

Agricultural crops +Oilseed rape



What are the current threats to the WOSR CROP

1. Autumn drought
2. Adult Cabbage stem flea beetle
3. Excessive autumn winter rainfall
4. Cabbage stem flea beetle larvae
5. Excessive storms, hail in particular
6. False information, media Hype
7. Loss of chemistry

What does Elsoms breed select

Breed

- 1) Oilseed rape
- 2) Winter wheat : Elsoms Wheat
- 3) Winter and Spring Barley: Elsoms Ackerman

Select and market

- 1) Vining peas
- 2) Combinable / protein peas/ marrowfats, blues +whites
- 3) Linseed, spring and now winter types
- 4) Fodder beet
- 5) Energy beet

Changing world: Political +climate

- Breeding is long term 10+ years from scratch
- Introgression of novel genes: conventionally or molecular techniques
- Discovery of useful traits: 1 to 20+ years

- Climate change is already visible
- Breeding, selection is already happening by default

- Question is how do we go faster

- Politicians make quick changes but breeding often can't

How can genetics help: Examples, problems

- Tolerant lines to CBSF identified: Project with JIC, Rothamsted with most breeders: submitted
- Turnip yellows novel virus resistance: John Walsh at Warwick underway here: Breeder involvement
- Drought, waterlogging tolerance required: Climate proof!
- Insect resistance : pollen beetle, aphids, diamond black moth, white fly all increasingly difficult to kill, or control
- Slug tolerance
- Pigeon tolerance
- Loss of chemistry, new environmental rules
- Biocontrol,

Food miles

Carbon Neutral

We still need food

Ever larger populations

What is the answer?

Thank you, any questions

Plant breeding