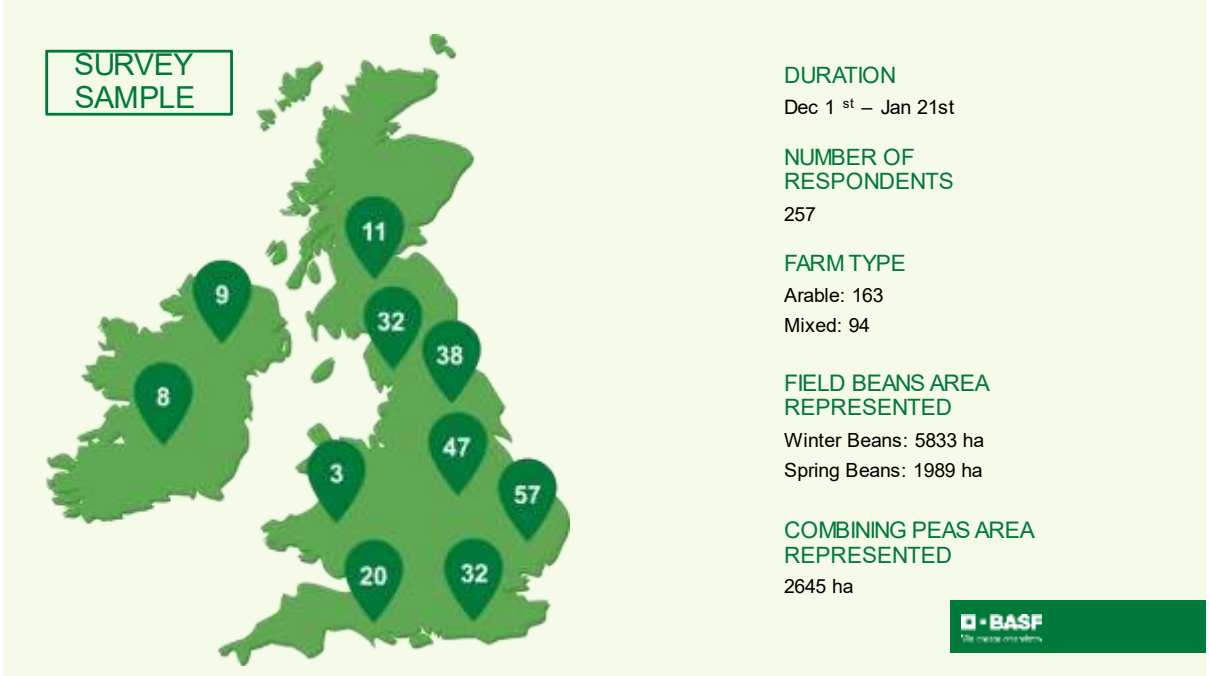
Welcome & thank you

Thank you again for participating in the BASF Pulse Check Survey. This is the second Pulse Check Survey which has been conducted as part of our Pushing Pulse Yields Together initiative.

The aim of this survey was to find out what barriers growers are facing to achieving higher yields and what agronomic factors seem to have the strongest association with higher yielding crops. In addition, it has helped BASF to understand growers' motivations behind growing the crop and intentions for the future. Every entry to our survey was hugely valuable to us, so we hope you find this report just as useful as we have.

