NATIONAL WINTER OILSEED RAPE ESTABLISHMENT POLL 2021

Summary

- The online Bayer Crop Science study involved a total of 170 growers, planting more than 15,000ha of winter OSR this autumn. Well-spread across the main arable areas of the country they are growing a broad cross-section of more than 50 main varieties.

- The trend to earlier drilling recorded over the past two years of Bayer's National CSFB Management Study has continued, with over half the growers sowing before August 20th and just over a third of those doing so before the end of the first week in August.

- Depending on region, between 40% and 75% of plantings are now being made before the historic third week of August start to OSR sowing in a clear response to modern establishment challenges – CSFB, in particular.

- The overwhelming majority of growers are employing one or more of the six most popular establishment management techniques – other than earlier drilling and the use of vigorous fast-growing hybrids – identified in two years of the National CSFB Management Study.

- CFSB pressures at establishment this season were noticeably lower than the past two seasons. Almost 60% of growers reported little or no challenge from the pest with a further third seeing only a moderate challenge.

- Eastern England continued to come under greater early pressure from the pest than most regions while Scotland and Northern England saw some obvious hotspots as well as the lowest overall level of challenge.

- As in previous seasons, the pressure from CSFB generally increased throughout August, reinforcing the value of earlier drilling. However, some mid-August sown crops came under greater pressure than those sown later in the month.

- The pressure from cabbage stem flea beetle declined markedly as the autumn progressed, with almost three quarters of growers – and well over 80% in the more northern counties – reporting little or no challenge from the pest in mid-late October.

- While the main place for hybrid varieties used to be in the later drilling slots, this no longer the case. The proportions of mainstream hybrids and pure lines sown on or before August 20 this season was remarkably similar and there were no discernible differences in CSFB pressure between types.

- Almost exactly a third of growers say they are now deliberately avoiding using insecticides to encourage predators. At the same time lower, CSFB pressures meant almost a third of those not deliberately avoiding them haven't needed to spray either, with most of the rest spraying only once.

- At an average score of 7.9 on the 0-10 scale *(where 0 = complete failure and 10 = perfect establishment),* establishment success was identical to that recorded last season and much better than the 6.5 average in 2019/20. What's more, almost 70% of growers rated their current crop establishment as 8 or more on the 0-10 scale, with just 11% rating it as 5 or less.

- The northern most parts of the country had the greatest establishment success, only Eastern England seeing relatively disappointing results.

- Establishment success was clearly related to the level of CSFB pressure, although the variation in crop establishment evident between regions in the absence of any real CSFB challenge also suggests rather better seedbed conditions (primarily soil moisture) in the north and west.

- Where there was little, if any, CSFB challenge there was little difference in establishment success between sowing dates, suggesting generally reasonable seedbed conditions throughout. However, the pest appeared to have relatively less impact on establishment in both the earliest and latest plantings.

- Despite the lack of discernible differences in sowing date or CSFB pressure between the main variety types, mainstream hybrids again appear to have established slightly better than pure line varieties, especially under pressure from the pest.

- There were few obvious differences in establishment success between the different management techniques, although those using organic manures did see slightly better establishment than the average while those double rolling and leaving longer stubbles recorded slightly worse scores.

- In the absence of any real CSFB challenge, companion cropping, double rolling and organic manuring delivering slightly better establishment scores than the average with leaving longer stubbles associated with noticeably less good establishment.

- Organic manuring delivered slightly better than average establishment where CSFB pressures were greater, as did leaving longer stubbles and seedbed fertilisation. Double rolling, however, appeared much less valuable here.

- Encouragingly, those growers who chose to avoid insecticide spraying to promote predators saw their crops establish no worse than the average, even where the CSFB challenge was more than minor.

- Although the average crop establishment score was almost identical to that of the previous season over 60% of growers assess this autumn's establishment as better than last year with only around 10% considering it to be worse. An almost identical position is evident on an area of plantings basis, boding well for crop performance.

- Noticeably higher proportions of northern and western growers have seen better and lower proportions worse establishment this season. In contrast, fewer of those in the east and East Midlands have seen their crops establish better and more reckon they've fared worse. Even so, over 40% of growers in every region consider establishment to be better than 2020.

The Poll & Sample

The on-line Bayer Crop Science study was undertaken in the second half of October to assess the relative success of winter oilseed rape establishment across the country; the CSFB pressures experienced; the key management practices employed and any contribution they may have made to success.

A total of 170 growers from England, Scotland and Wales were involved, planting more than 15,000ha of winter OSR this autumn. They were well spread across the main arable areas of the country *(Figure 1)* and are growing a broad cross-section of more than 50 main varieties *(Figure 2)* allowing meaningful comparisons to be made.

Figure 1: Regional Distribution of Growers

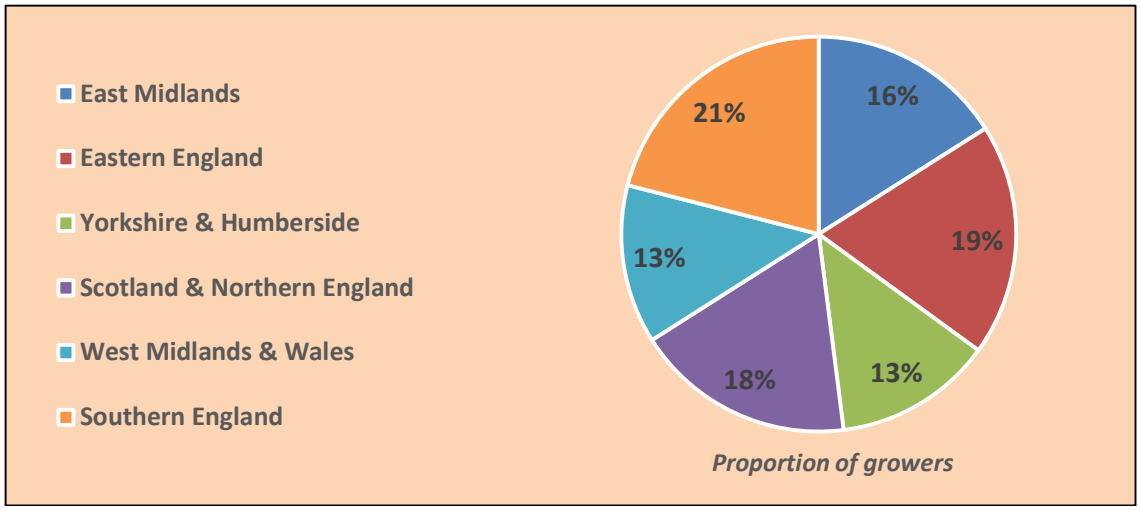
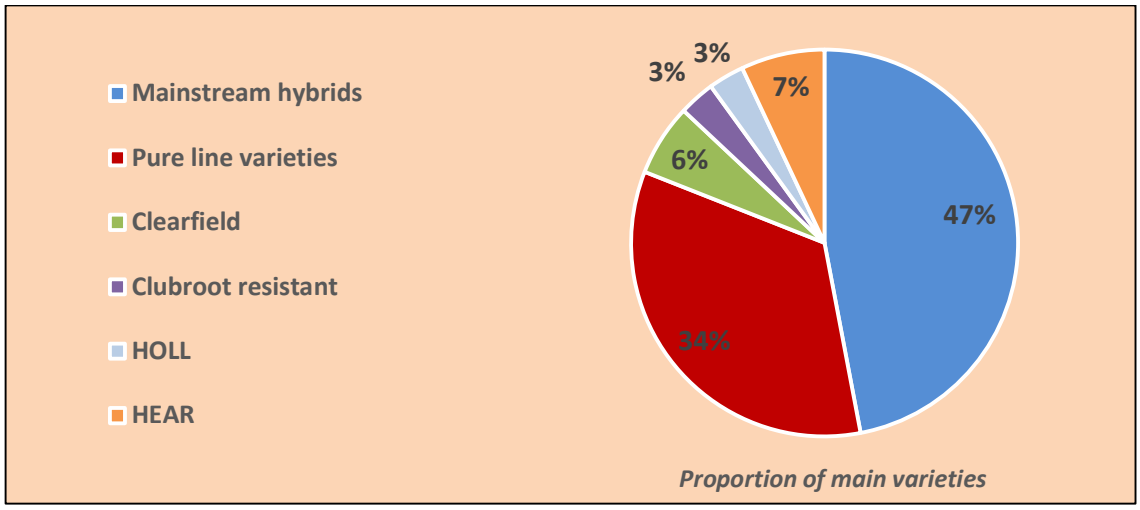


