



Minor crops: Beans

Why grow faba beans?

- Suited to the Irish climate and soils
- High yielding under Irish conditions
- Excellent break crop
- Nitrogen fixation (reduces the fertiliser N demand of the following crop in rotation)
- Improve soil characteristics
- Valuable native protein source



Challenges growing faba beans?

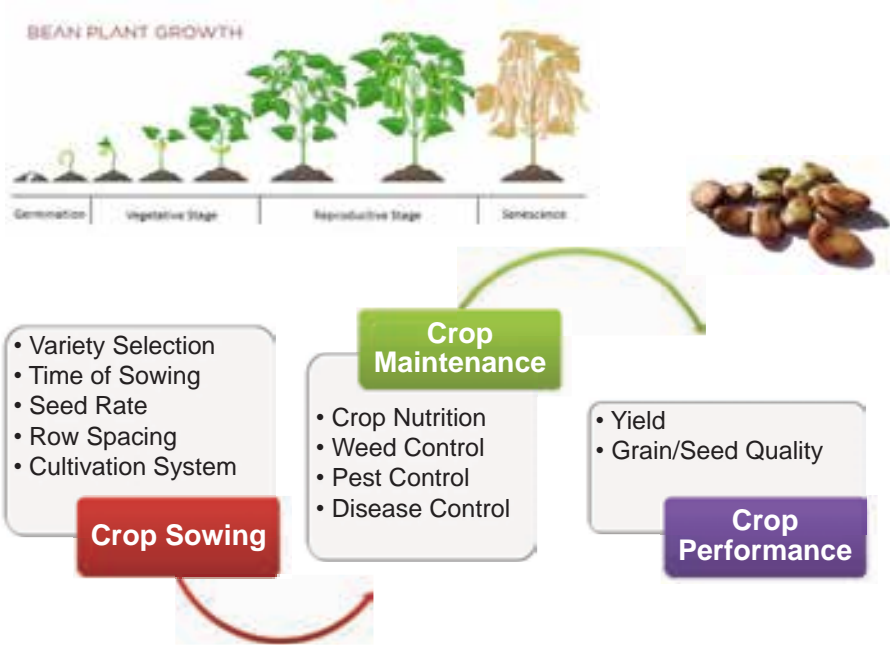


- Perceived variability in yield
- Limited varietal development
- Lack of specific agronomy information
- Limited disease/pest/weed control options

Notes: _____



Beans – agronomy



Notes: _____



Beans – breeding

RSF (VICCI) project

- Focused on the evaluation of recurrent selection as a method to achieve rapid re-adaptation of faba bean to the Irish agro-climate
- Aims to develop Irish-adapted ideotype combining characteristics of high-yielding and improved ascochyta and/or botrytis resistance



ERA-NET (ProFaba200) project



- Focused on developing improved Vicia faba breeding practices and varieties to drive domestic protein production in the European Union
- Irish component: screening the varietal panel for Botrytis Fabae resistant varieties

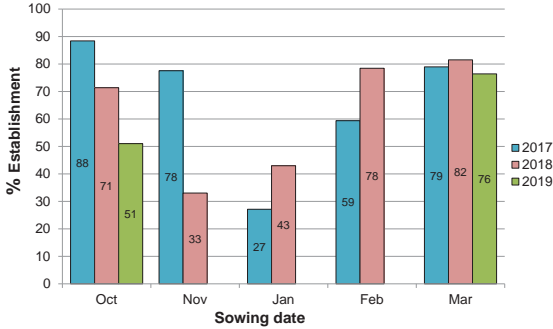


Notes:



Effect of sowing date on yield

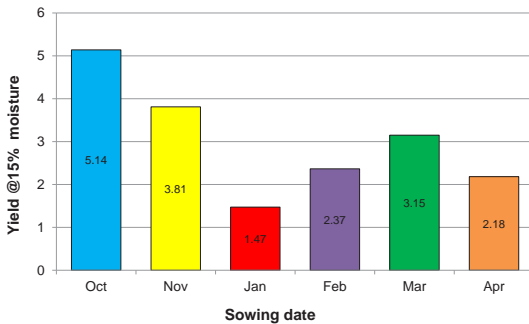
Average establishment 2016-2019



Establishment

- Winter variety best established in October
- Spring variety established best in March

