



**United Oilseeds**  
THE LEADING BREAK CROP SPECIALIST



# Growing with the Beetle

Simon Kightley

# NIAB TAG work on the flea beetle problem

- Crowd sourcing surveys
- Insect trapping
- Companion crops

# Thinking of happier times

2001



Between Gamma-HCH and Chinook – no beetle damage

2017



Good rainfall – excellent establishment!

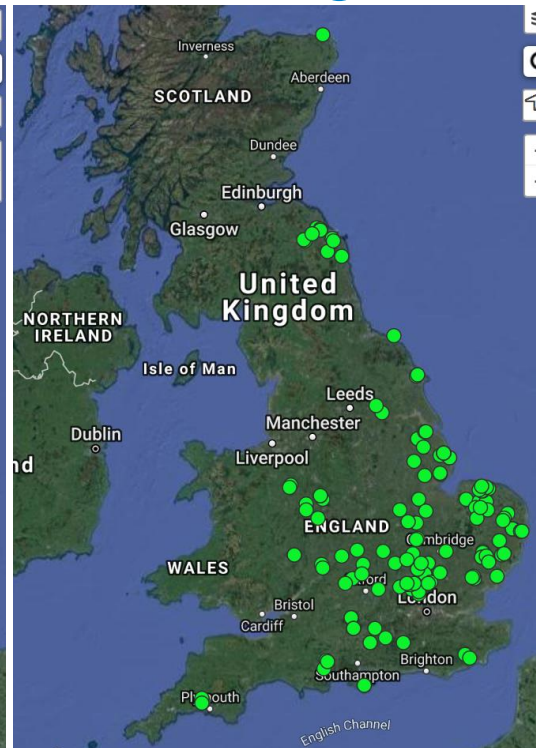
# Crowdsourcing survey

# Crowdsourcing survey – 2019 (1127 responses)

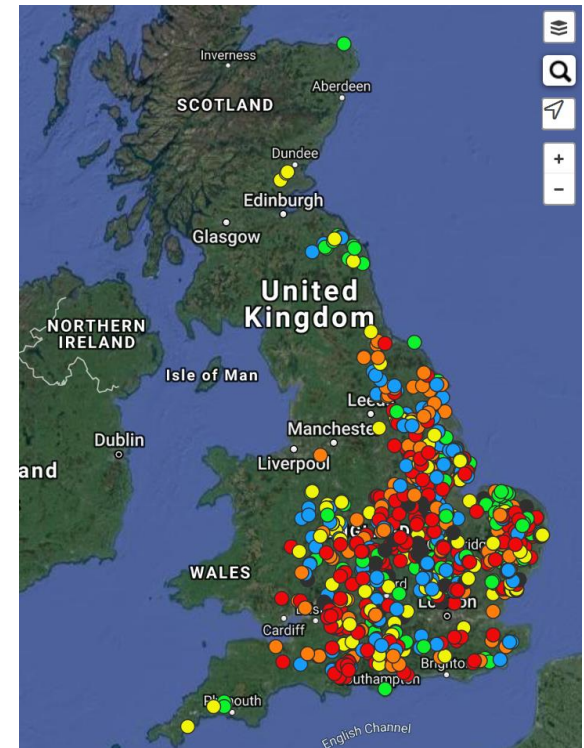
Crop failure



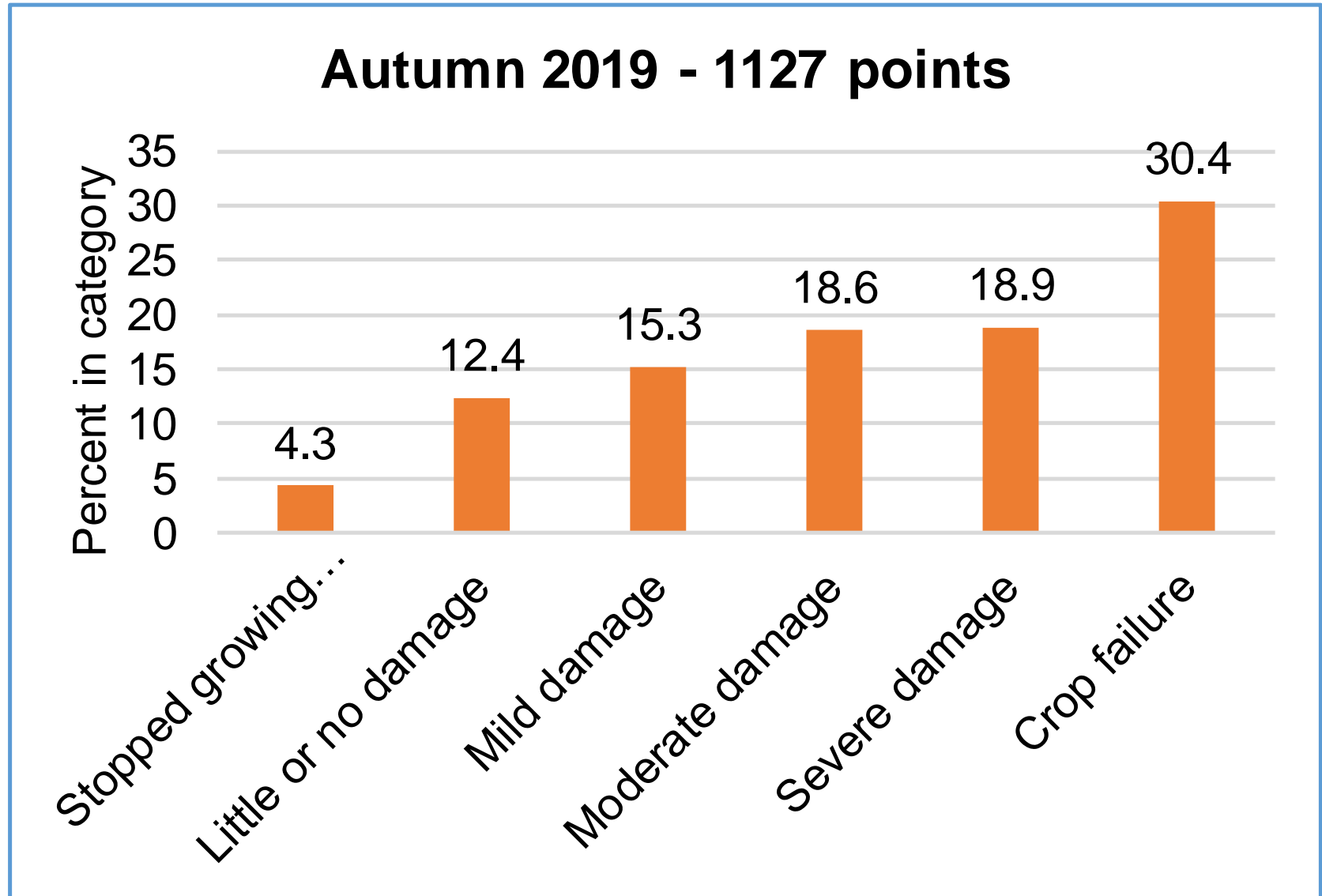
Little or no damage



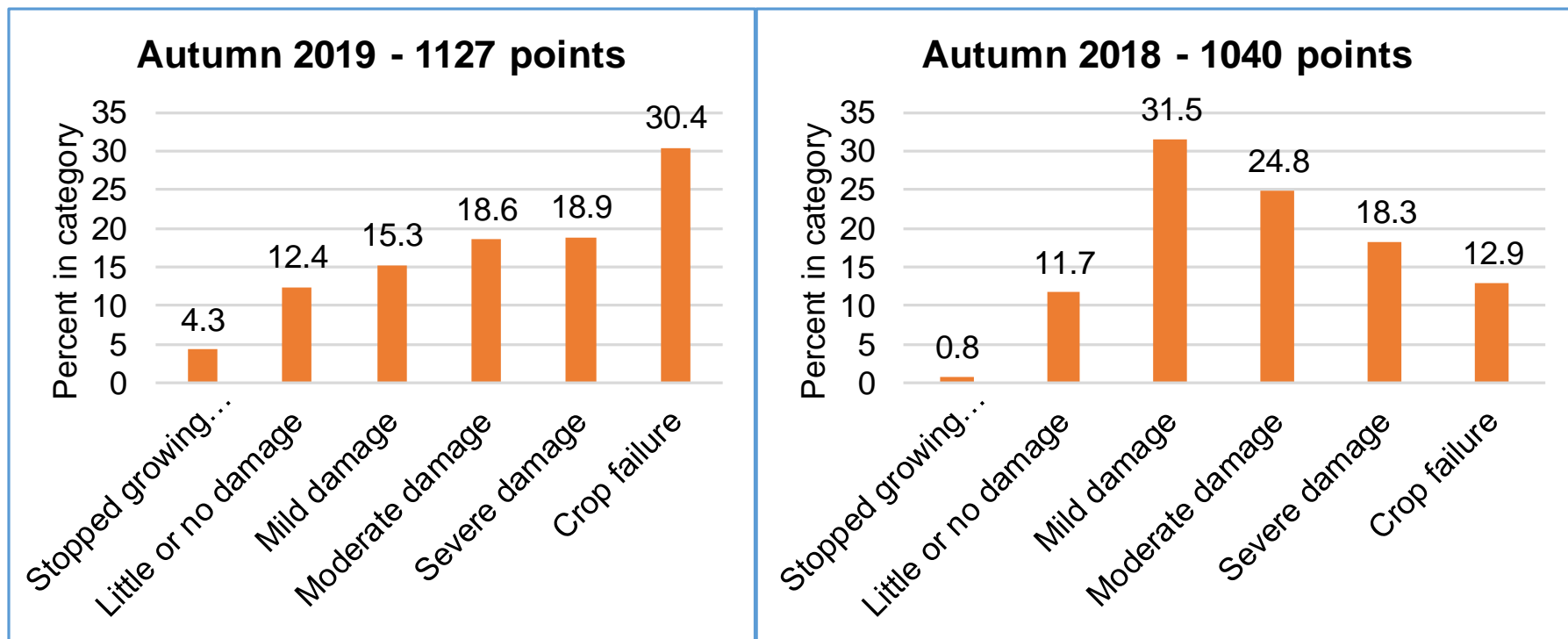
All responses



# Establishment survey 2019



# Comparing 2019 with 2018

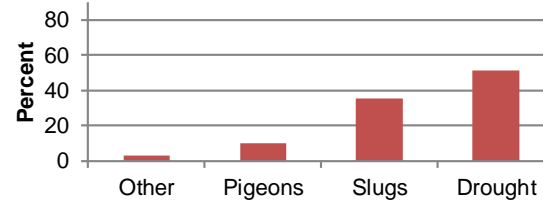


# CSFB damage reports – Contributory factors

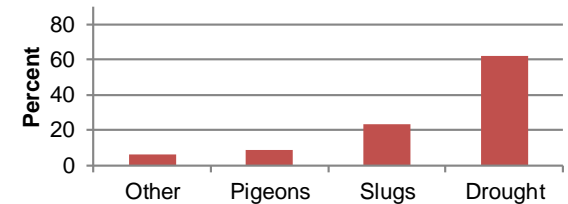