Figure 2: Main Variety Type Distribution

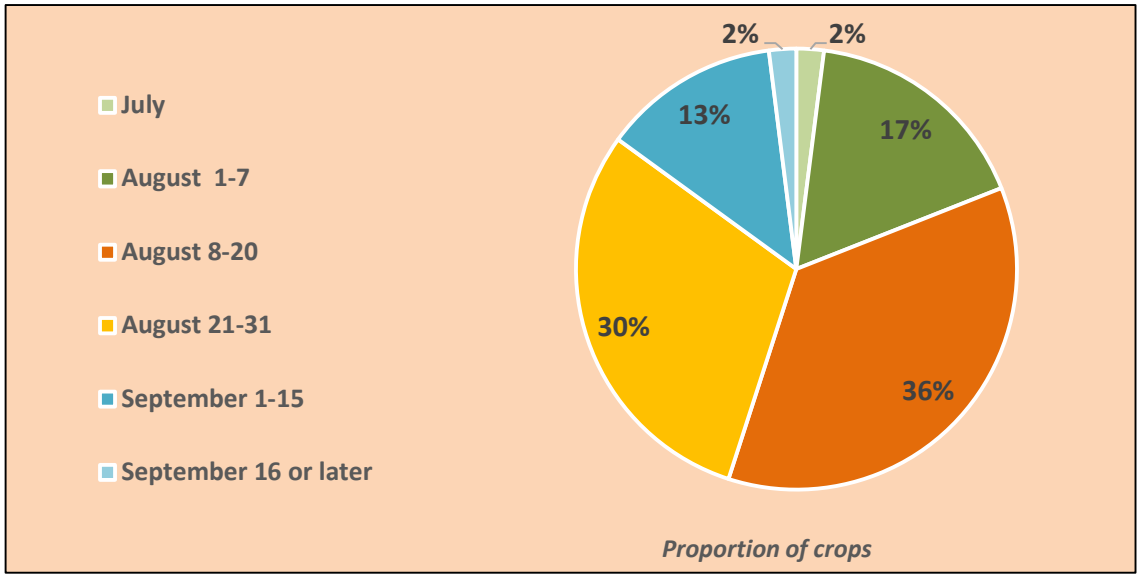


Sowing Date

Over half of the growers (55%) sowed their crops before August 20th this autumn, with just over a third of those (19% overall) doing so before the end of the first week in August.

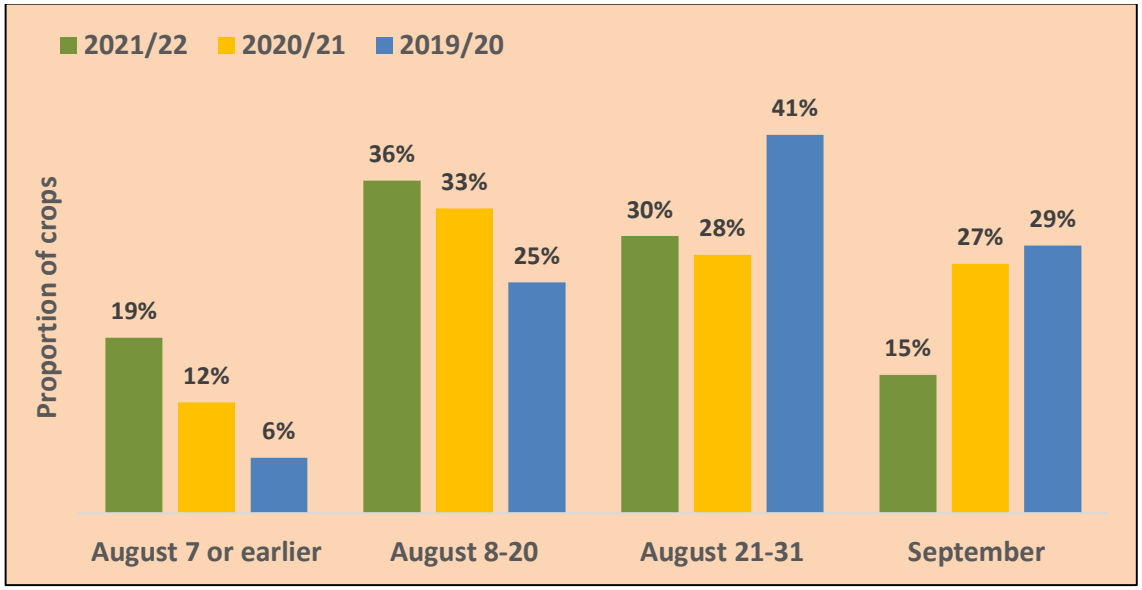
Only a minority (15%) of crops are now being planted in September *(Figure 3).*

Figure 3: National Sowing Date Distribution



This is a continuation of the trend to earlier drilling recorded over the past two years of Bayer's National CSFB Management Study (involving a similarly broad sample of growers), with a particular increase in the earliest and decline in the latest plantings *(Figure 4).*

Figure 4: National Sowing Date Distribution (compared to 2020 & 2019)



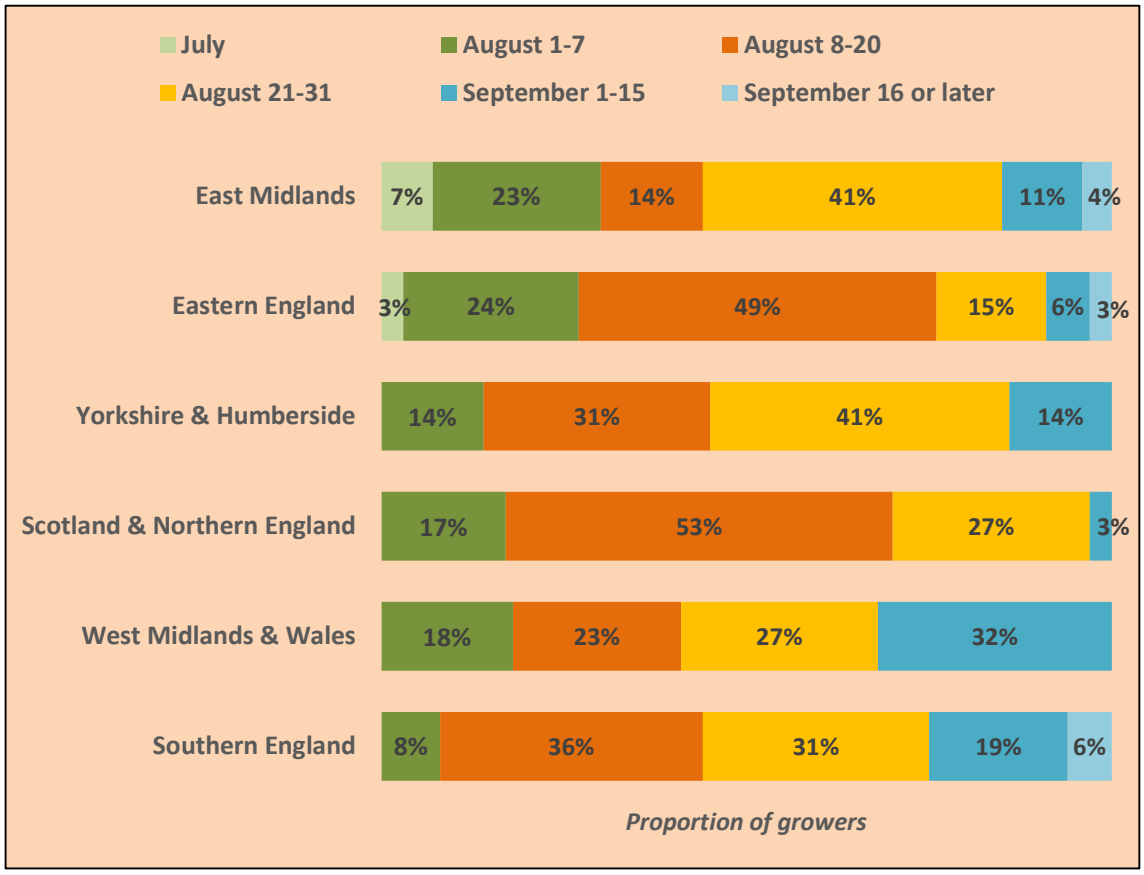
Considerable variations continue to be apparent in sowing dates across the main regions of the country *(Figure 5).*

In Eastern England and the East Midlands (the areas worst hit by CSFB in the past) around 30% of plantings took place on or before August 7, while this was less than 10% in the southern counties.

Depending on region, between 40% and 75% of plantings are now being made before the historic third week of August start to OSR sowing. This is a clear response to modern establishment challenges – CSFB, in particular.