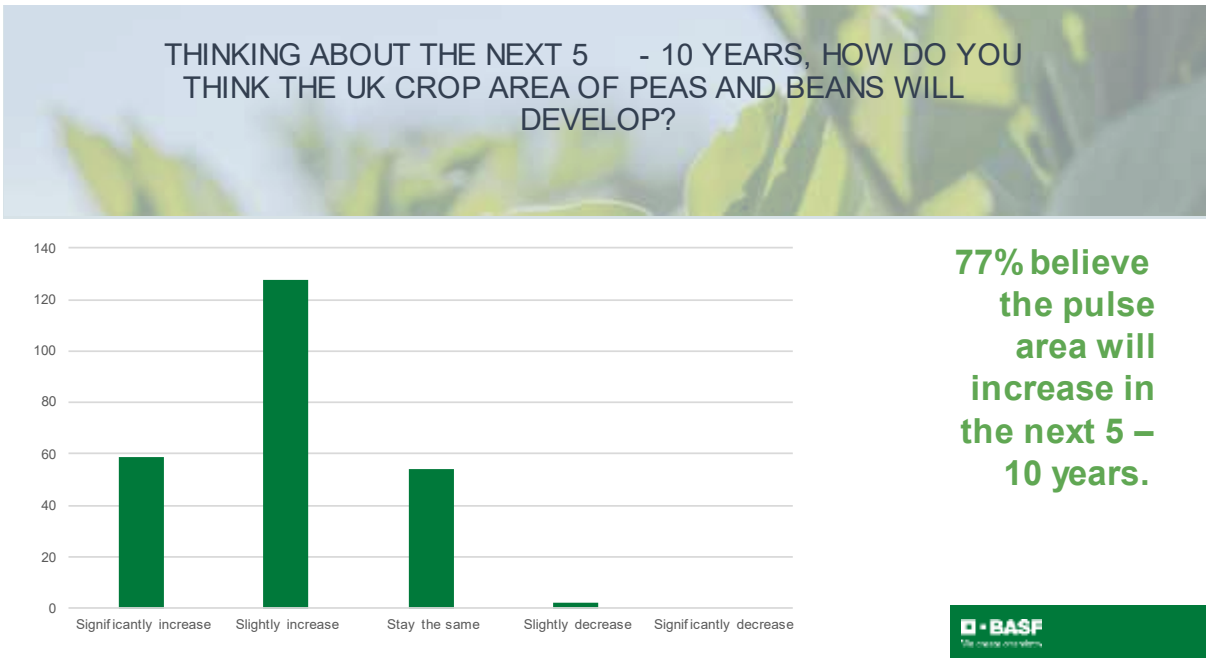


Survey Sample

We were delighted to receive over 250 responses to our survey, with a good geographical spread from across the UK and Ireland. We saw responses from both arable and mixed farmers, which allowed us to get a mixture of perspectives from those growing for home grown protein to those selling into a range of different markets.

In terms of the areas represented of field beans and combining peas, whilst the field bean area was greater, this was in proportion to the areas grown of these crops in the UK and Ireland overall.

When considering the analysis of this report, please be mindful of the date at which the data was collected. Running from December 2021 to January 2022, we were gathering data at a time when fertiliser prices had already increased dramatically, but not to the same extent that they have done today. With this in mind, some of the findings with regards to the rationale behind growing the crop may have changed slightly since the survey was conducted.