## Other factors:

Cabbage root fly, saw fly, geese, deer, rabbits, pheasants, weeds, volunteers, too deep, too wet, failure to roll, delayed combining, low seed rate, poor seed bed, soil type

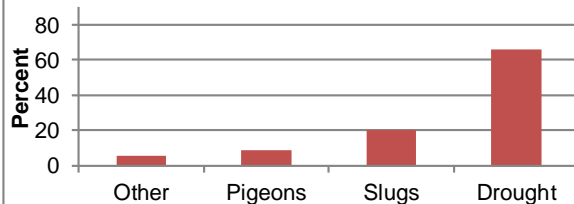
## Little or no damage



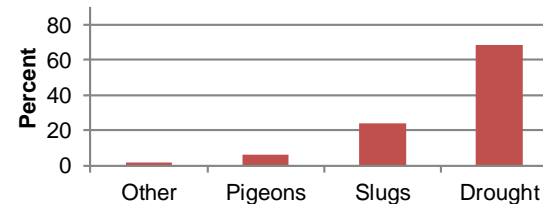
## Mild damage



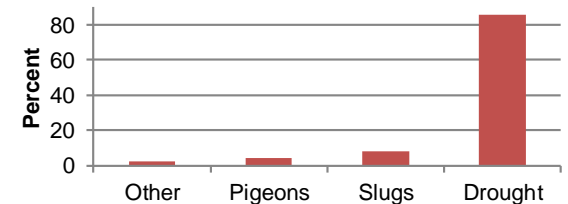
## Moderate damage



## Severe damage



## Crop failure





# CSFB damage reports – Contributory factors

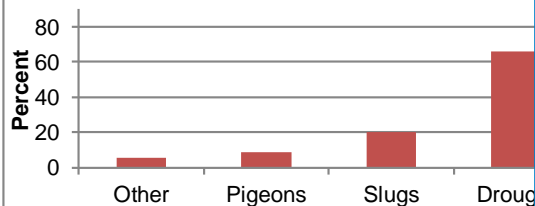
## Other Factors:

cabbage root fly  
 saw fly  
 geese  
 deer  
 rabbits  
 pheasants  
 weeds  
 volunteers  
 too deep  
 too wet  
 failure to roll  
 delayed combining  
 low seed rate  
 poor seed bed  
 soil type

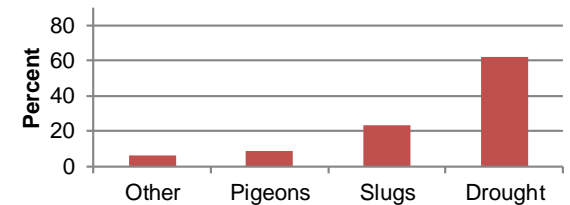
### Other factors:

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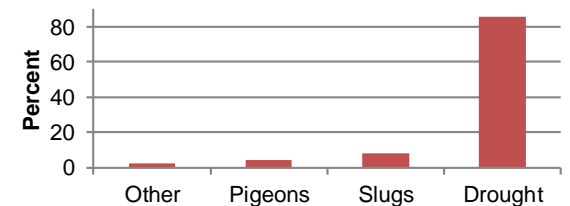
### Moderate damage