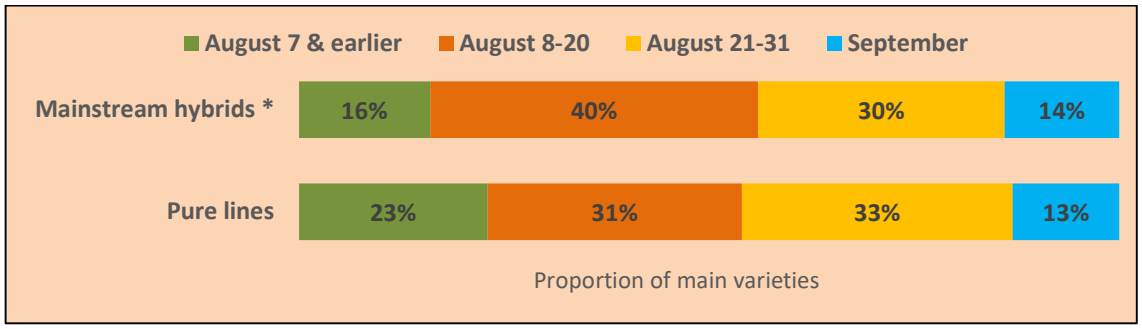
Even so, over half of plantings continue to be made after this date in many parts of the country – presumably driven by rotational necessity (and wheat harvesting delays) in many cases.

Figure 5: Regional Sowing Date Distribution



Reflecting their recognised advantages in establishment vigour and early growth rate, the main place for hybrid varieties was traditionally in the later drilling slots. This is no longer the case, however, with the proportions of mainstream hybrids and pure lines sown on or before August 20 now remarkably similar *(Figure 6).* Again, this is likely to be in response to the particular need for these attributes in combatting establishment challenges like CSFB.

Figure 6: Sowing Date by Main Variety Type



** Excluding Clearfield, clubroot resistant, HOLL & HEAR varieties*

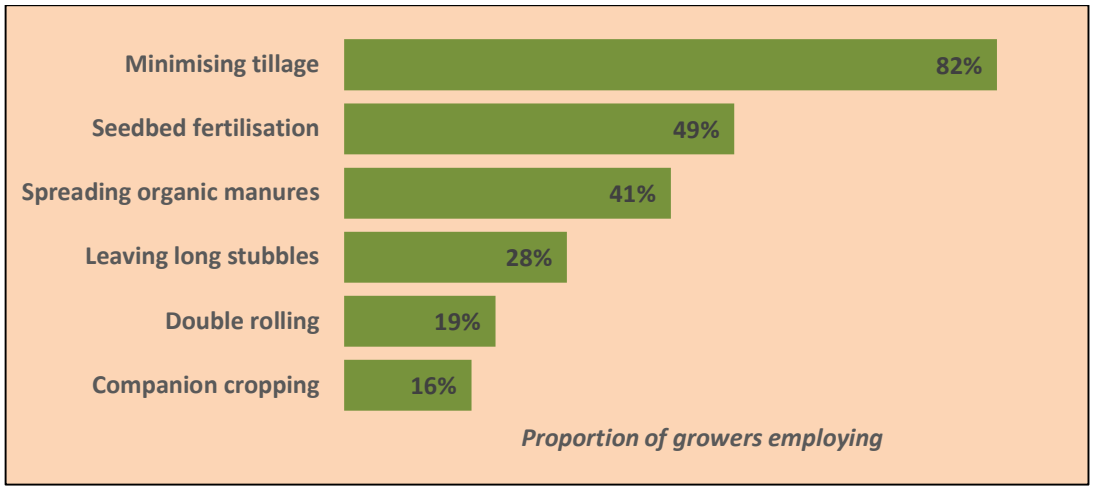
Establishment Management Techniques

The overwhelming majority of growers (97%) are employing one or more of the six most popular establishment management techniques – other than earlier drilling and the use of vigorous fast-growing hybrids – identified in two years of the National CSFB Management Study.

Some 42% are employing three or more of these techniques, with a small minority (5%) using five or six of them.

Unsurprisingly perhaps, minimising tillage is the most widely used technique, with seedbed fertilisation and organic manuring also being employed by 40% or more of growers *(Figure 7).*

Figure 7: Main Management Techniques

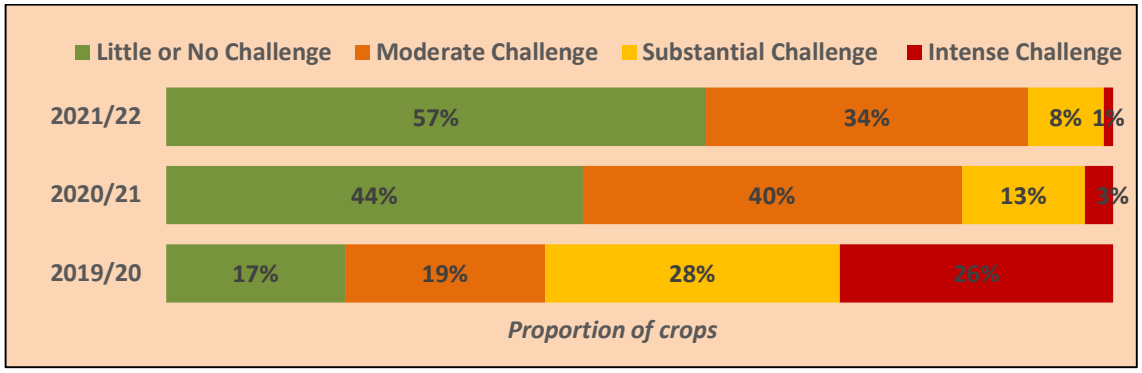


Cabbage Stem Flea Beetle Pressure

Overall, CFSB pressures at establishment this season were far from serious in most cases. Indeed, almost 60% of growers reported little or no challenge from the pest with a further third seeing only a moderate challenge.

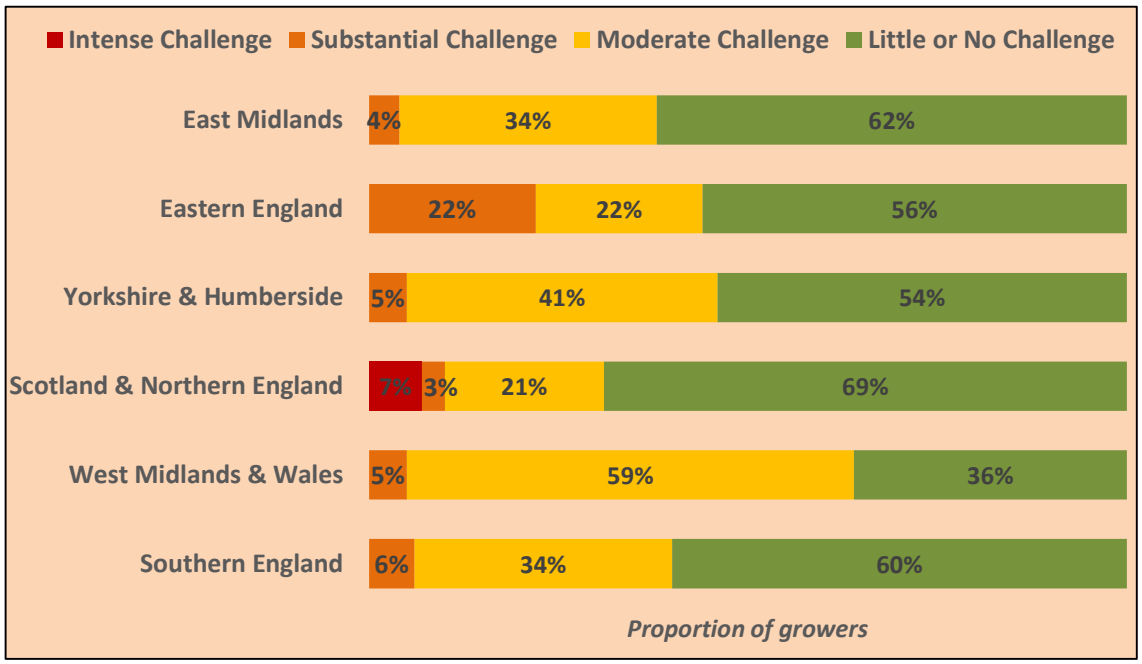
This is a further improvement on the position recorded over the past two years in the National CSFB Management Study *(Figure 8).*

Figure 8: CSFB Pressure at Establishment (2021 vs 2020 vs 2019)



