

Annual grass-weeds

e.g. black-grass, rye-grass, brome

Most arable accept they will have to:

- **Adopt better rotations, including grass leys**
- **Sow winter wheat later in autumn**
- **Grow more spring-sown crops**
- **Change tillage practices and use cover crops**
- **Become less reliant on herbicides**



Black-grass agro-ecology

1. Emergence pattern – 80% in early autumn
Is this changing – more spring emergence?
2. Seedling emergence – max 5 cm deep
How to maximize benefit of ploughing?
3. Seed longevity in soil – 74% decline/year
Can we capitalize on this weakness?
4. Seed shedding pattern – mid June onwards
How to time field tasks for greatest effect?
5. Competitive – 12 plants/m² = 5% crop loss
What is best way to increase competition?