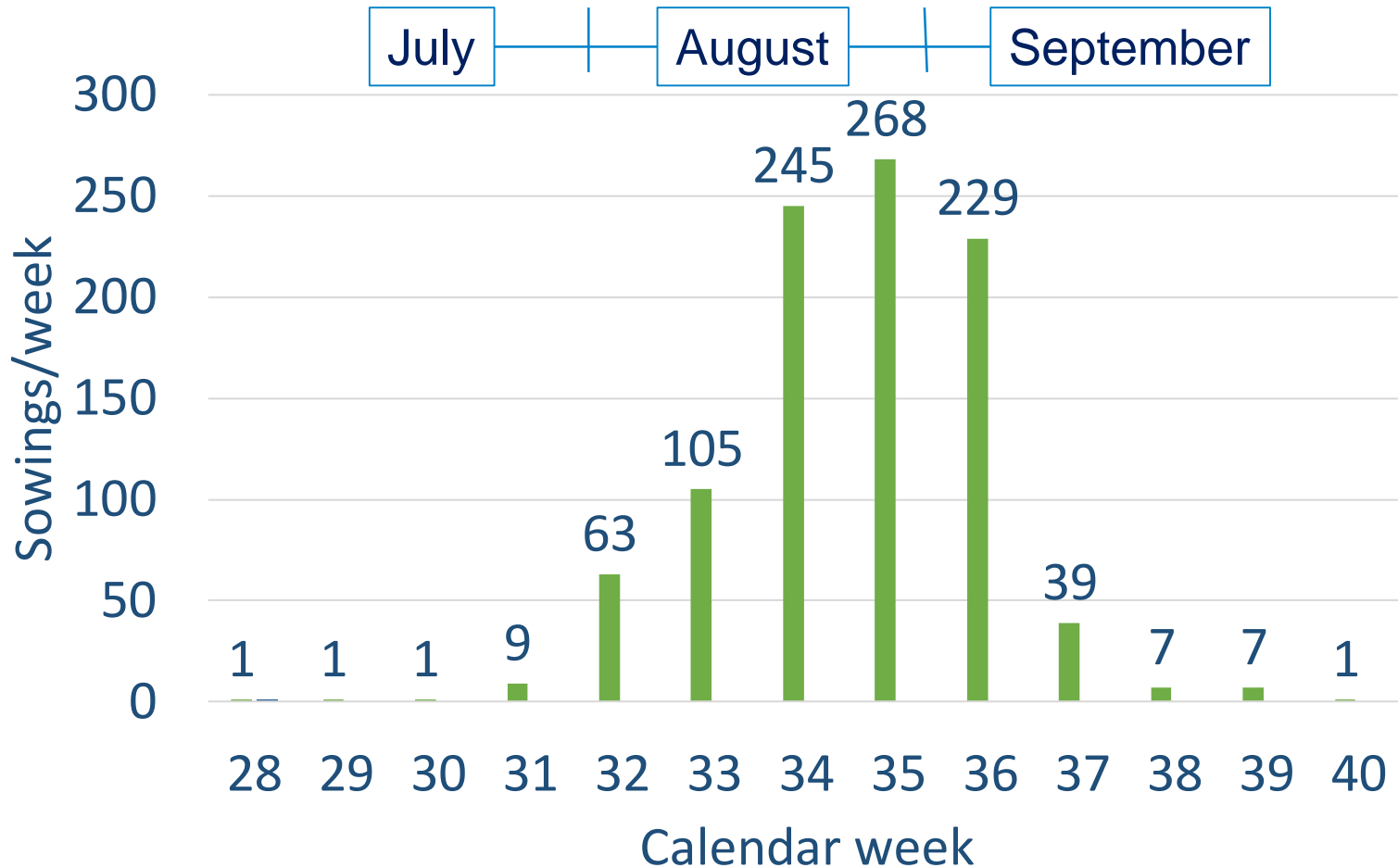
### Mild damage



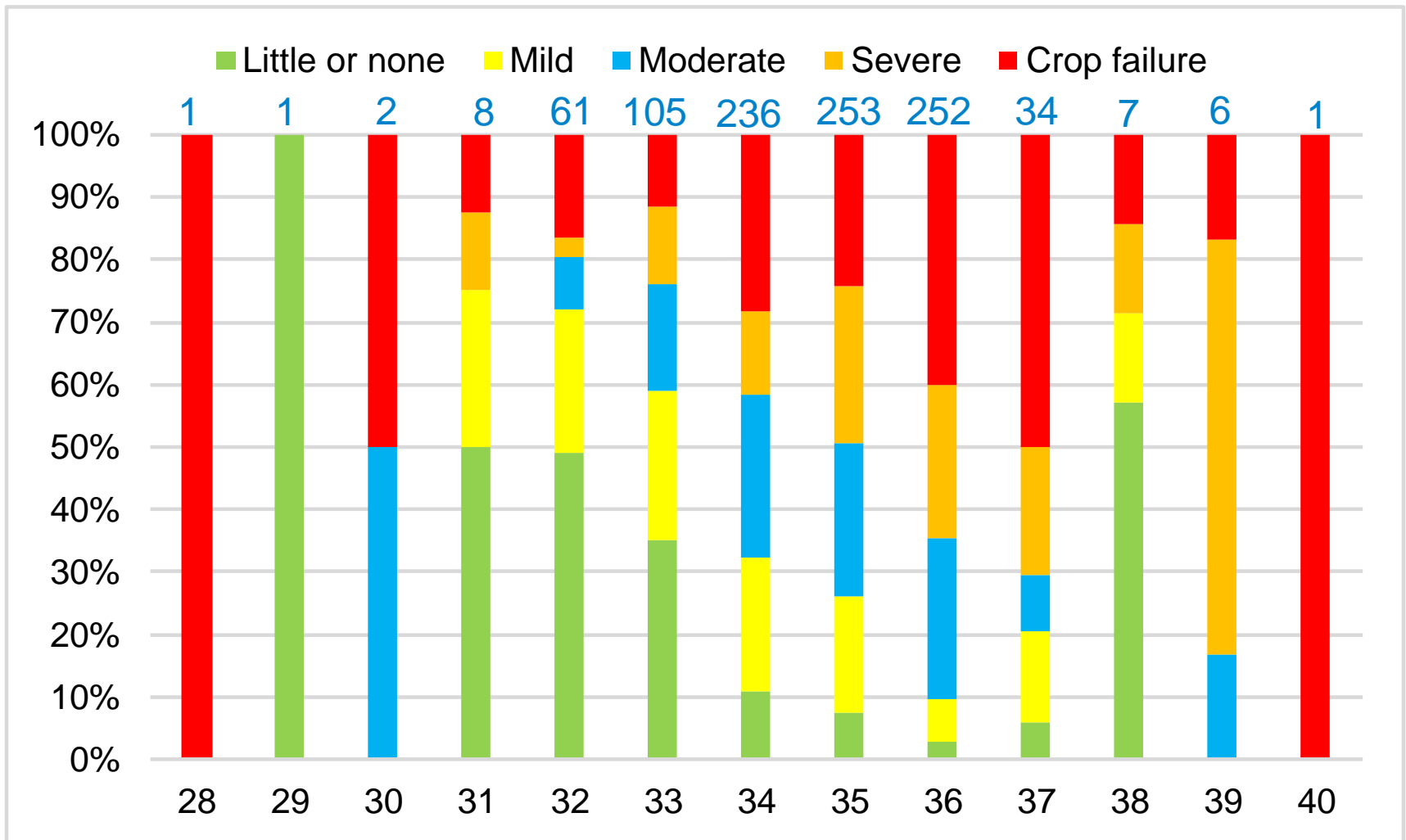
### Crop failure



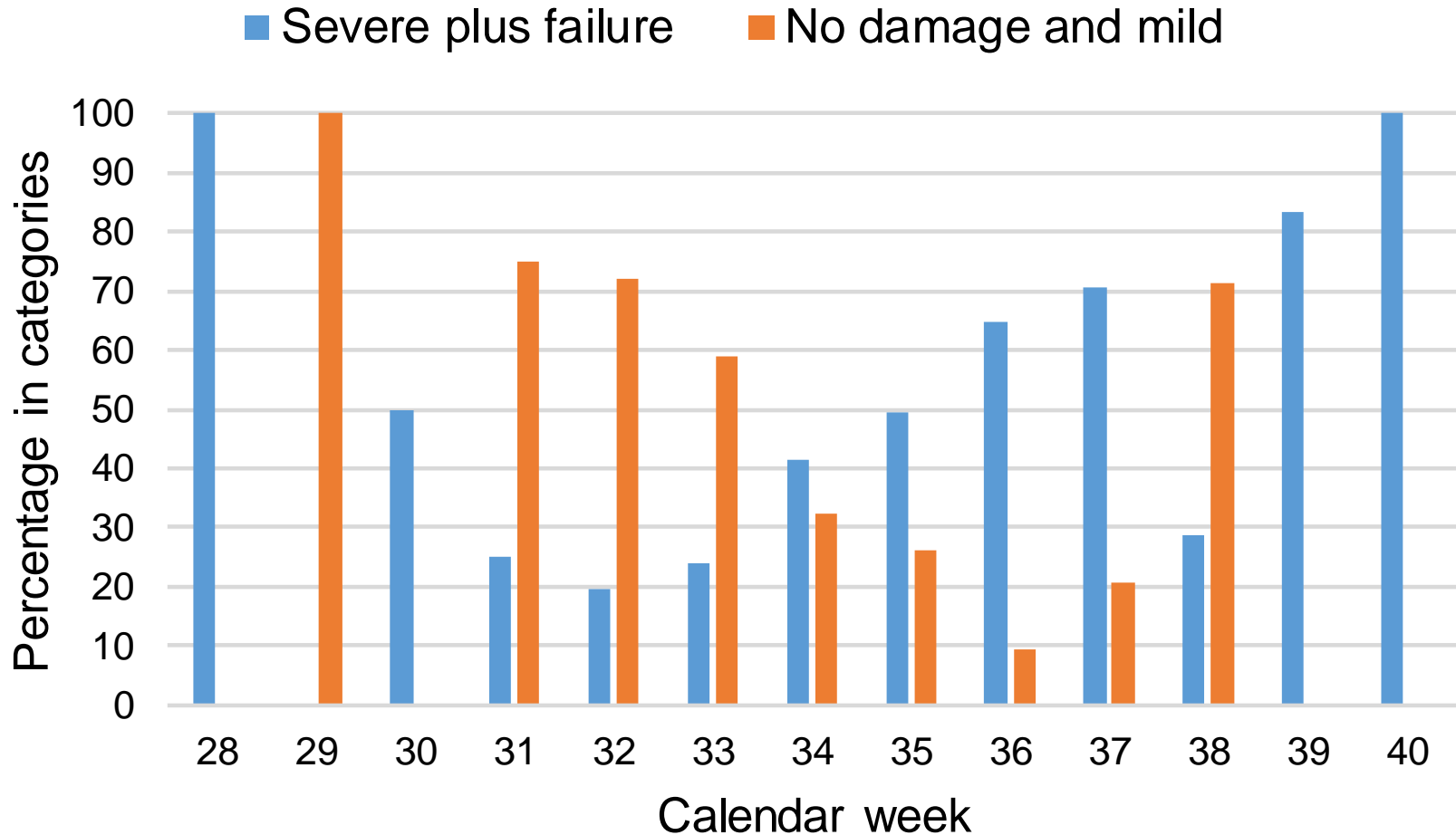
# Crop planting pattern - 2019



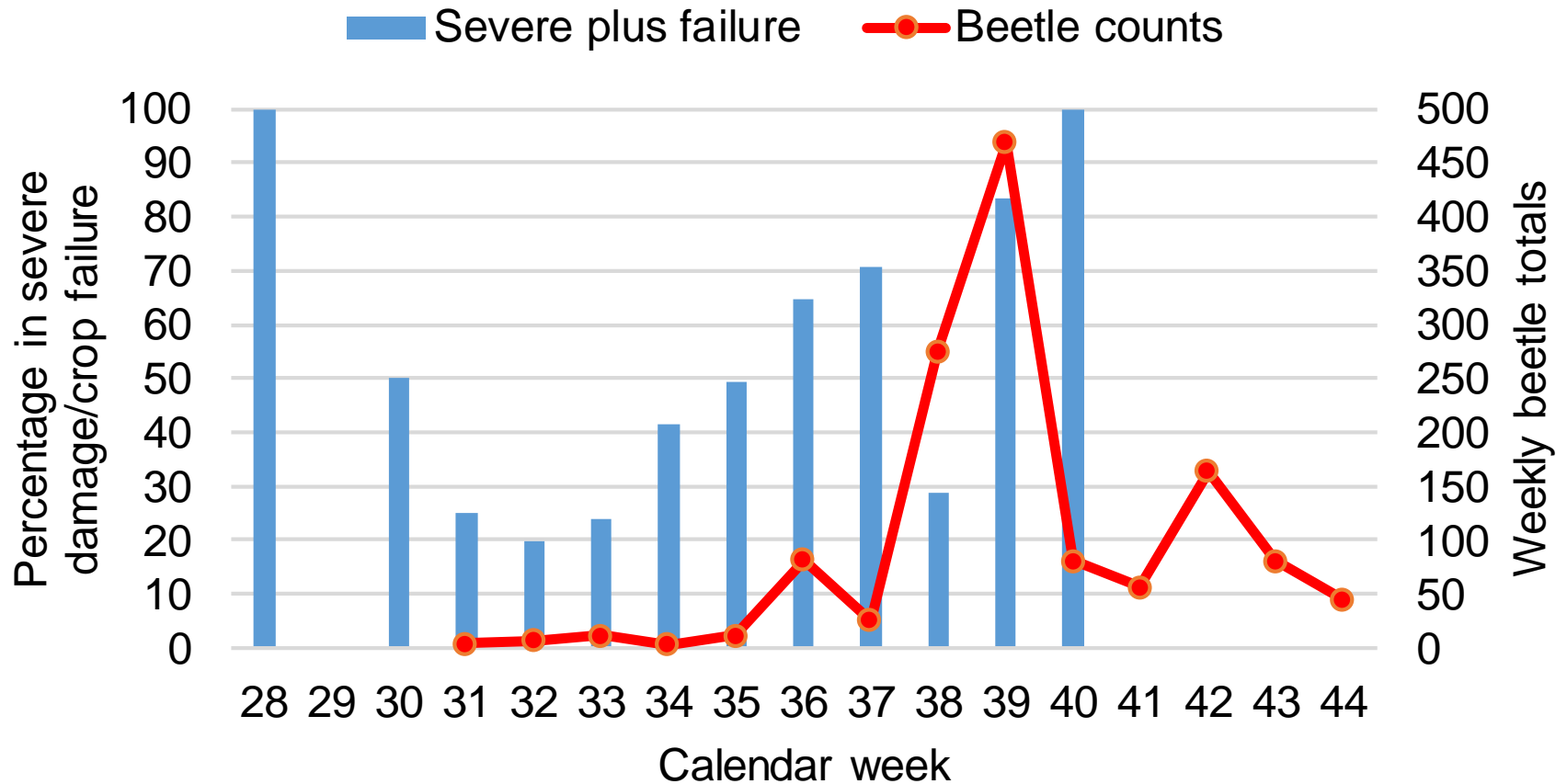