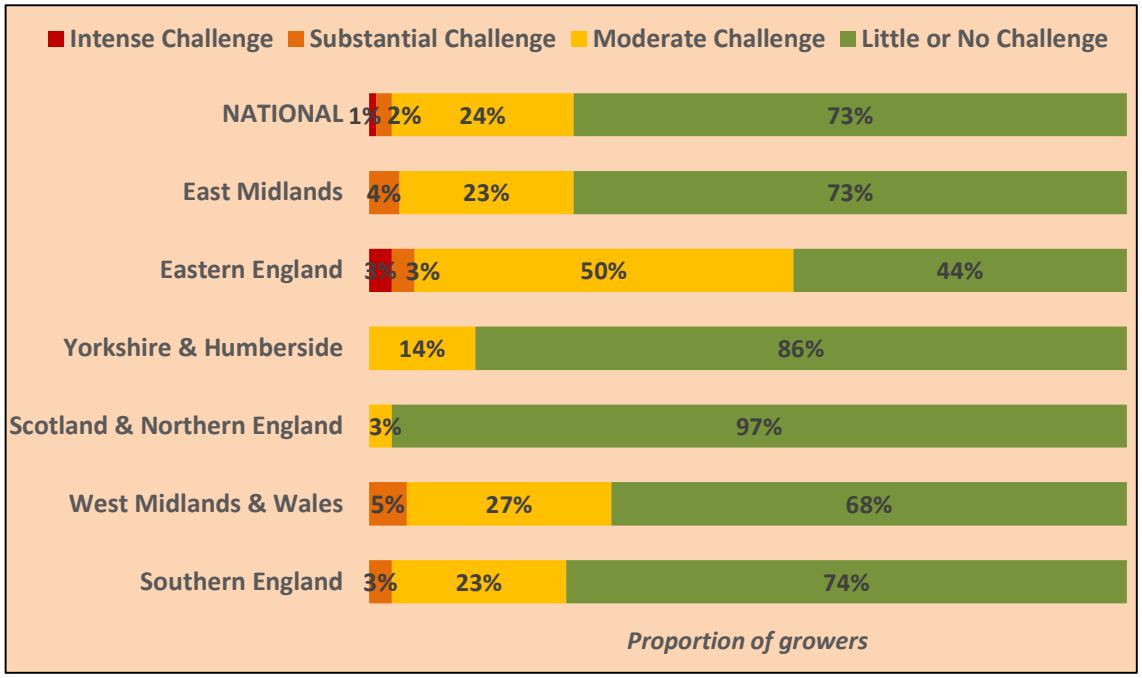
As in the past, the degree of CSFB challenge varied across the country, with Eastern England continuing to come under greater early pressure from the pest than most regions. Despite some clear hotspots, Scotland and Northern England saw the lowest overall level of challenge *(Figure 9).*

Figure 9: Regional CSFB Pressure at Establishment



With the possible exception of Eastern England, the pressure from cabbage stem flea beetle declined markedly as the autumn progressed, with almost three quarters of growers reporting little or no challenge from the pest in mid-late October. This rose to well over 80% in the more northern counties *(Figure 10).*

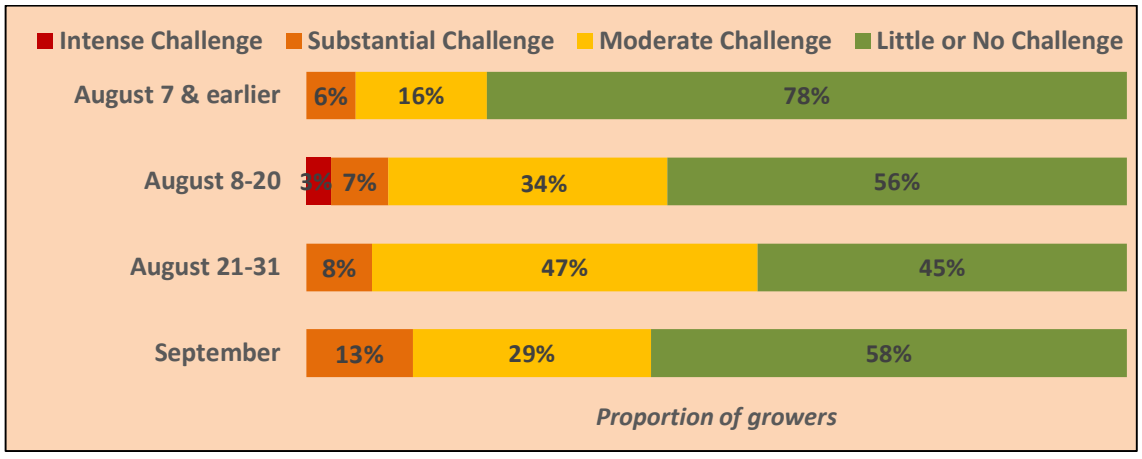
Figure 10: CSFB Pressure in October



As in previous seasons, the pressure from CSFB generally increased throughout August, reinforcing the value of earlier drilling *(Figure 11).* Interestingly, though, some mid-August sown crops saw a greater pressure than those sown later in the month.

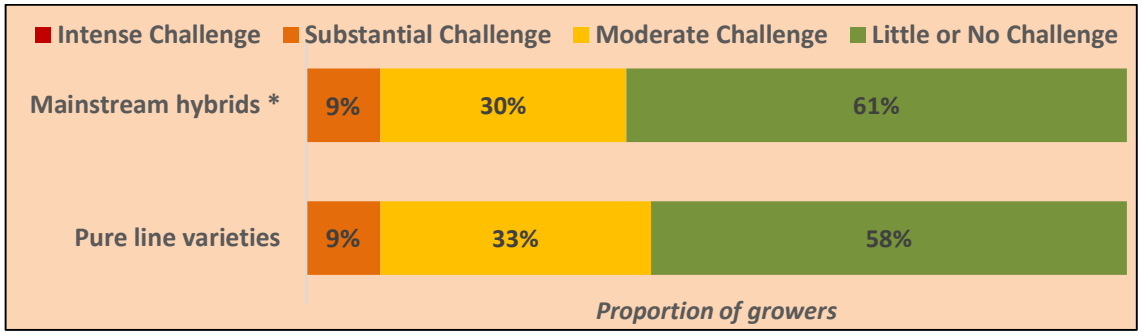
Generally lower pest pressures were reported in September-sown crops (the vast majority of these going in before the middle of the month).

Figure 11: CSFB Pressure at Establishment by Sowing Date



Reflecting the fact that similar proportions of the main variety types were sown in each drilling slot, there were no discernible differences in CSFB pressure between hybrid and pure line varieties *(Figure 12).*

Figure 12: CSFB Pressure at Establishment by Main Variety Type



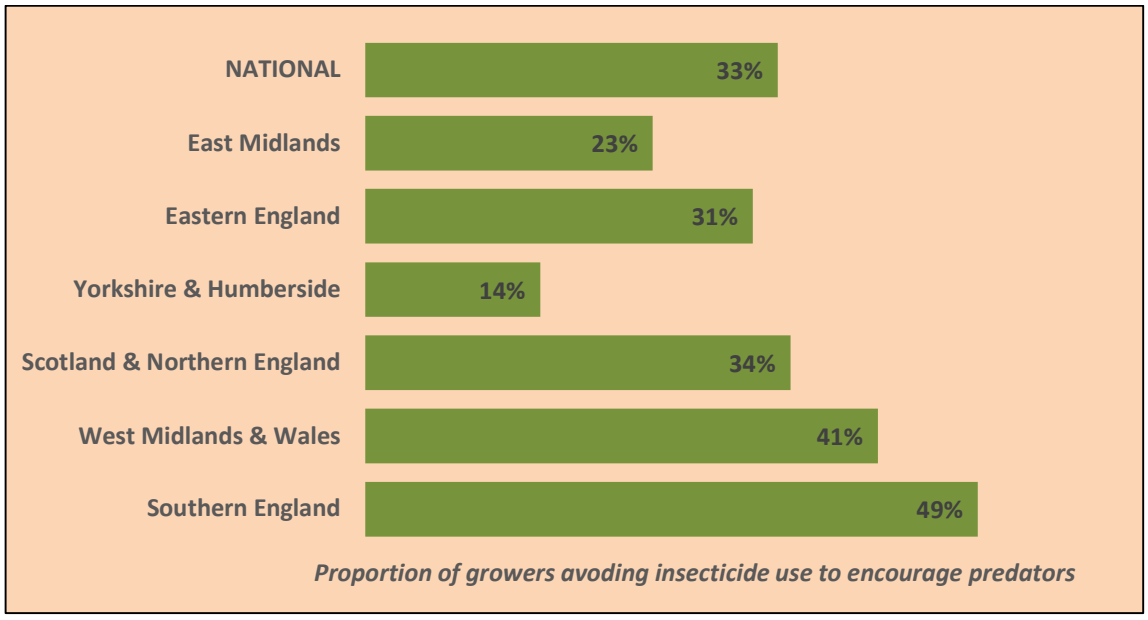
** Excluding Clearfield, clubroot resistant, HOLL & HEAR varieties*

Insecticide Use

Encouragingly, after two years of National CSFB Management Study findings underlining their relative lack of effectiveness, almost exactly a third of growers say they are now deliberately avoiding using insecticides.