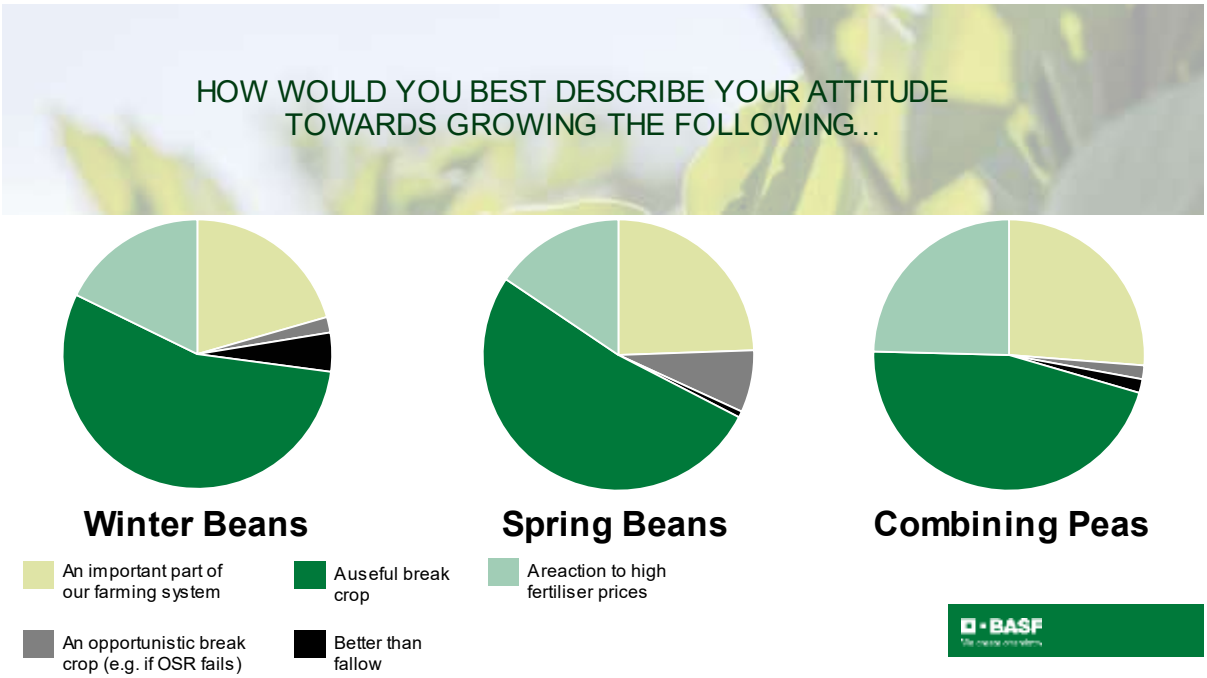


Crop Areas

The crop area outlooks for pulse crops looks extremely positive, with over three quarters of participants indicating that they foresee an increase in the pulse area over the next five to ten years. The majority of those who didn't see an increase in the area thought that it would at least remain stable.

This data matches the crop area forecasts predicted by other industry specialists, including PGRO.

Some of the rationale behind this increase in area is likely to be due to changes in the market creating some exciting opportunities for pulse growers. The expansion in the vegan food industry has opened the door to new end markets for pulse crops. The demand for pulses to the animal feed sector has also increased as livestock farmers look to source homegrown protein as opposed to imported soya beans. This also makes them a much more sustainable alternative to other crops, offering a lower carbon footprint to other feedstuffs, whilst providing the added benefit of fixing nitrogen in the soil.