# Weekly damage pattern (percent in category)



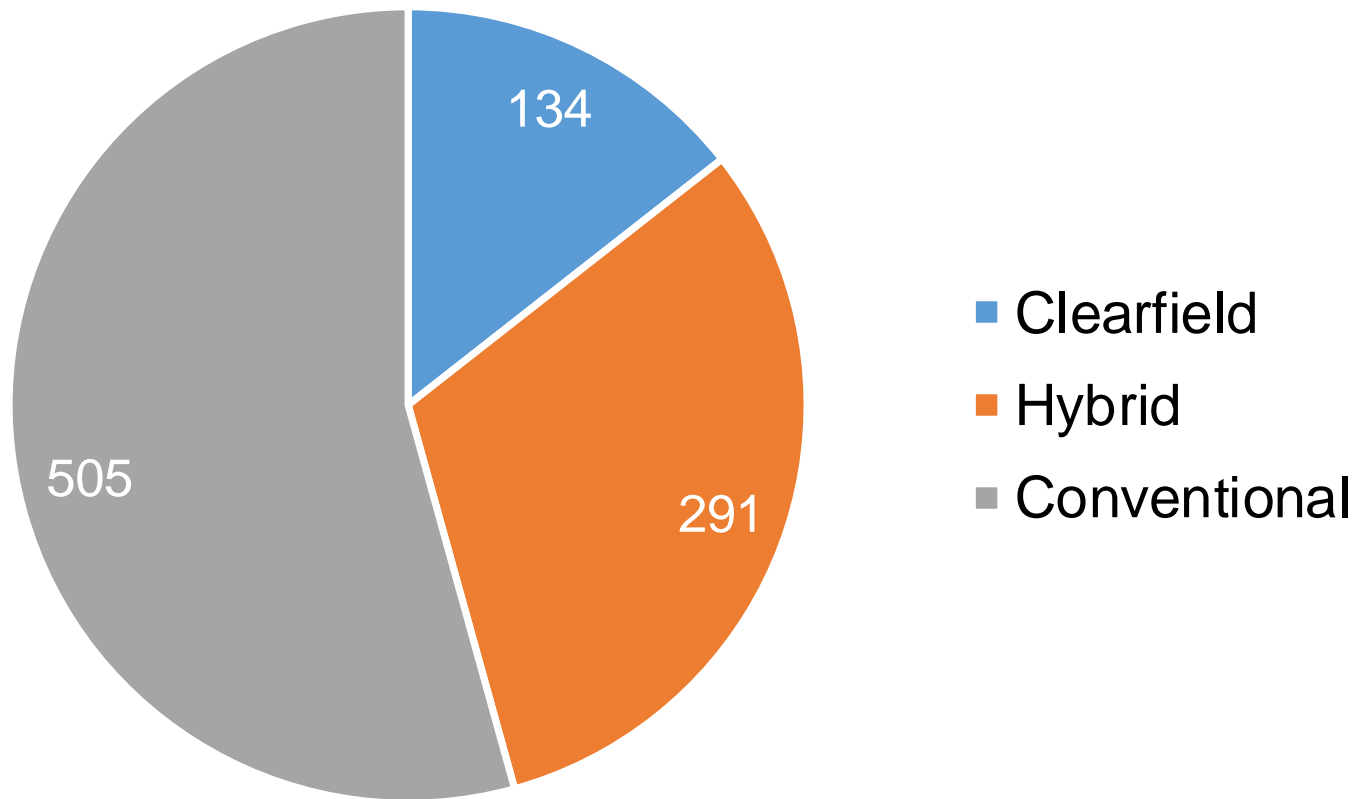
# Comparing 'no damage' plus 'mild damage' with 'severe damage' plus 'crop failure'