This varies across the country from just under 15% of growers in Yorkshire and Humberside to almost 50% in the southern counties *(Figure 13).*

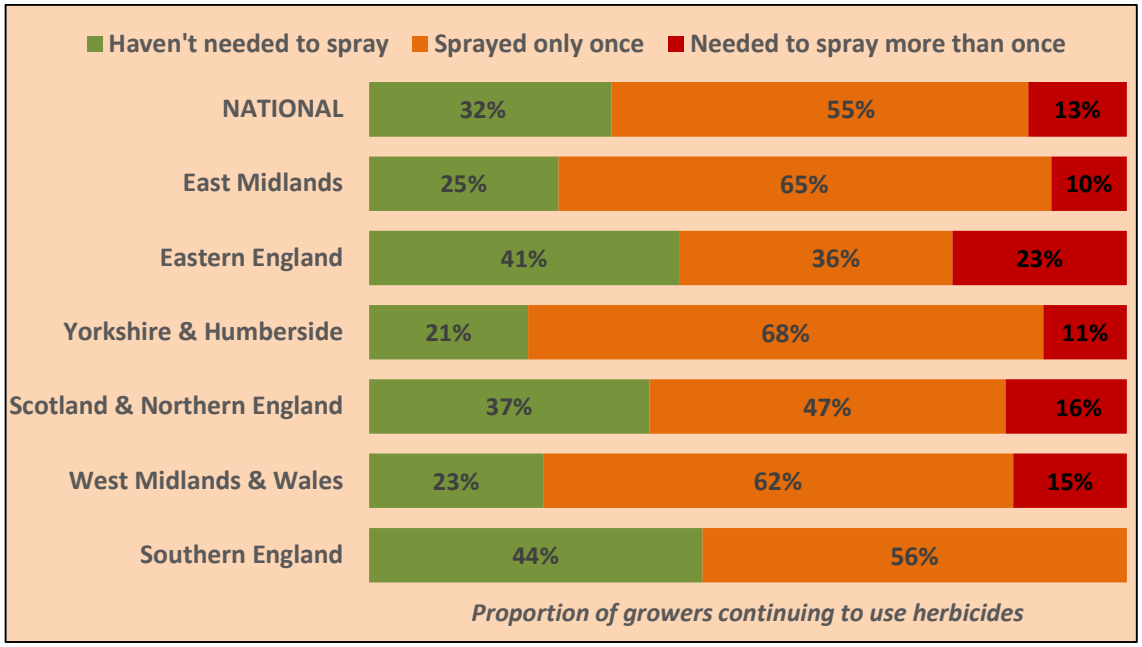
Figure 13: Insecticide Use Avoidance



Lower CSFB pressures this season meant almost a third of the growers not deliberately avoiding insecticides haven't needed to spray at establishment, with most of the rest spraying only once *(Figure 14).*

Interestingly, there was little clear association between regions in the number of sprays employed and relative levels of pest pressure.

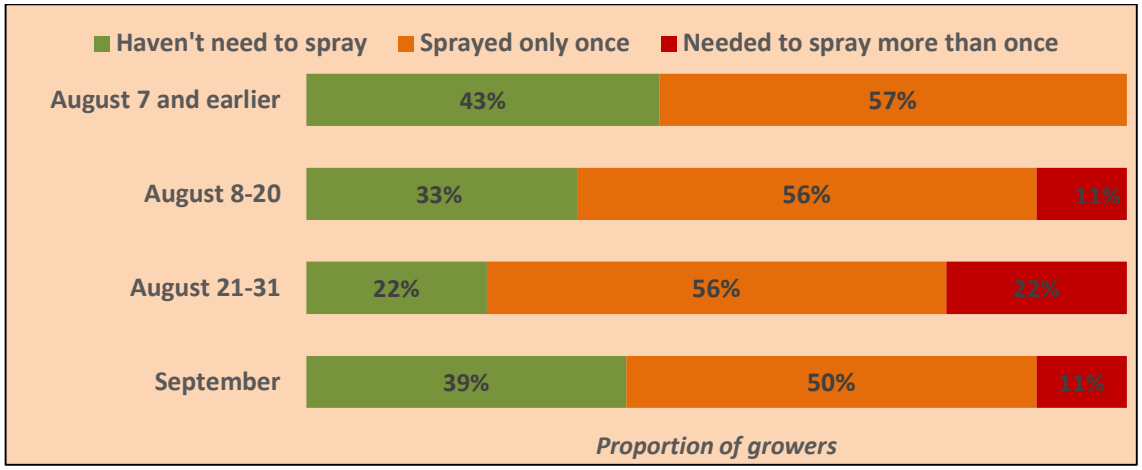
Figure 14: Insecticide Use by Region



Clearly reflecting relative pest pressures, however, higher proportions of growers haven't needed to use insecticides with both earlier August and September sowings *(Figure 15).*

The proportion of growers requiring more than a single spray increased with the delay in August sowing but declined somewhat for September plantings

Figure 15: Insecticide Use by Sowing Date

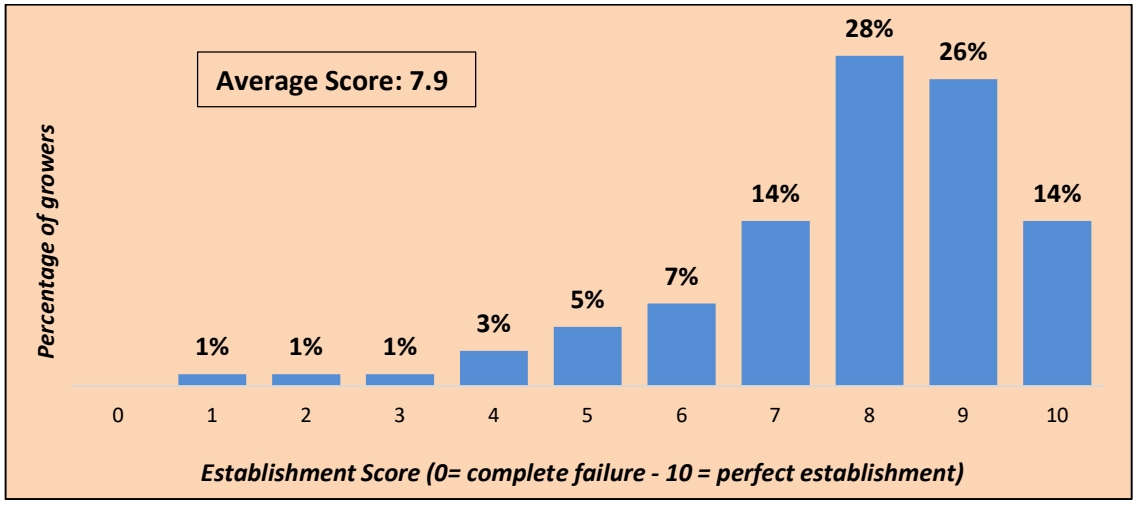


Establishment Success

At an average score of 7.9 on the 0-10 scale *(where 0 = complete failure and 10 = perfect establishment),* establishment success was identical to that recorded in last season's National CSFB Management Study, and much better than the 6.5 average of 2019/20.

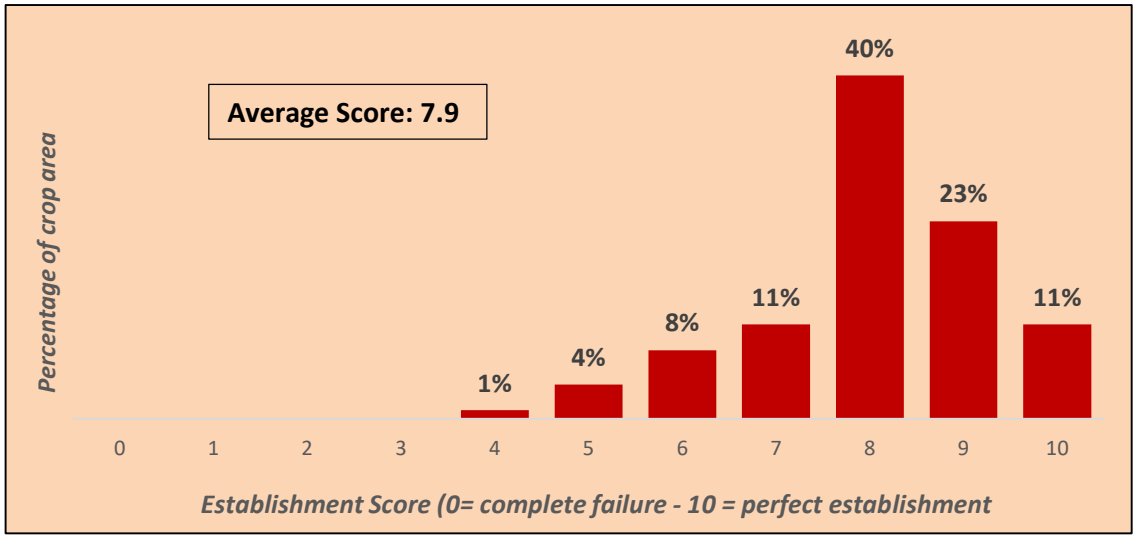
A hugely encouraging 68% of growers rate their OSR establishment this season at 8 or more on the 0-10 scale, with just 11% rating it as 5 or less *(Figure 16).*