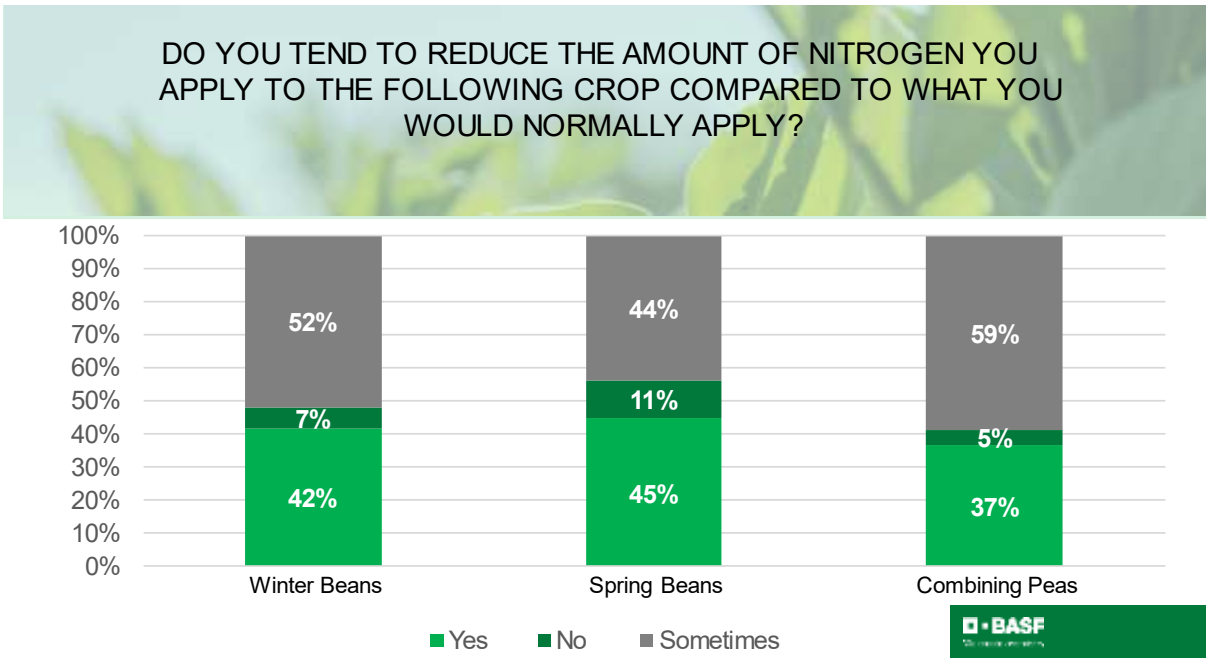


Attitudes

We were interested to understand growers' attitudes to pulse crops and whether they varied significantly between beans and peas.

Our results were comparable between crops, suggesting that across the board, growers see pulses as a useful break crop and an important part of the farming system. This suggests that the increased area in pulses is not a temporary uplift but part of a longer-term change in the arable cropping of many farms.

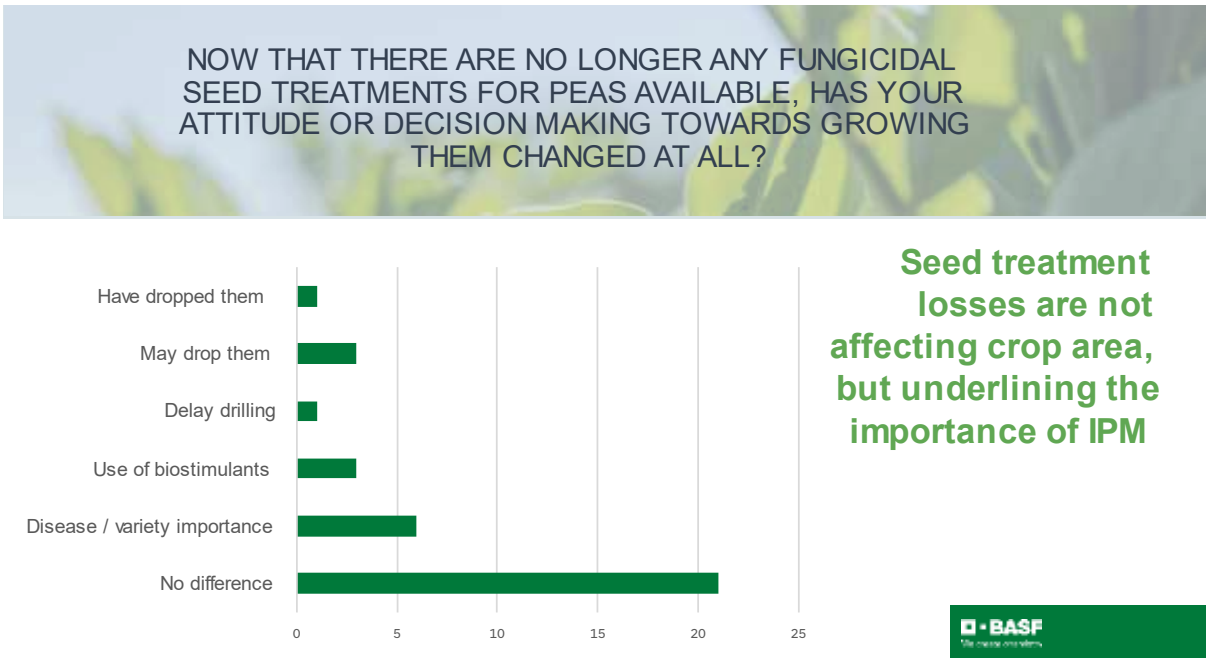
Given the high fertiliser prices preceding the survey, we were also interested to understand whether any growers had switched into pulses as a reaction to this. Between 20 – 25% of growers indicated that their rationale was a reaction to the increased fertiliser prices, however if we were to take this survey again today, with prices as they are, this figure may well be even higher.



