Overview of Breeding Objectives
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Breeding better grasses

Improving:

- Seasonal & total yield
- Persistency
- Nutritional quality
- Disease resistance
- Major & minor species
- Improving PPI index
Early Grazing Yield (NIAB)

% of 1.23 t/ha
(Varieties heading 2nd + 3rd June)

Glenarm: highest early grazing yield in late diploids
Total Grazing Yield (NIAB)

% of 10.43 t/ha

Caledon: highest grazing yield in intermediate tetraploids
**Improved 1st and 2nd cut silage yields**

Intermediate Tetraploids: 1st and 2nd silage cuts

![Graph showing silage yields for different varieties and years](image)

Yield (t/ha DM)

- Dunluce 2005
- Malone 2006
- Seagoe 2011
- Fintona 2014

Variety /year of listing

Source: DARD RL 2014/15
Grass yields: Continual Improvement
Silage (4 cuts) for 3 years at Loughgall

Diploid prg: 26 trials sown 1975-2000

\[ y = 0.2239x + 25.516 \]
Persistency

Winter damage on NZ germplasm

Sward density is not an accurate indication of persistency
Improving nutritional quality

- selecting leafy mother plants
- lab analysis at each stage in the programme

Breeding for improved nutritional quality for 30 years
Improved nutritional quality

- Digestibility
- ME
- Less re-heading
- Protein and soluble carbohydrates

Source: DARD RL, 2014/15
Improved disease resistance

- Increasing problems in Ireland with crown rust and leaf spot
- Reducing production and palatability
- Using resistant germplasm and screening sites in France
Improved alternative grasses
(species with improved nutrient and water use efficiency)

- Hybrids (20 t/ha)
- Timothy (15 t/ha)
- Italian (22 t/ha)

Timothy - Loughgall, July 2012
Breeding for improved palatability
Improved grasses: exploiting the potential