Figure 16: Establishment Success Scores



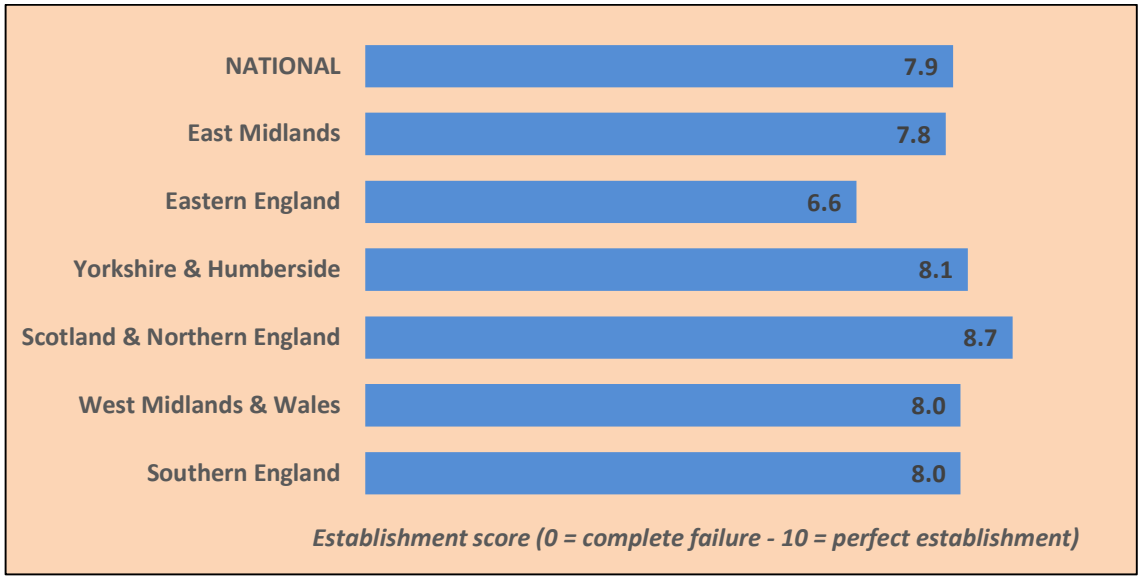
What's more, on an individual plantings basis, almost 75% of this season's crop area is rated 8 or more for establishment while just 5% scores 5 or less *(Figure 17).*

Figure 17: Establishment Success Scores



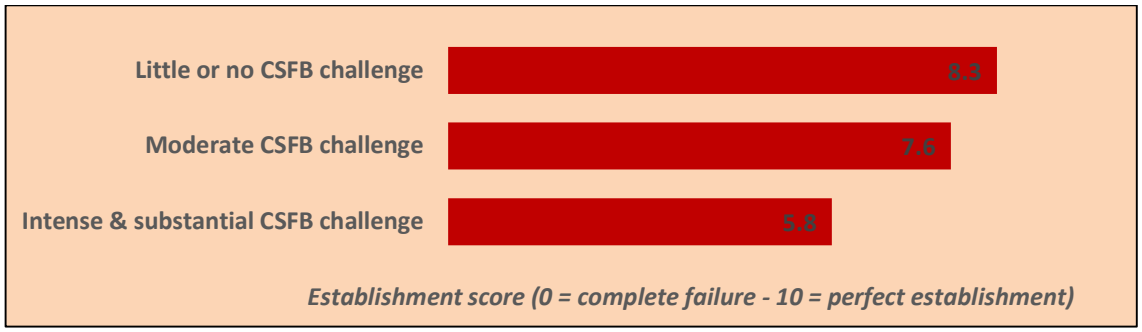
Unsurprisingly, establishment success continues to vary by region, with the northern most parts of the country faring the best and only Eastern England seeing relatively disappointing results *(Figure 18).*

Figure 18: Establishment Success by Region



As expected, the degree of establishment success was clearly related to the level of CSFB pressure *(Figure 19).*

Figure 19: Establishment Success by CSFB Pressure

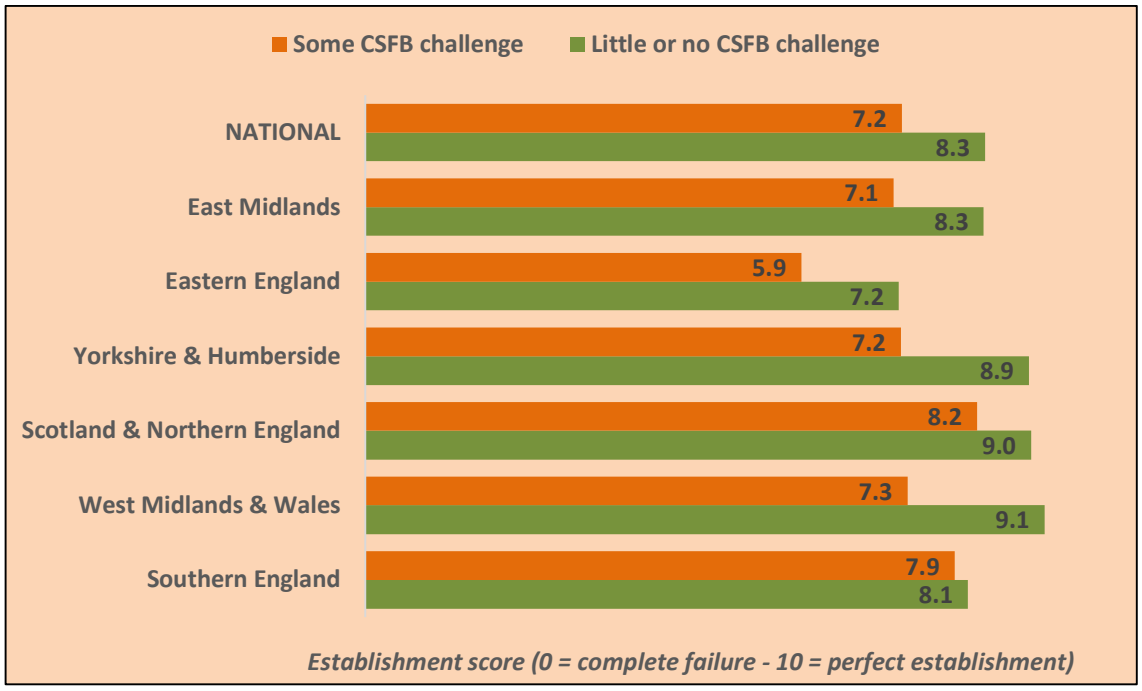


Assessing establishment success by level of CSFB challenge gives a good idea of the overall favourability (or otherwise) of sowing conditions.

The variation in establishment success between regions in the absence of any real CSFB challenge, in particular, clearly suggests rather better seedbed conditions (primarily soil moisture) in the north and west than in the south and east of the country *(Figure 20).*

Equally clearly, adding a level CSFB challenge to the equation invariably negatively impacts establishment success, the degree of impact depending to a certain extent (but not entirely) on the degree of pressure from the pest.