Following crop N applications

To gain a greater understanding of how growers approach their first crop after pulses, we asked participants to state whether or not they would decrease their N applications to the crop immediately after beans or peas.

Wider research from PGRO has suggested that typically growers do not reduce the nitrogen applications to the following crop, but instead reap the benefits of the residual soil N from the pulses in the form of an additional yield boost. Our results suggest that this is not the case, as roughly 42% of growers have suggested that they will reduce their N applications, with the majority of the rest at least considering reducing the fertiliser applied. This result may well be due to the higher fertiliser prices facing growers at the moment which is starting to affect how agronomic decisions are approached for next year's cropping.



Seed Treatment Losses

With the loss of metalaxyl-M products last June, we were interested to see whether the loss of this seed treatment has affected growers' intentions to grower pea crops in the future.

Our results indicate that for the majority of growers, the loss of the fungicide seed-treatment has not had any impact on whether or not they grow the crop. It has, however, underlined the importance of considering integrated pest management practices with greater importance. Closer attention to disease resistance and variety type, as well as drilling into the right conditions were all noted as particularly important now that the fungicide treatment is no longer available.

The following section of the report will focus on yields reported and any trends in agronomic decisions which seem to have an impact on yield.

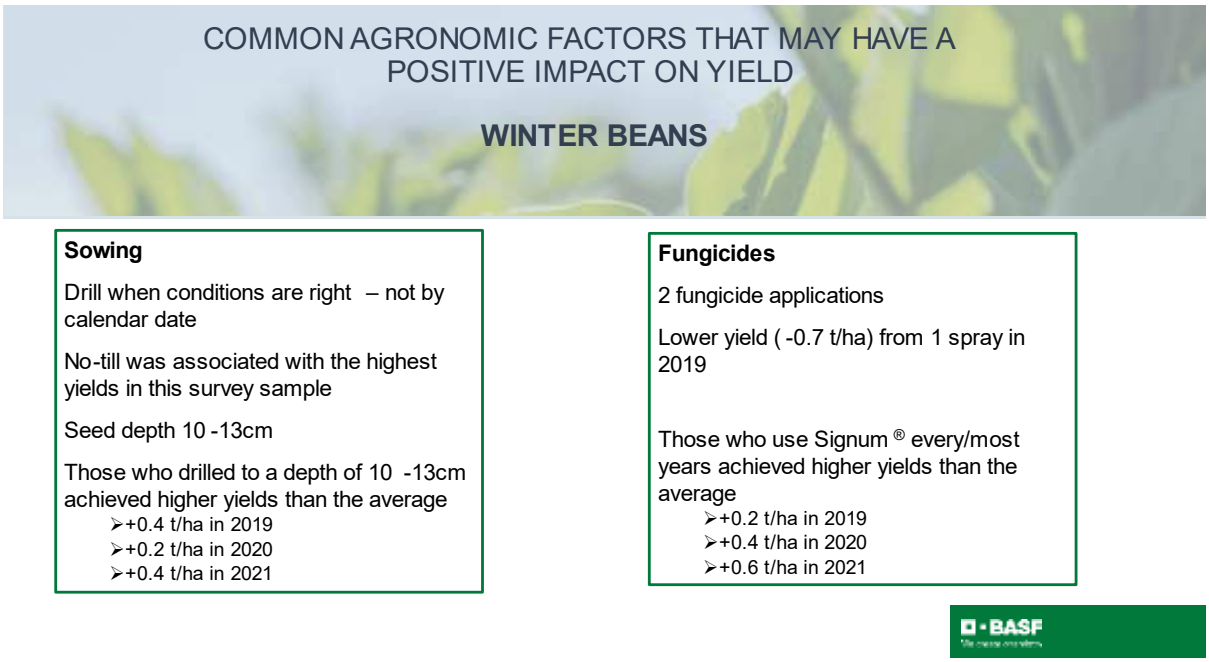
AVERAGE YIELDS

	2020	2021
WINTER BEANS	3.98 T/HA	3.91 T/HA
SPRING BEANS	4.19 T/HA	3.39 T/HA
COMBINING PEAS	3.49 T/HA	3.67 T/HA

Average Yields

The average yields reported across the 2021 and 2022 survey are shown above, with yields remaining fairly static across the two years.

