

## KEY HYBRID TRAITS LIMIT FLEA BEETLE DAMAGE

### Oilseed rape hybrids that are faster to develop before winter and earlier to commence stem elongation can limit damage from cabbage stem flea beetle larvae, reveals the latest research.

The 2015/16 season study was carried out at on DEKALB breeding trial in Cambridge which, like many crops in the area, was significantly affected by flea beetle for the second year in a row, with around 15 larvae/plant on average.

Some of the 30+ varieties being grown to the standard, untreated protocol lost 50% or more of their main stems to the pest and were seriously stunted at flowering while others lost no stems whatsoever and showed little or no stunting (Figures 1 & 2).

Detailed assessments of branching levels and earliness of flowering as well as main stem losses and plant stunting in early May allowed the extent of damage from flea beetle larvae to be evaluated by variety.

At the same time, rating of varieties for speed of development before winter (DBW) and earliness of stem elongation after winter (SAW) enabled any correlations between these agronomic traits and flea beetle damage to be explored.

Substantial variations were recorded in all the main characteristics measured, with branching scores ranging from 3 to 7 on a standard 1-9 scale and earliness of flowering scores from 2 to 8.

Contrary to popular wisdom, across the entire dataset higher levels of main stem loss tended to result in a slight decrease rather than any increase in oilseed rape branching. It also, unsurprisingly, resulted in a delay to flowering.

### Clear Varietal Differences

Obvious varietal differences were apparent, with varieties developing more rapidly before winter losing markedly fewer main stems and suffering noticeably less stunting from flea beetle larvae than those developing less rapidly. Interestingly too, there was also a tendency for faster-developing varieties in the autumn to be better branched at flowering.

Main stem losses and stunting also tended to be lower in varieties moving into stem elongation earlier after the winter than in those taking-off less rapidly, although no correlation was apparent between this trait and branching.

Overall, the study clearly shows that varieties with more rapid autumn and early winter leaf – and presumably also root – growth are better able to tolerate larval feeding from the early winter as well as adult flea beetle leaf damage at establishment.

They were as infested with larvae as less rapid early developers but, assisted by a greater branching ability, their extra biomass appeared to enable them to cope better with the damage caused.

Although to a lesser extent, this ability to grow away from flea beetle larvae damage seemed to be enhanced by inherently earlier stem elongation; a character likely to be especially valuable in seasons where spring growth is badly constrained by prolonged or late cold conditions.

In addition to their role in reducing flea beetle damage, of course, rapid development before winter and early stem elongation after winter should be equally valuable characteristics in providing the greatest possible tolerance to the slug and pigeon problems that are a fact of life for most winter OSR growers.



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Figure 1: Main stem losses in DEKALB breeding trials (2015/16)

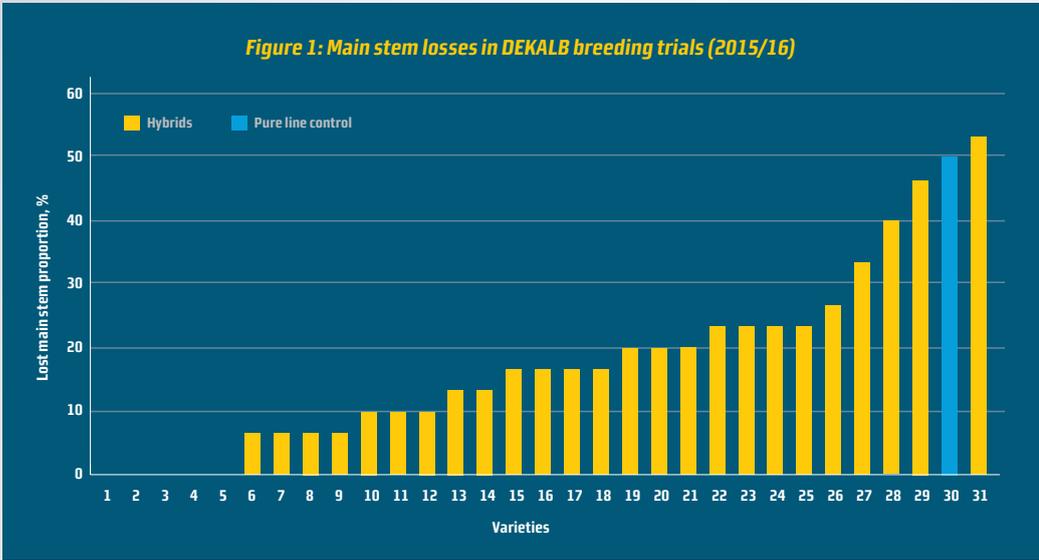
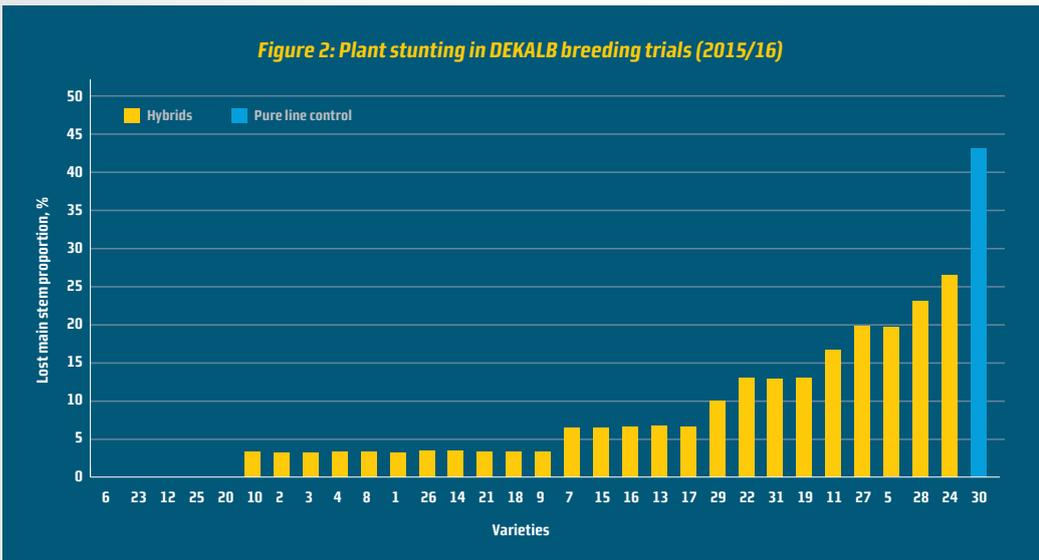


Figure 2: Plant stunting in DEKALB breeding trials (2015/16)



**DEKALB Hybrids: Relative DBW and SAW Traits**

Variety	Development before winter (DBW) 1 = very slow to 9 = very fast	Stem elongation after winter (SAW) 1 = very late to 9 = very early
DK Extrovert	8	8
DK Exalte	7	7
DK Exception	7	6
DK Exentiel	7	6
DK Explicit	8	5
Excalibur	7	8
Pure line control	5	4



For further information on DEKALB Hybrids email; [dekalb.uk@monsanto.com](mailto:dekalb.uk@monsanto.com), visit [www.dekalb.co.uk](http://www.dekalb.co.uk) or call the Technical Helpline on 01954 717575

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