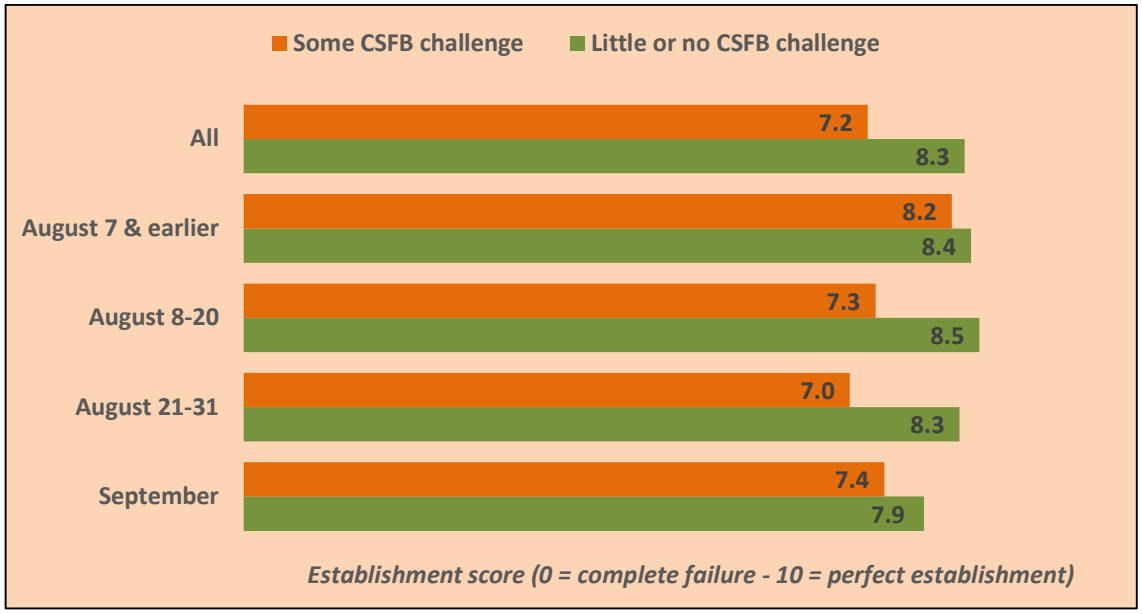
Figure 20: Establishment Success by Region & CSFB Challenge



In the absence of any real CSFB challenge there was relatively little difference in establishment success between sowing dates, suggesting generally reasonable seedbed conditions throughout the planting window *(Figure 21).*

The data also suggest relatively less CSFB impact on establishment in the earliest and latest plantings – differences in scores of 0.2-0.5 between the challenge levels compared to 1.2-1.3 in the mid- and late August-sown crops.

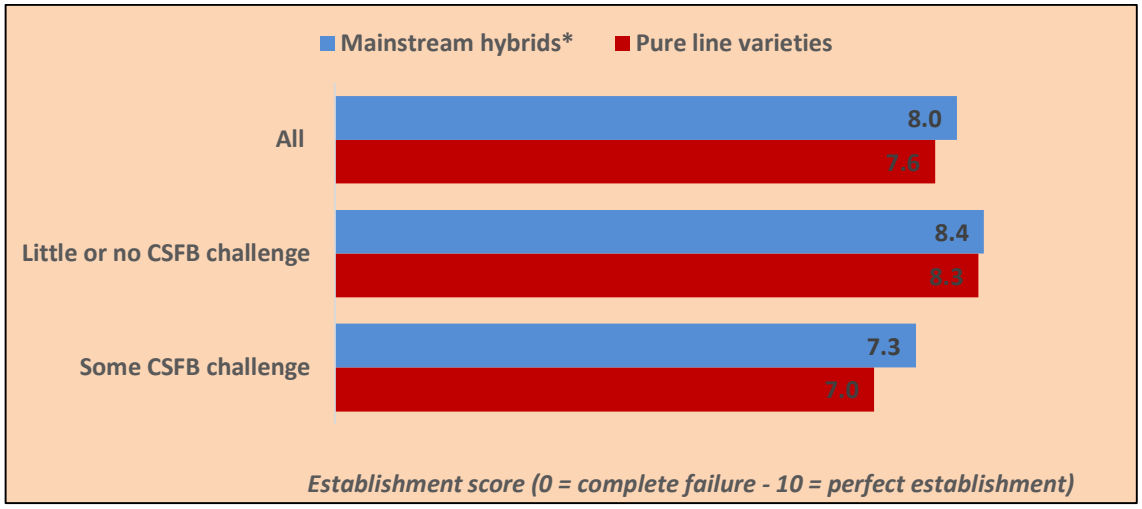
Figure 21: Establishment Success by Sowing Date & CSFB Challenge



Despite the lack of discernible differences in sowing date or CSFB pressure between the main variety types, mainstream hybrids again appear to have established slightly better than pure line varieties *(Figure 22).*

The establishment success of both types has clearly been affected by the level of CSFB challenge, with hybrids faring rather better than pure lines under pressure from the pest.

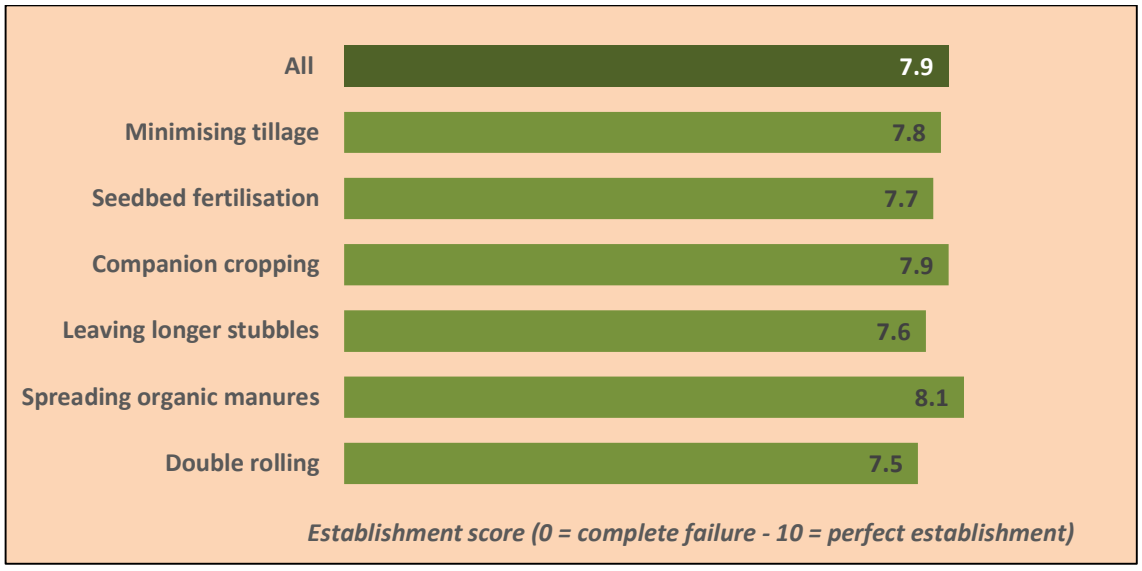
Figure 22: Establishment Success by Main Variety Type & CSFB Challenge



** Excluding Clearfield, clubroot resistant, HOLL & HEAR varieties*

There were few noticeable differences in establishment success between the different management techniques, although those using organic manures have seen slightly better establishment than the overall 7.9 average. Equally, those double rolling and leaving longer stubbles recorded slightly worse establishment scores *(Figure 23*).

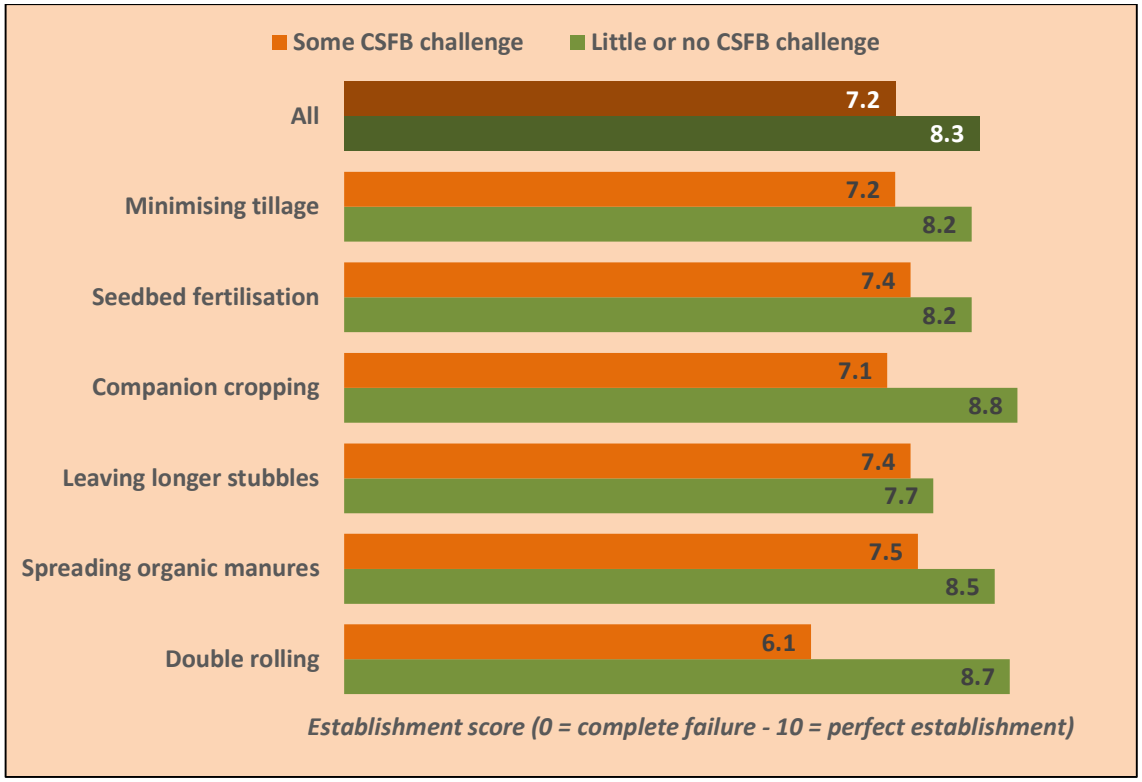
Figure 23: Establishment Success by Management Technique



Analysis by level of CSFB challenge shows companion cropping, double rolling and organic manuring delivering slightly better establishment scores than the 8.3 average in the absence of any real pest pressure, while leaving longer stubbles was associated with noticeably less good establishment *(Figure 24).*

Under CSFB pressure organic manuring delivered slightly better establishment than the 7.2 average, as did leaving longer stubbles and seedbed fertilisation. Interestingly, double rolling appeared much less valuable here.