We do see a slight decrease in the 2021 Spring Bean yield reported, which may be due to the dry conditions seen around establishment and herbicide application timings last spring. It will be interesting to compare these results to those reported by DEFRA which are based on a much larger sample size and see whether the same is true in both data sets.

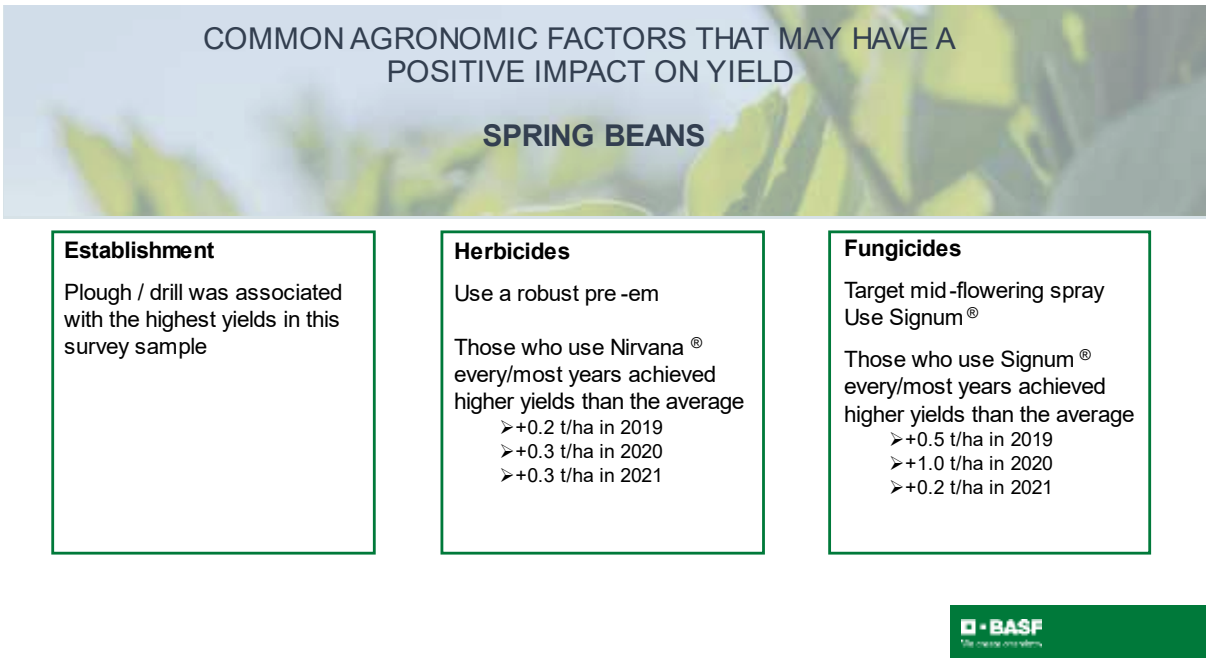


Agronomic factors affecting yield: Winter Beans

Throughout the survey, we asked a number of questions regarding your agronomic decisions towards your pulse crop; drilling date, drilling depth, cultivation technique, herbicide and fungicide usage.

We analysed these results, across two year's worth of survey data, to look for trends which consistently appear to have a positive correlation with yield results.

In winter beans, drilling depth appears to be a particularly important factor in gaining a well established and high yielding crop. Across the three years analysed, those who drilled to a depth of 10 – 13cm appear to reap an additional 0.2 t/ha – 0.4 t/ha above the average. This advice is concurrent with that provided by PGRO, who have stated for many years now that drilling to a sufficient depth is critical for good establishment. Drilling into moisture and avoiding compaction are also top tips frequently highlighted by industry experts at PGRO.