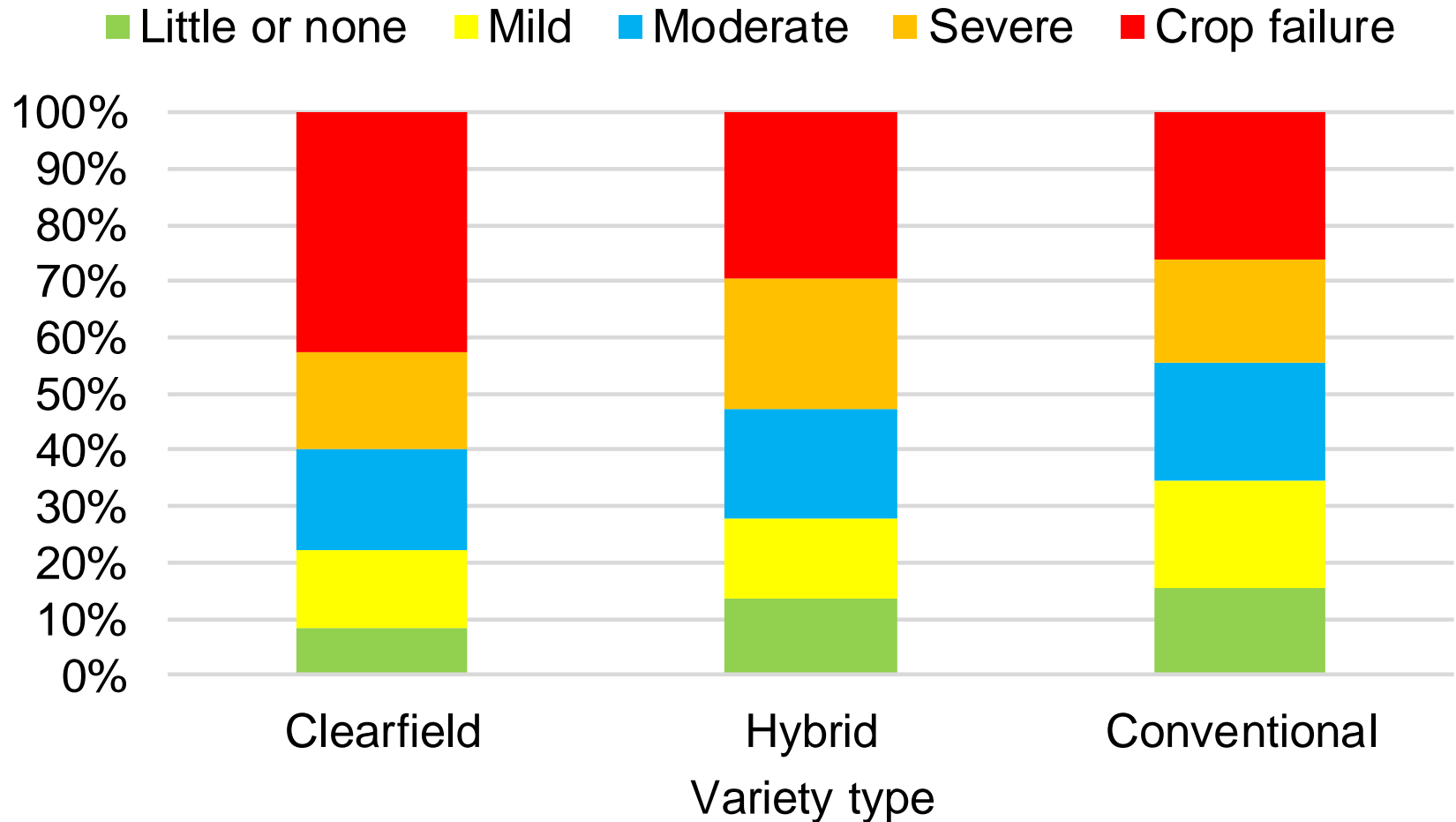
# A word on our flea beetle migration monitoring – crop damage/beetle numbers