Figure 24: Establishment Success by Management Technique & CSFB Challenge



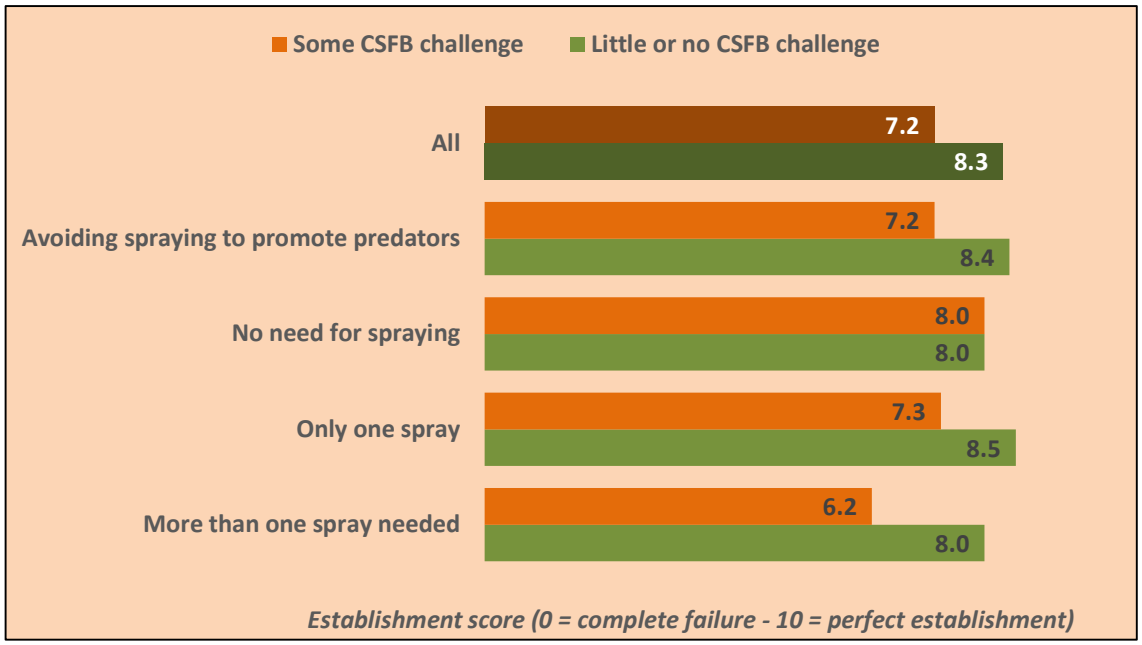
Encouragingly, those growers who chose to avoid insecticide spraying to promote predators saw their crops establish no worse than the average, even where the CSFB challenge was more than minor *(Figure 25).* That they didn't establish any better either may relate to the amount of time (and other conditions) required to build significant predator populations. It is, of course, too early to judge the extent to which avoiding insecticides could improve predation of eggs and larvae.

As expected, those who saw no need for spraying recorded identical establishment scores regardless of whether than had any challenge from CSFB or not. Where little or no pest pressure was evident too, establishment scores at 8 or more were reported irrespective of spraying practice.

Equally, establishment success declined with increased spraying need – presumably as a result of increasing CSFB pressures.

Although there is insufficient data on the establishment of unsprayed crops suffering relatively high pest pressures, the fact that those deliberately avoiding spraying and seeing some CSFB challenge recorded notably better crop establishment than those using more than one spray adds weight to the argument that insecticides are of relatively little value in combatting the pest.

Figure 25: Establishment Success by Insecticide Spraying & CSFB Challenge



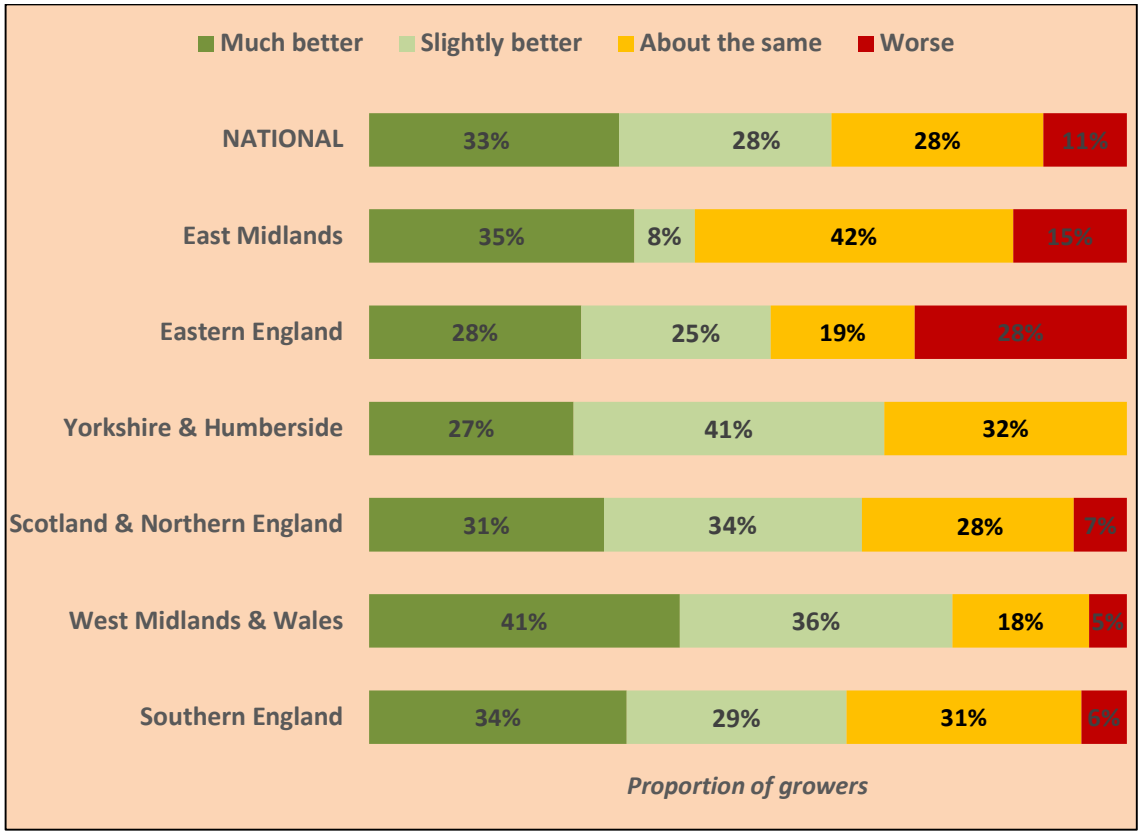
Relative Establishment

Although the average crop establishment score was almost identical to that of the previous season (recorded in the 2020/21 National CSFB Management Study) over 60% of growers assess this autumn's establishment as better than last year with only around 10% considering it to be worse *(Figure 26).*

Regional variations around this average were fairly high, reflecting different levels of both seedbed and pest challenge. Noticeably higher proportions of northern and western growers have seen better and lower proportions worse establishment than the average this season – up to 77% and as few as 5%, respectively, in the West Midlands & Wales.

In contrast, far fewer of those in the east and East Midlands have seen their crops establish better and far more reckon they've fared worse. Even so, over 40% in the East Midlands and more than half in Eastern England have seen their establishment improve this season.

Figure 26: Overall Establishment Compared to 2020 (by grower)



A similar position is evident on an area basis, with 61% of current plantings judged to be better established than 2020 (and over half of these much better) while only 11% are considered to have got off to a worse start *(Figure 27).* It may be early days yet, but given the critical importance of good establishment, this bodes well for harvest 2022.

Figure 27: Overall Establishment Compared to 2020 (by area)