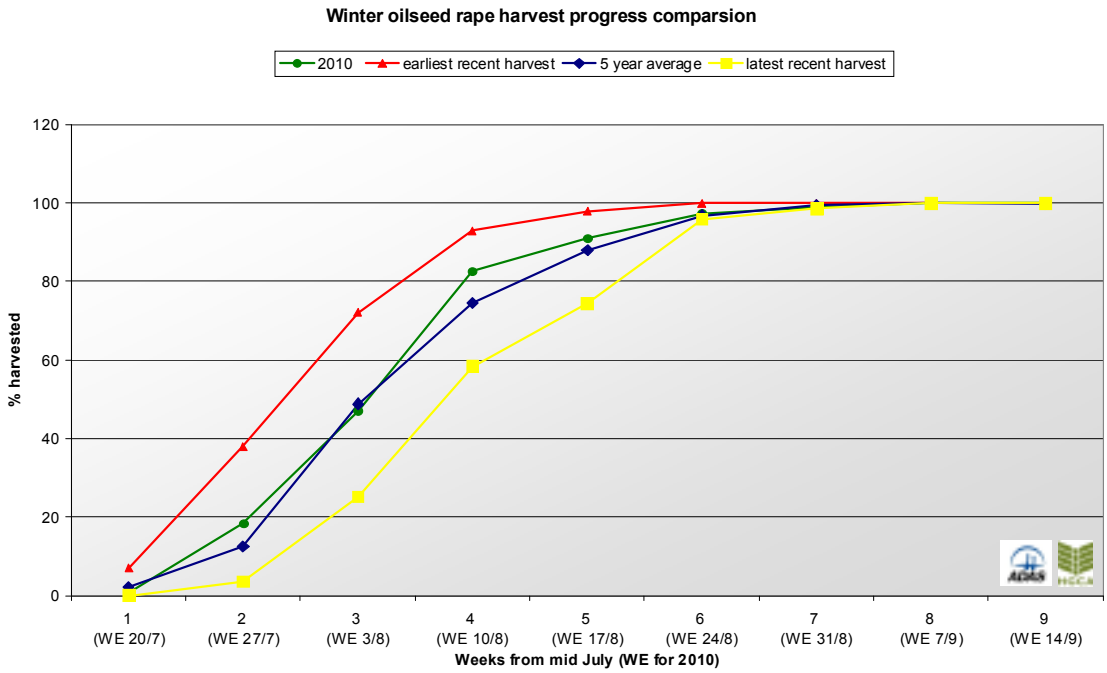
Quality has been good with specific weight in the region of 52 kg/hl, ranging from 50-55 kg/hl.

Winter oilseed rape

Harvest progress: 100% UK area – harvest complete
Estimated national average yield; 3.7 t/ha

Progress

Harvest of winter oilseed rape is now complete. Harvest progress on oilseed rape has remained close to average through out the harvest period (figure 12).



Source: ADAS 2010

Figure 12 Winter oilseed rape harvest progress comparison (week 1 – WE 20th July)

Yield

Estimated average UK **winter oilseed rape crop** yield is higher than expected with many growers having their highest yields ever with the overall average yields are expected to be above the long term average at 3.7 t/ha. Yields were variable, with soil type having a strong impact. Crops on light land yielded as little as 2.4 t/ha, whilst heavier soils yielded over 4.8 t/ha. Disease levels this season were low, helped by wider use of sclerotinia treatment, which helped produce good yields.

Quality

The oil content of **oilseed rape** samples has been variable this season with highs of 46% for varieties such as Osprey, Pr45 and Pr46, whilst DK Cabernet was closer to 44% and Castile was in the range of 39-43%.

Spring oilseed rape

Harvest progress: Complete
Average regional yield range: 1.8-2.0 t/ha

Estimated average UK **spring oilseed rape** yield was affected by the drought conditions during establishment and as a result is around 1.8 t/ha, with a range of 0.9 t/ha to 2.0 t/ha.

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