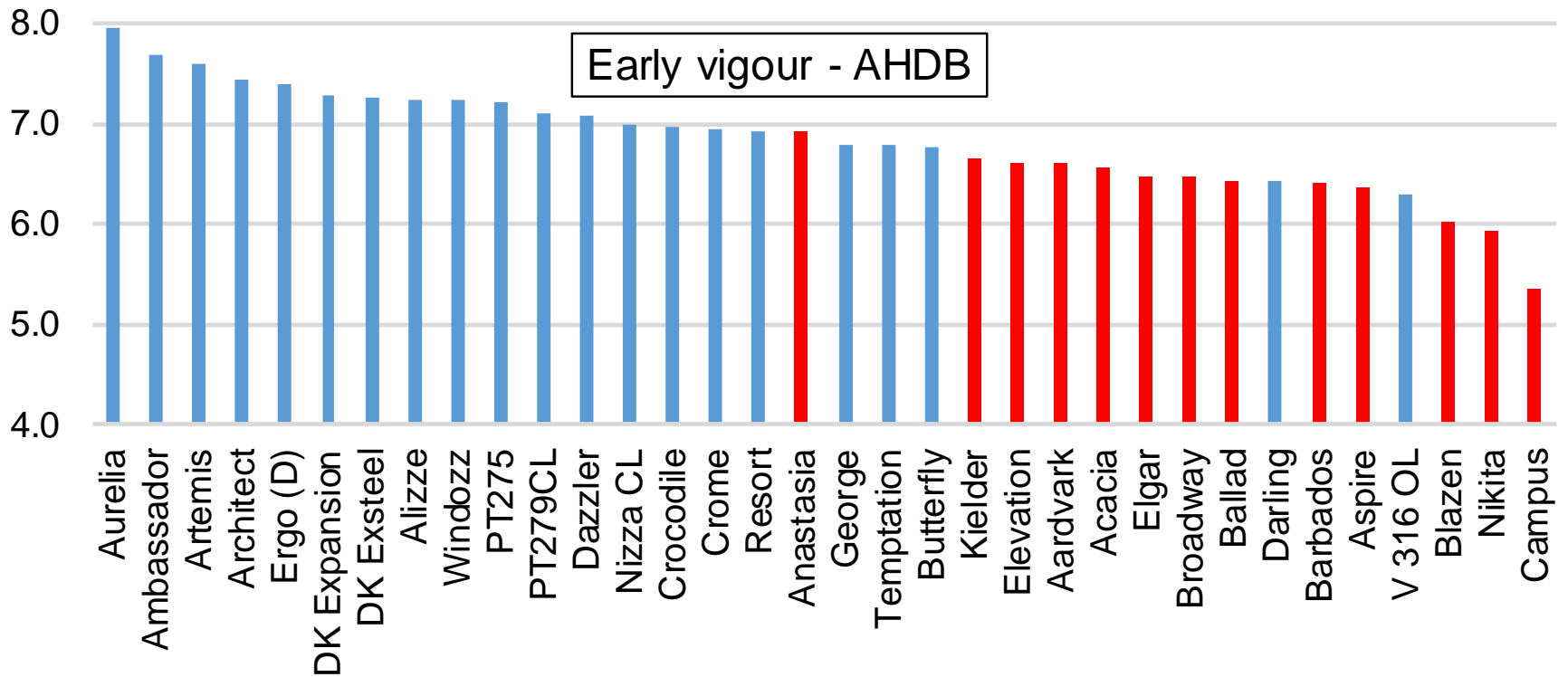
# The variety story



# Variety types and crop damage



# Early vigour – 2018/19 season

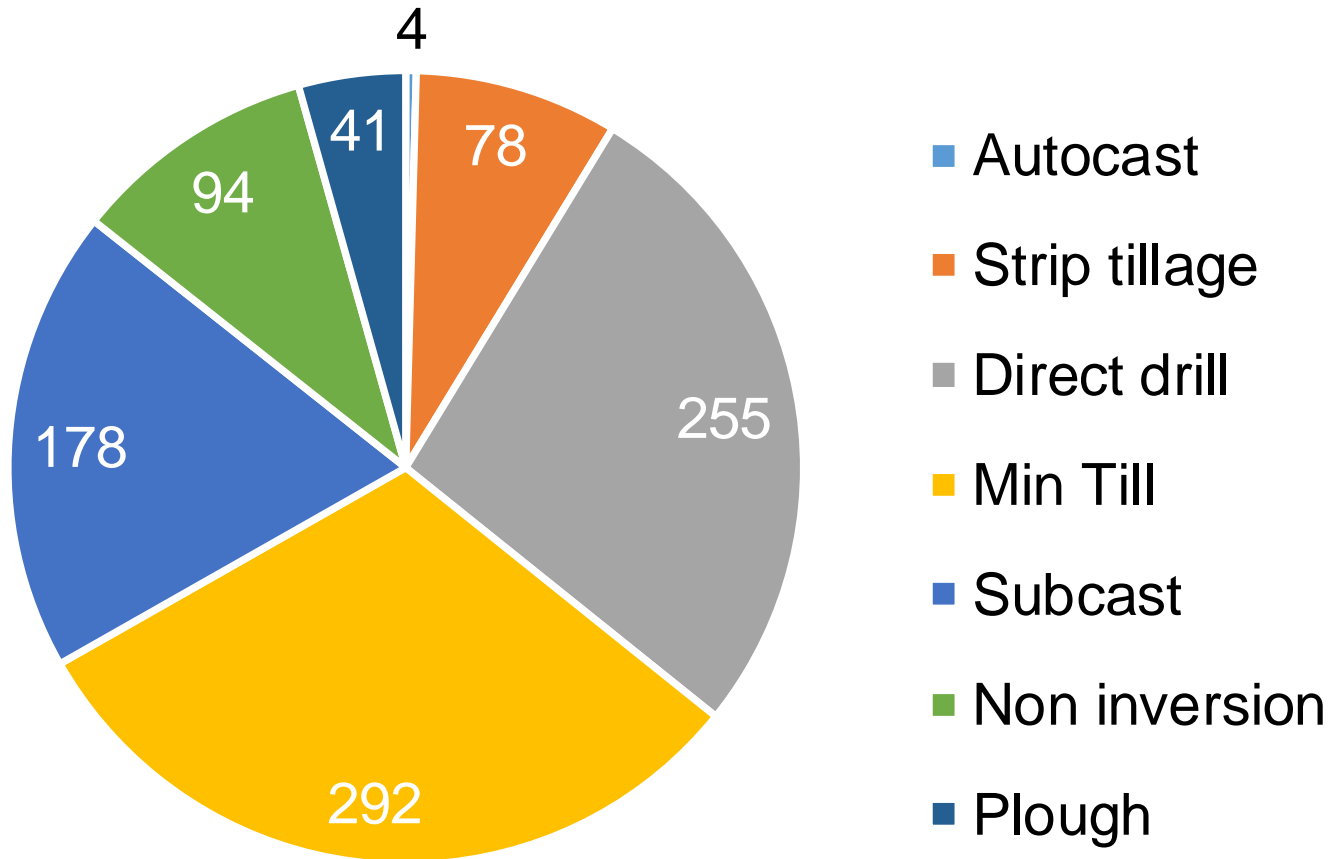




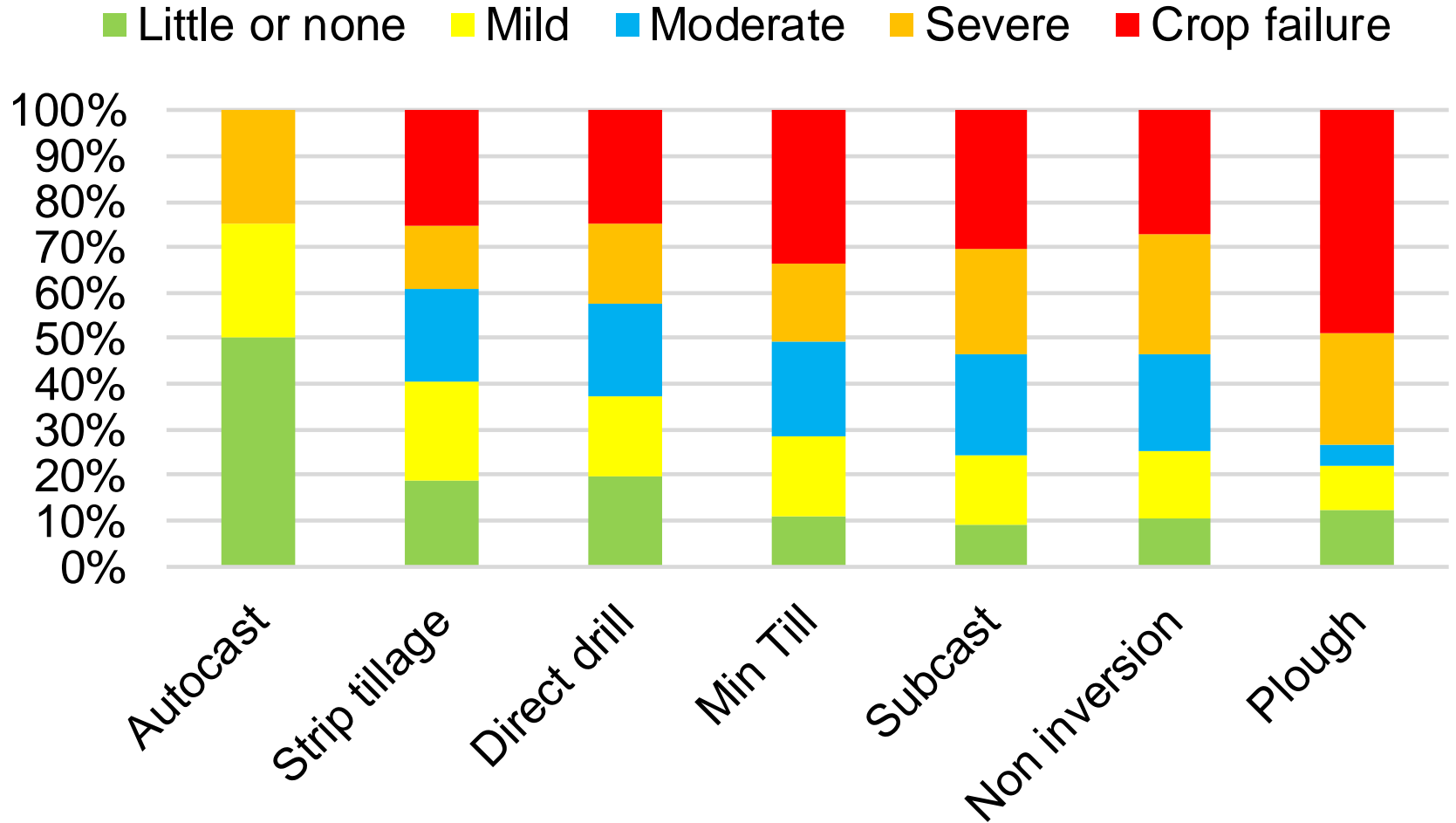
# Conclusions on varieties?

- In general, hybrids tend to have the edge when it comes to early vigour.
- You will normally be able to use a higher seed rate of a conventional. You will want short stiff varieties in the event that all the seed grows!
- But it's a very fine balance and you should be trying to grow the varieties with the best set of traits for your farm.

