An advisory-industry perspective to nutrient management in the Agricultural Catchments Programme.

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Monday 28th September, 2015
Timoleague Catchment

- 758ha in area
- 85% of the land is in grass
  - Mainly dairy
  - Some beef & sheep enterprises
- 4% tillage
- Approximately 40 farmers
ACP approach

Integration
• research/advisory team
• mainstream ACP with core Teagasc research and advisory

Partnership - with farmers and other stakeholders
• Consultation and Implementation Group
• Promoting Good Agricultural Practice

Build a scientific body of evidence…
• Evaluating effectiveness of GAP Measures
• Establishing biophysical constraints on nutrient source reductions
• Questioning expectations in terms of water body impacts
• Socio-economic and Biophysical

Dissemination of new knowledge widely
Technologist-Dual Role Advisory

- Nutrient management
- Scheme work:
  - BPS
  - Nitrates derogation application
  - TAMS II scheme

**Soil Fertility Summary**

| Derogation | YES | Xinde Farm Grassland | 245 kg/ha | 245 kg/ha |

**Soil P**

<table>
<thead>
<tr>
<th>Index</th>
<th>Soil P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Index 1</td>
<td>0.0 kg/ha (0%)</td>
</tr>
<tr>
<td>Index 2</td>
<td>1.2 kg/ha (2%)</td>
</tr>
<tr>
<td>Index 3</td>
<td>21.9 kg/ha (39%)</td>
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<tr>
<td>Index 4</td>
<td>44.3 kg/ha (68%)</td>
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**Soil K**

<table>
<thead>
<tr>
<th>Index</th>
<th>Soil K</th>
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</thead>
<tbody>
<tr>
<td>Index 1</td>
<td>0.0 kg/ha (0%)</td>
</tr>
<tr>
<td>Index 2</td>
<td>26.6 kg/ha (42%)</td>
</tr>
<tr>
<td>Index 3</td>
<td>26.8 kg/ha (42%)</td>
</tr>
<tr>
<td>Index 4</td>
<td>12.0 kg/ha (19%)</td>
</tr>
</tbody>
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**Soil pH & Lime**

<table>
<thead>
<tr>
<th>Soil pH</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 5.5</td>
<td>12.9 kg/ha (19%)</td>
</tr>
<tr>
<td>5.5-6.0</td>
<td>23.5 kg/ha (35%)</td>
</tr>
<tr>
<td>6.0-6.5</td>
<td>14.1 kg/ha (23%)</td>
</tr>
<tr>
<td>&gt; 6.5</td>
<td>12.4 kg/ha (19%)</td>
</tr>
</tbody>
</table>

**Fertiliser Advice**

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>P (kg)</th>
<th>K (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (kg)</td>
<td>16,779</td>
<td>0</td>
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</tbody>
</table>

**Fertiliser List**

- CAN (27%) 10-6-12: 0.0 tonnes
- Urea CAN (27%) 0-7-30: 0.0 tonnes

**Lime** (e.g. Ground Limestone)

Where the lime requirement is > 7.5 t/ha (3 t/acre), apply 7.5 t/ha (3 t/acre in year one), and the remainder after 2 years.

**Total Requirement** 325 tonnes
Technologist-
Dual Role

Technical

• Data Collection
• PhD experiment support
• Equipment maintenance

Sub-hourly
Total P
Total reactive P
Nitrate-N
Turbidity
Conductivity
Temperature
Mr. John Walsh, Timoleague dairy farmer

- Family farm
- Farming since early 1990’s
  - 47 dairy cows
  - 190,000 litres quota
  - 35 hectares
    (14 Ha milking platform)
- Began renting milk quota and land
- Winter milking until 2008
- Built up stock numbers
- Built up facilities under Department of Agriculture Farm Waste Management scheme
Building a business

- Housing & storage facilities improved for greater management and pollution control
- Full time employee after 120 cows herd for ease of management
- Gradual build up of the business
  - 235 dairy cows
  - Milking platform of 65 hectares
  - Planning housing & milking facilities for 300 dairy cows under Department of Agriculture TAMSII scheme
Integration with ACP

- Teagasc client before Agricultural Catchments programme
- Trusted organisation which offers independent advice helped acceptance of the project
- Nutrient management planning from the beginning proved useful for the farm business
- Soil sampling for P, K & pH leading to more targeted slurry and lime usage
- pH has been rising to more neutral values since ACP involvement resulting in a better grass sward and increased levels of growth
- Less money and time spent on chemical fertilisers
Integration with ACP

• Involvement in Philip Murphy’s Precision Dairying Project will lead to greater grass management which improve grass & milk quantities and qualities while maintaining efficiencies

• 2009 grass growth was approximately 8 tonnes of dry matter per hectare

• 2015 grass growth was approximately 10 tonnes of dry matter per hectare, helping to produce 1.4 million litres of milk

• Aim to grow 14 tonnes of grass dry matter per hectare with 12 tonnes utilised

• The Agricultural Catchments Programme has been a positive influence on farm business
Acknowledgements/thanks:

Farmers, ACP Team, Teagasc colleagues

www.teagasc.ie/agcatchments