Pasture Profit Index: New Test Proof 2015

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New Challenges & Focus

• Food harvest 2020 - 50% increase in milk production, 40% and 20% in beef and sheep value

• Beef grass utilisation 4.7t DM/ha – 6.2t DM/ha (2020)

• Dairy grass utilisation 7.3t DM/ha – 10t DM/ha (2020)

• 1% increase in grass utilisation - €27million nationally
Pasture Profit Index

- Total merit index developed to assist in cultivar selection
  - Assigns an economic value to important traits of grass performance
  - Define the total economic merit of a cultivar (€ per ha per year)
  - Rank cultivar’s on Total Economic Merit

- Traits of importance:
  - Seasonal DM yield
  - Quality
  - Silage DM Yield
  - Persistency
New Evaluation data for Test Proof 2015

- Frequent Cutting (FC) trials
  - Seasonal yield, quality, persistency data
    - 2010 sowing (2011 & 2012 harvest years)
    - 2011 sowing (2012 & 2013 harvest years)
    - 4 sites (3 reps per site)

- General Purpose trials
  - Silage data (First and Second DM yields)

- Combine biological data and economic values
Pasture Profit Index

€ per ha/year

Kg $\triangle$ DM yield
- Spring: €0.16
- Summer: €0.04
- Autumn: €0.11

unit $\triangle$ in DMD/kg
- April: -€0.001
- May: -€0.008
- June: -€0.010
- July: -€0.009

Kg $\triangle$ DM silage yield
- 1st Cut: €0.04
- 2nd Cut: €0.03

-€67.2 per year

9.1 t/ha

DM yield

Quality – FC protocol values

Silage DM yield – First and Second cut values

Persistency – $\triangle$ GS -10 year base
## Pasture Profit Index (PPI) – Test Proof

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<tr>
<th>Rank</th>
<th>Variety</th>
<th>Ploidy</th>
<th>Heading date</th>
<th>Total €/ha per year</th>
<th>DM yield</th>
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Additions to the Pasture Profit Index

- All Recommended List varieties don’t have PPI – no FC data available as yet
- Glenveagh, Majestic, Piccadilly, Stefani, Clanrye, Aberplentiful, Seagoe, Boyne, Rosetta, Rodrigo, Giant – absence of PPI should not inhibit use of these varieties
- Recommended List 2015 not finalised
- Feedback on DUS (distinctiveness, uniformity and stability test) and seed availability to be confirmed - DAFM
Heading date association with Total economic value

\[ y = 1.8654x - 277.5 \]
\[ R^2 = 0.1702 \]

Heading date association on Quality economic value

\[ y = -1.3559x + 328.6 \]
\[ R^2 = 0.0206 \]
Research Plans 2015/16

- Analysis of DAFM datasets – FC and General Purpose protocols (2012 Sowing year)
- Sward structure effects on grazing and cow performance
- Persistency – sward aging and its association of DM yield - tiller density, \( \Delta \) Ground score
- Grazing out preference and association to digestibility and other sward traits (all RL and candidate varieties)
Research Plans 2015/16

• Selection tool for persistence & wear tolerance
• On farm variety evaluation – Phenotypic measurements - link to the PPI
• Clonakility System Study – Diploid versus Tetraploid ± Clover – animal and sward performance (Year 1 completed)
• Clover interaction study with different cultivars under different Nitrogen regimes (Year two completed)
Summary

• PPI will be published within Recommended list in 2015
• All variety’s available don’t have a PPI value
• More emphasis will now be placed on traits
• Only cultivars subject to Recommended List have a PPI value
  • Frequent Cutting data
  • Currently 17 cultivars ~60% of Recommended List cultivars
  • As more cultivars get a PPI – better information on true rankings
    • 2016 – 94%
    • 2017 -100%
    • Rankings will change as more cultivars and data are included
2014 - Update
PastureBase Ireland – Farms on system

- Currently 561 farms on system (2014)
- 413 dairy farms
- 135 beef farms
- 13 sheep farms
- All research farms
- 54 Individual farmer groups (farms linked)
- 240 Advisors/Consultants/Researchers
2013 – 12.2 t DM/ha, 2014 – 13.7 t DM/ha (YOD)
Grass Variety performance on Farms 2013

Data from 44 farms – 228 paddocks
• More farms on the system – good reference data
• Variety DM Production data is starting to emerge
• Add more phenotypic measurements on variety's on farms
• Analysis of 2014 data, increase scale of the program
Acknowledgements

• Dairy Levy – Irish Dairy Farmers
• Grassland Farmers on Pasture base Ireland
• Department of Agriculture, Food and the Marine staff
• Department of Agriculture Fisheries & Food Research Stimulus Fund (RSF 11/S/09)