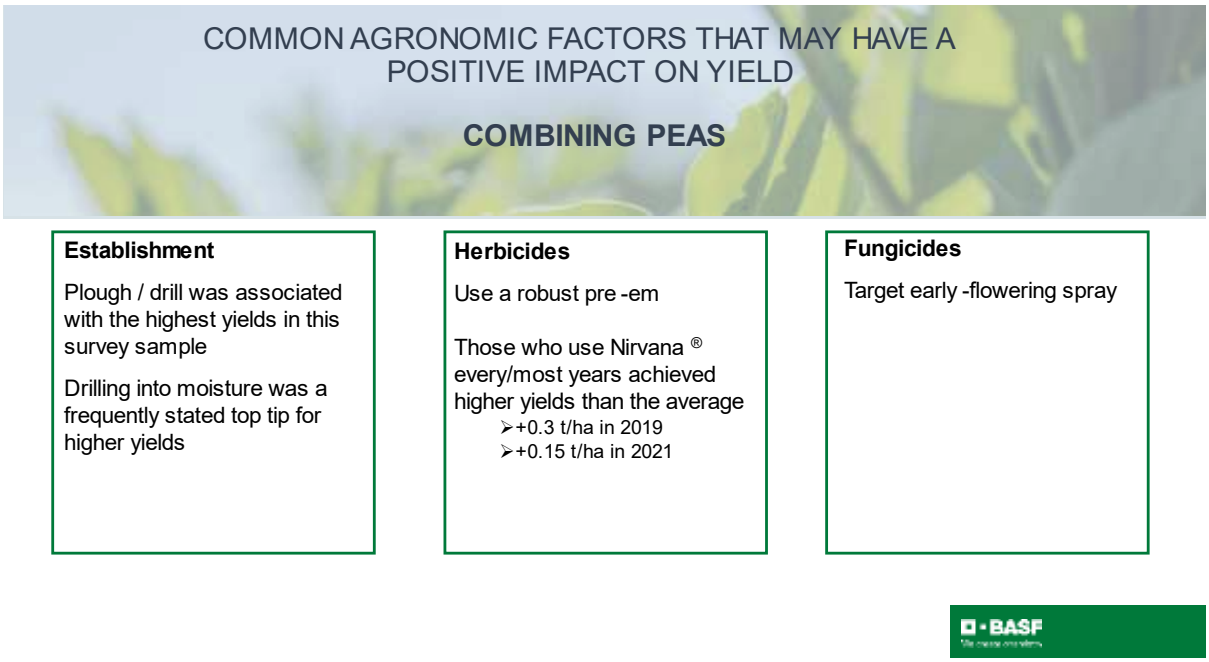
Agronomic factors affecting yield: Spring Beans

The agronomic factors affecting spring bean yields were similar to those for winter beans.

The importance of good establishment was still very clear and there was a slight positive correlation between those who ploughed prior to drilling and yield achieved at harvest.

Chemical inputs also showed to help enhance yields, with those who applied Nirvana as their pre-emergence herbicide gaining 0.2 t/ha to 0.3 t/ha additional yield.