Average yield 2016-2018



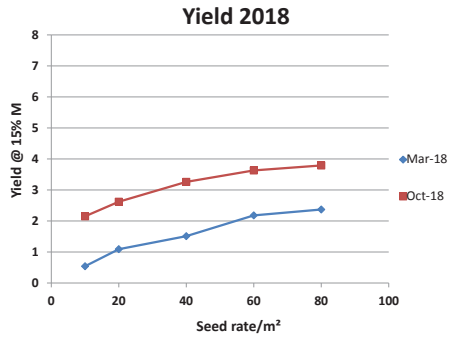
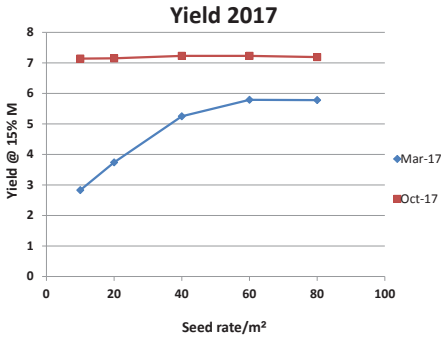
Yield

- October sowings gave highest yields for winter variety
- Early Spring sowings (January) attacked by crows
- March yielded best for Spring variety

Notes: _____



Effect of seed rate on yield



- Higher seed rates have more competition for light, moisture etc.
- Lower seed rates seen to produce more pods – branching
- Lower seed rate yields can be competitive with higher seed rates

2017

- Good ground conditions
- Good establishment
- Desirable weather conditions

Average yield 6.7 t/ha



2018

- Poor ground conditions (snow)
- Good establishment

DROUGHT!

Average yield 2.5 t/ha



Notes: _____



Sowing dates and seed rates

Summary

Lower seed rates:

- Problems with weed competition
- Lower pods on stems – not easy to harvest

Higher seed rates:

- Run the risk of lodging
- Less manageable at harvest

35-45 seeds/m²:

- Gives a manageable crop
- Average yields 5-6t/ha



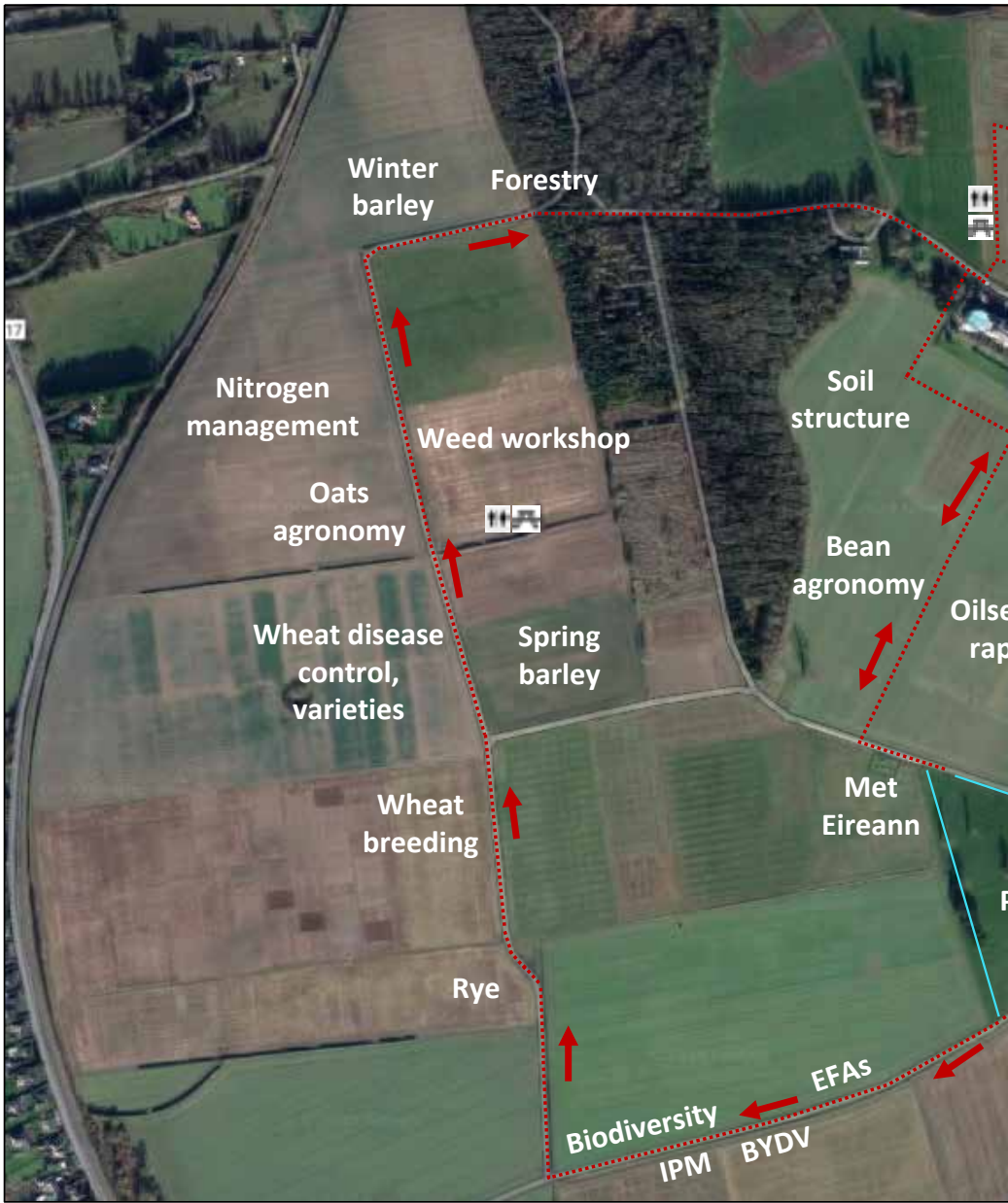
Watch out for crow damage on late winter and early spring sowings!!