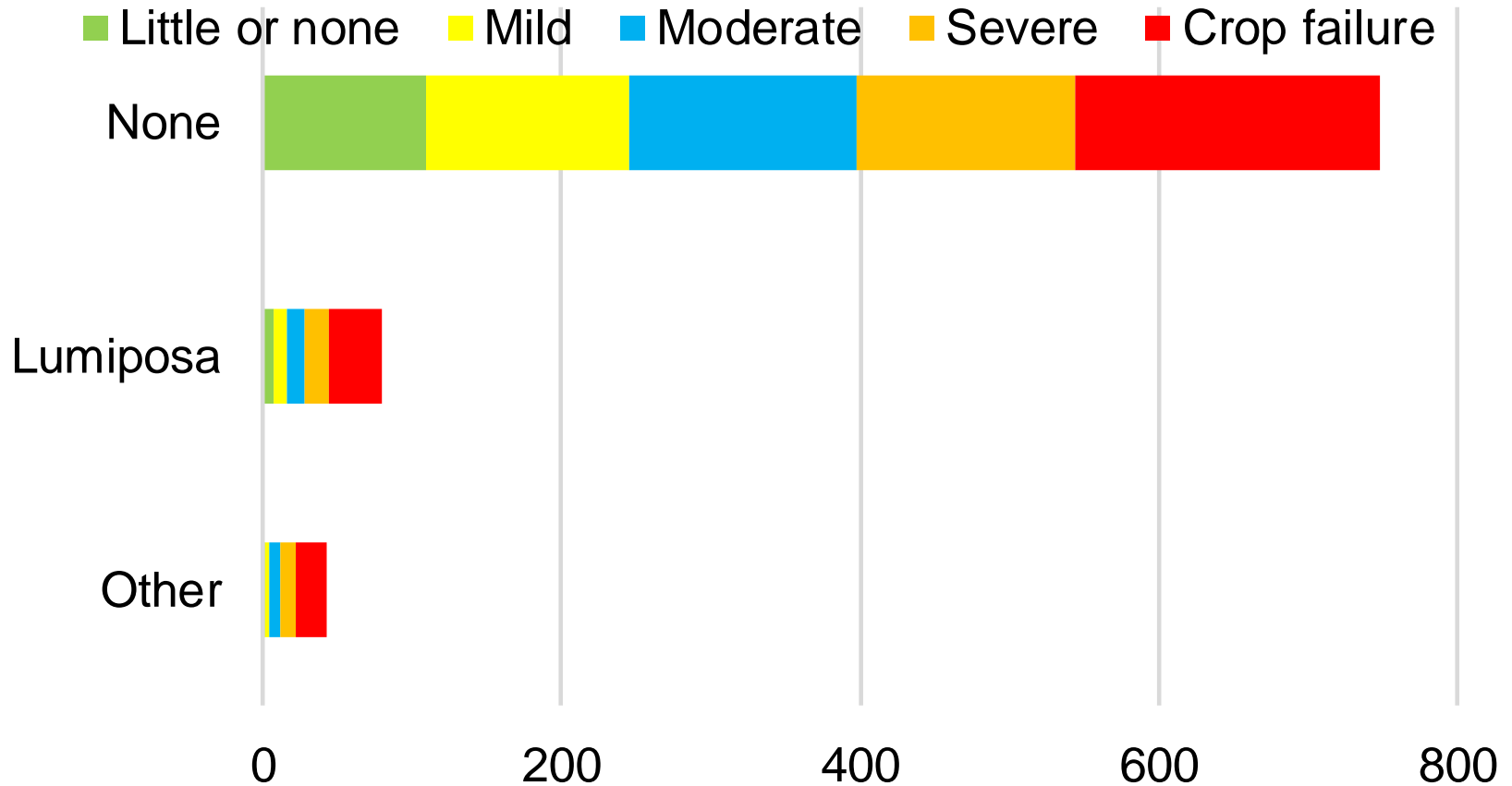
# Cultivations/Establishment Method



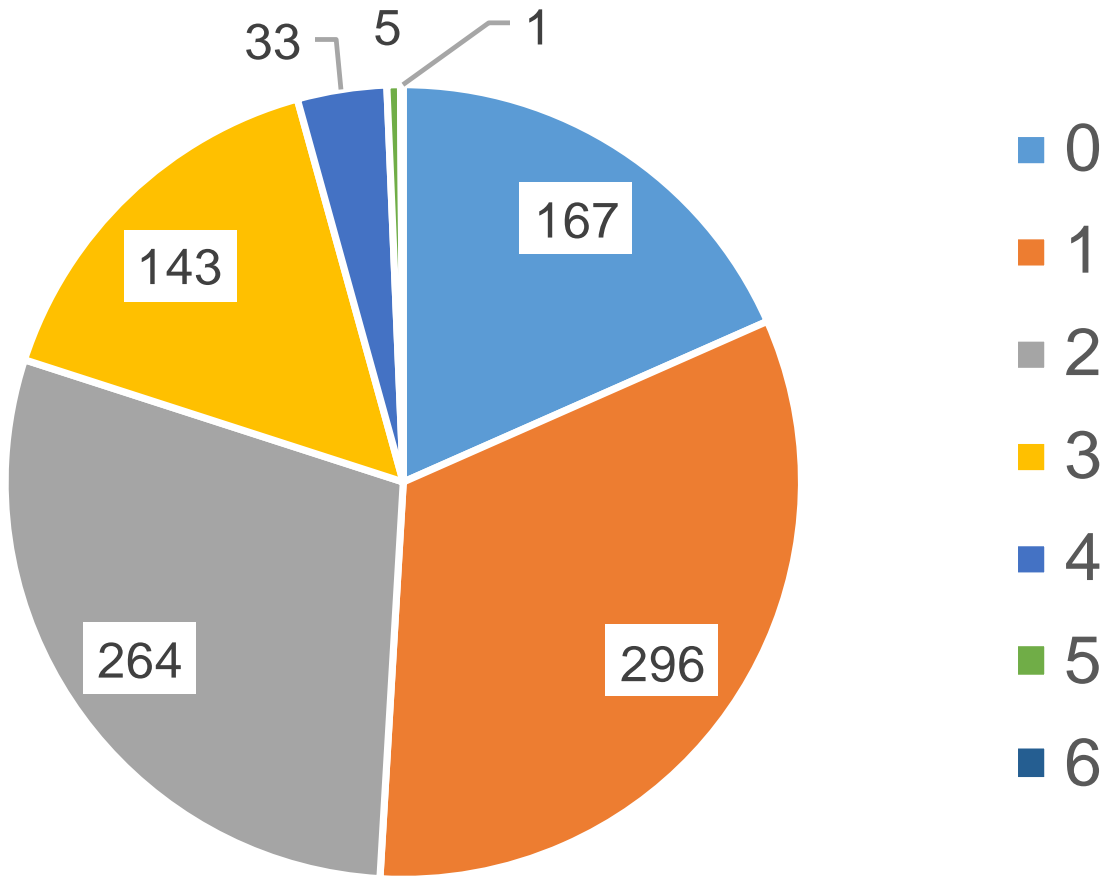
# Cultivations and Crop Damage



# Seed Treatment and Crop Damage



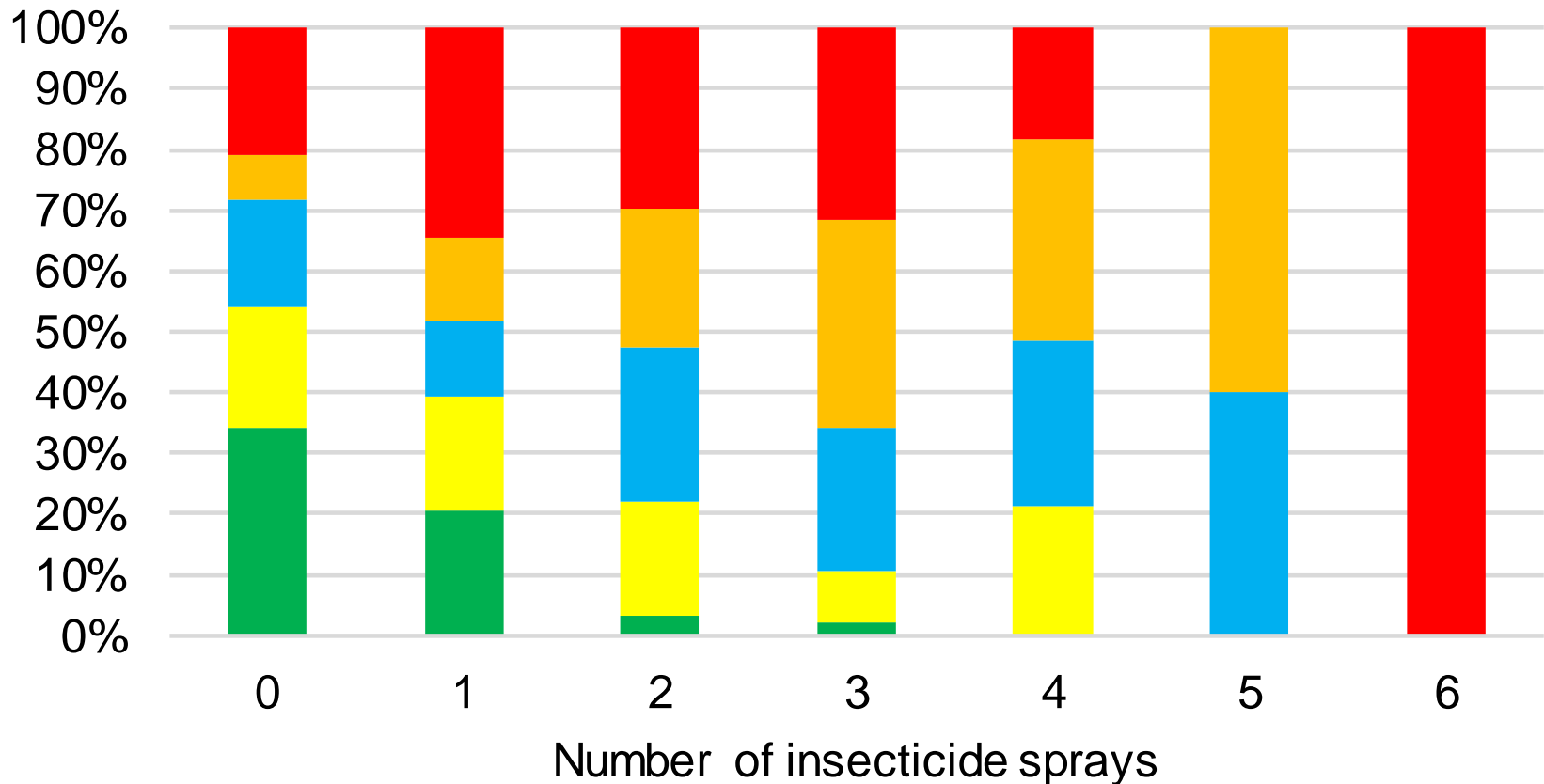
# Insecticide sprays per crop



# Does spraying help?

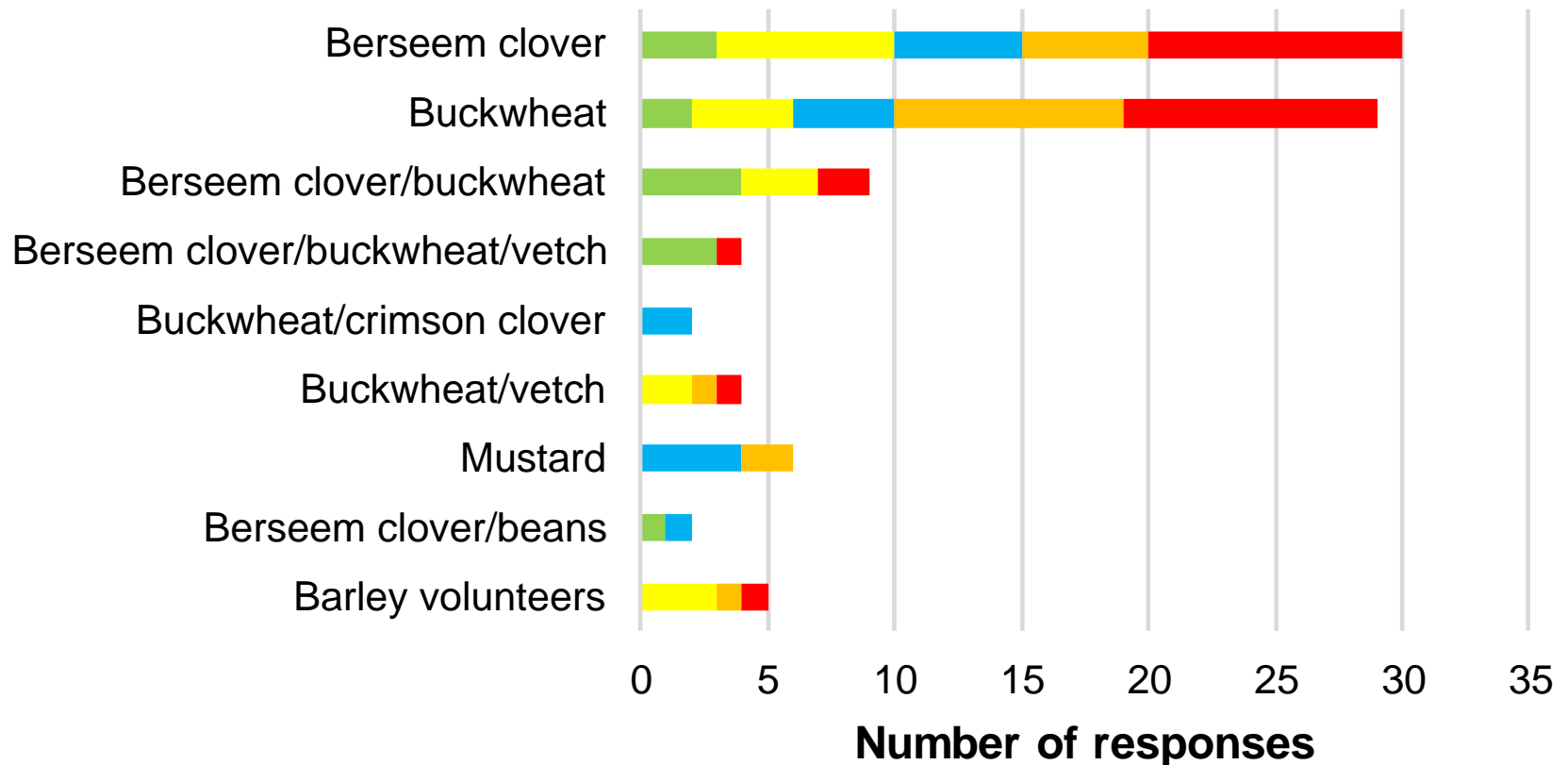
You know what's coming.....

■ Little or none ■ Mild ■ Moderate ■ Severe ■ Crop failure



# Companion crops and crop damage

■ Little or no   ■ Mild   ■ Moderate   ■ Severe   ■ Crop failure



# Briefly on Companion Crops



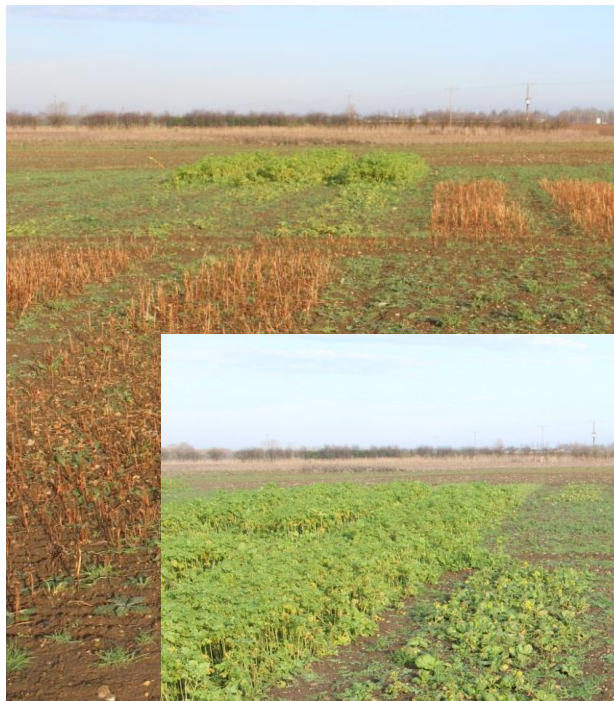
# Five years of work on companion crops

- Brassica mixes
- Fenugreek
- Clover mixes
- Rocket
- Linseed
- Buck wheat
- White mustard
- Plus work with:
  - Oilseed rape seed rates
  - Lumiposa
  - And slurry!

# In our experience, white mustard is the only promising option

- Sow at 2-3 times the OSR seed rate
- Faster emerging than the rape
- The mustard is attacked by the beetles but withstands the damage
- Remove the mustard as soon as rape plants well established to prevent adverse competition
- Suited well to a Clearfield approach

# Autumn 2016



All looking very bleak



But what have we here?!

# Mustard and Clearfield rape 2017 – seed rates and spraying off times (BASF sponsored)



# Companion cropping 2019 - NIAB/Corteva study

1. Clearfield rape (PT279CL) 70 seeds/m<sup>2</sup>
2. Clearfield rape - Lumiposa-treated seed
3. Clearfield rape + white mustard
4. Clearfield rape + legume mix
5. Clearfield rape + fenugreek and spring beans
6. Clearfield rape + buckwheat
7. Clearfield rape + brassica mix

## Sites

Cambridge, Morley, Sutton Scotney

+/- insect netting – different spray-off dates



# Take home messages

- Sow as early as possible in August, into moisture
- Don't use insecticide sprays
- Try mustard

Thank you!