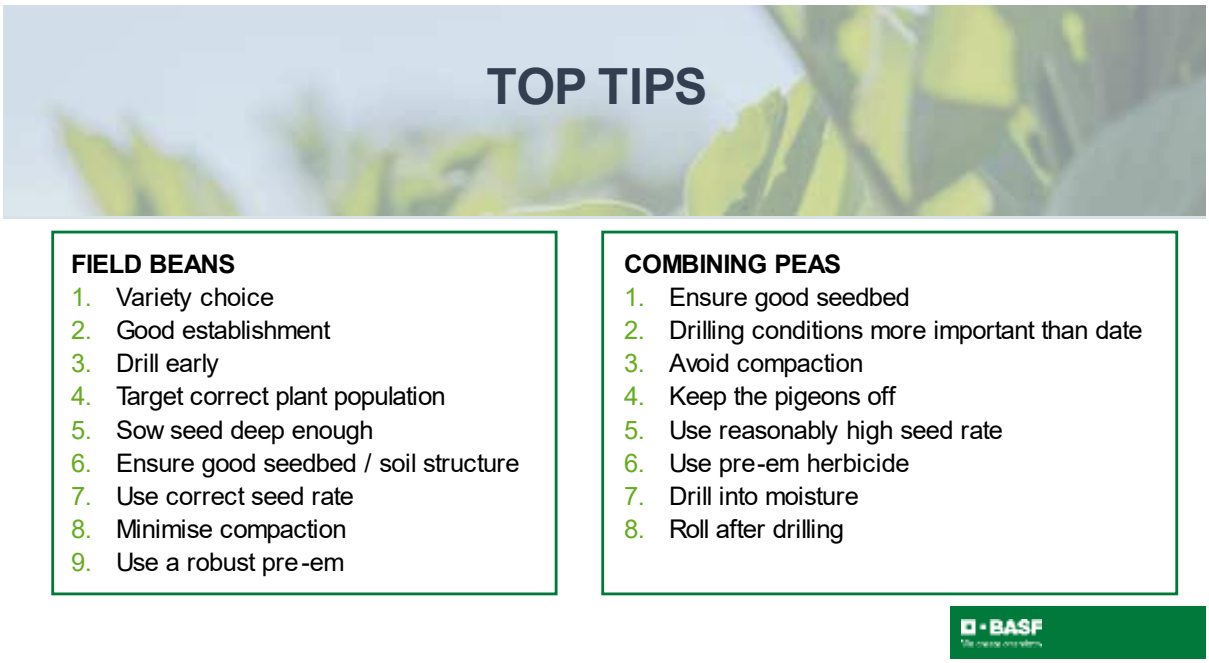
The yield response to Signum applications was also quite pronounced in the survey results and is apparent in the data reported above.



Agronomic factors affecting yield: Combining Peas

The agronomic factors affecting yields of combining peas were again focussed on the establishment conditions. Drilling into moisture was frequently stated with a top tip and attributed to higher yields for many respondents, although avoiding compaction and “wet feet” remains important.

As peas are not a particularly competitive crop in the early growth stages, the Nirvana applications are likely to have helped boost some of the higher yielding crops by reducing the weed pressure at an early stage.

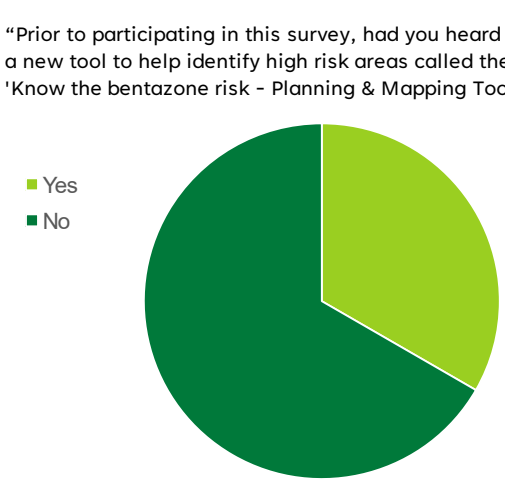


Top Tips

A huge range of top tips were submitted in the survey and we would like to thank you all for submitting them.

The above summarises the topics of the most frequently stated tips. It is clear from the data that good establishment is critical to achieve a high yielding crop. Drilling depth, soil preparation and early weed control are all critical in both beans and peas.

Variety choice also came up as a particularly important agronomic factor. Growers frequently recommend choosing an early maturing variety for field beans to ensure that they can be harvested in good time, before the autumn weather conditions pose too many challenges.



Bentazone Stewardship

We were encouraged to see that 1/3 of participants were aware of our Bentazone Mapping & Planning Tool. This tool, which launched last autumn, allows the user to understand the specific risk their field may pose from a water stewardship perspective. It summarises all of the guidance into one place to make water stewardship decisions quicker and easier. We would encourage anyone who is not familiar with this tool to use it in advance of any bentazone applications going forwards. The tool is available to access for free, online here.

Thank you

Thank you for taking the time to taking part in our survey. We hope some of these results have been interesting and provide some useful insights or comparisons to your own farm practices.