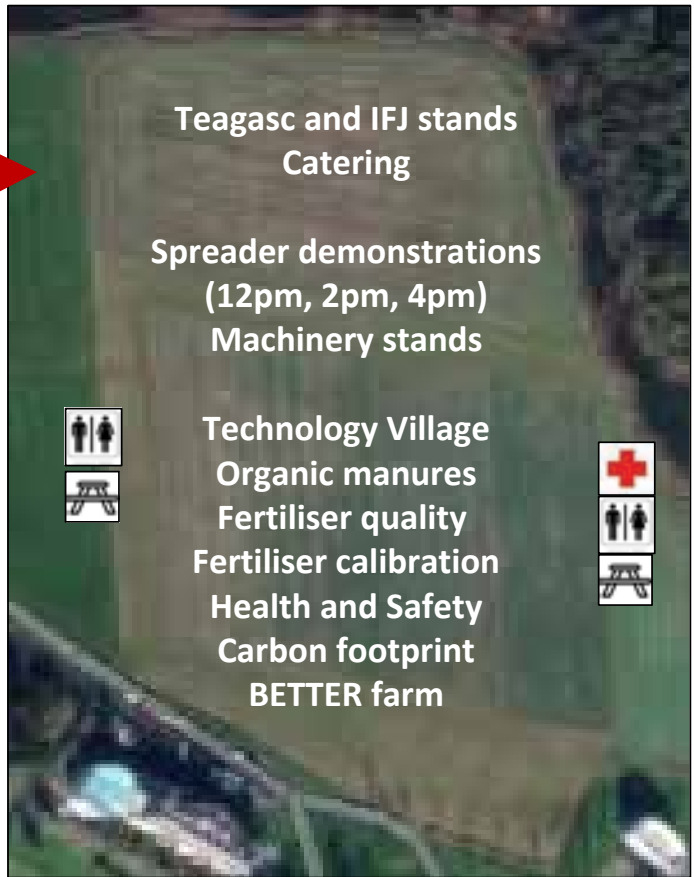


Take home message

- Avoid crow damage by sowing early winter (Oct) and later in spring (Feb/Mar). Good ground conditions and rolling also recommended
- Recommend to sow at 40 seeds/m². No difference in yield between 40, 60 and 80 seeds/m²
- Good establishment and management at early growth stages is crucial for final harvest yields

Notes: _____





Event app: cropsopenday.ie





Beans – cultivations

OPTI-BC Project (RSF)

Impact of cultivation system and sowing date on establishment and yield

How?

- 4 years
- 2 sites
- 3 sowing dates

Oct, Feb, Mar

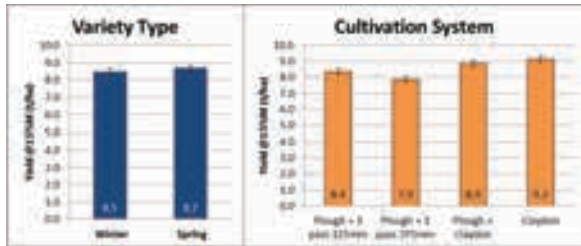
- 4 systems

Plough + 1 pass 125 mm

Plough + 1 pass 375 mm

Plough + strip drill

Strip drill into stubble



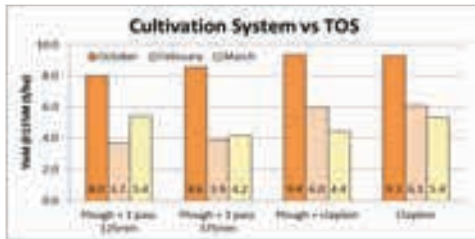
Winter sown

Spring & winter varieties

- No differences between variety types in winter sown trials
- Strip drill yield higher in Oct and Feb but not in Mar

Measurements?

- Establishment
- Growth
- Yield
- Yield components
- Leaf area
- Disease assessments



Spring Variety



Notes: _____
