

## Grazing Fertiliser Programmes for 2020 – Dairy & Drystock

Over the last 8 years Teagasc have conducted research on protected urea (urea + urease inhibitor NBPT). Results shows that protected urea consistently produces grass yields and nitrogen efficiency that matches that of CAN based fertiliser programmes. Protected urea reduces both GHG's and ammonia losses and is the No. 1 technology to meet environmental sustainability commitments.

**Below are example fertiliser programmes integrating protected urea during the growing season for dairy & drystock farms at different stocking rates.**

| <b>Dairy</b>  |            | Table 1:- Outlines recommended rates of N, P & K (kg/ha) & fertiliser products (kg/ha). Farm stocked at 210kg Org N/ha or 2.5LU/ha). Soil P and K levels assumed to be <b>index 1</b> |                        |                       |                      |                     |                    |                |
|---|------------|---|------------------------|-----------------------|----------------------|---------------------|--------------------|----------------|
| Advice  |            | Feb   | March                  | April                 | May                  | June / July         | Sept               | Total kg/ha    |
| <b>Product</b><br>(kg/ha)   |            | 55 kg/ha<br>ProUrea   | 310 kg/ha<br>18-6-12+S | 125 kg/ha<br>Pro Urea | 310 kg/ha<br>18-6-12 | 60 kg/ha<br>ProUrea | 96kg/ha<br>29-0-14 |                |
| <b>N</b>  | <b>250</b> | 25  | 56                     | 58                    | 56                   | 27                  | 28                 | <b>250</b>     |
| <b>P</b>  | <b>39</b>  |   | 19                     |                       | 19                   |                     |                    | <b>38</b>      |
| <b>K</b>  | <b>95</b>  |   | 37                     |                       | 37                   |                     | 13                 | <b>87</b>      |
| <b>S</b>  | <b>15</b>  |   | 9                      |                       | 9                    |                     |                    | <b>18</b>      |
| <b>Cost €/ha</b>  |            | <b>21</b>   | <b>115</b>             | <b>48</b>             | <b>115</b>           | <b>23</b>           | <b>37</b>          | <b>€359/ha</b> |
| <i>ProUrea = Urea 46% + NBPT, Cost/tonne = €380/t, ProUrea 40% N &amp; 6% S- €380t/, 29-0-14 + S - €380, 29-0-14 - €370<br/>18-6-12+ 3% S - €370, 18-6-2 - €360. To convert units/ac to kg/ha multiply by 1.25. Apply 100kg/ha of MOP 50% once every 5 years.</i> |            |   |                        |                       |                      |                     |                    |                |

| <b>Dairy</b>  |            | Table 2:- Outlines recommended rates of N, P & K (kg/ha) & fertiliser products (kg/ha). Farm stocked at 210kg Org N/ha or 2.5LU/ha. Soil P and K levels assumed to be <b>index 2</b> |                        |                      |                        |                      |                     |                |
|---|------------|--|------------------------|----------------------|------------------------|----------------------|---------------------|----------------|
| Advice  |            | Feb  | March                  | April                | May                    | June / July          | Sept                | Total kg/ha    |
| <b>Product</b><br>(kg/ha)   |            | 55 kg/ha<br>ProUrea  | 310 kg/ha<br>18-4-12+S | 125kg/ha<br>Pro Urea | 310 kg/ha<br>18-4-12+S | 60 kg/ha<br>Pro Urea | 60 kg/ha<br>ProUrea |                |
| <b>N</b>  | <b>250</b> | 25   | 56                     | 58                   | 56                     | 27                   | 28                  | <b>250</b>     |
| <b>P</b>  | <b>29</b>  |  | 12                     |                      | 12                     |                      |                     | <b>24</b>      |
| <b>K</b>  | <b>65</b>  |  | 37                     |                      | 37                     |                      |                     | <b>74</b>      |
| <b>S</b>  | <b>12</b>  |  | 9                      |                      | 9                      |                      |                     | <b>18</b>      |
| <b>Cost €/ha</b>  |            | <b>21</b>  | <b>109</b>             | <b>48</b>            | <b>109</b>             | <b>23</b>            | <b>23</b>           | <b>€333/ha</b> |
| <i>ProUrea = Urea 46% + NBPT, Cost/tonne = €380/t, ProUrea 40% N &amp; 6% S- €380t/, 29-0-14 + S - €380<br/>18-4-12+ 3% S - €350, 18-4-2 - €340. To convert units/ac to kg/ha multiply by 1.25.</i> |            |  |                        |                      |                        |                      |                     |                |

*Note :-Complete a farm fertiliser plan to determine max. N & P allowances as per nutrient legislation for your farm. Consult with your advisor on grass silage fertiliser programmes.*

| <b>Drystock</b>  |            | Table 3:- Outlines recommended rates of N, P & K (kg/ha) & fertiliser products (kg/ha). Farm stocked at 130kg Org N/ha or 1.5LU/ha. Soil P and K levels assumed to be <b>index 1</b> . |                         |                           |                           |                       |                |
|--|------------|--|-------------------------|---------------------------|---------------------------|-----------------------|----------------|
| Advice   |            | March  | April                   | May                       | June /July                | Sept                  | Total Kg/ha    |
| <b>Product (kg/ha)</b>   |            | 63 kg/ha<br>ProUrea  | 125 kg/ha<br>18-6-12 +S | 1.0 bags/ac<br>18-6-12 +S | 1.0 bags/ac<br>18-6-12 +S | 60 kg/ha<br>29-0-14+S |                |
| <b>N</b>   | <b>112</b> | 29   | 23                      | 23                        | 23                        | 18                    | 116            |
| <b>P</b>   | <b>27</b>  |  | 8                       | 8                         | 8                         |                       | 24             |
| <b>K</b>   | <b>70</b>  |  | 15                      | 15                        | 15                        | 8                     | 53             |
| <b>S</b>   | <b>10</b>  |  | 4                       | 4                         | 4                         | 2                     | 14             |
| <b>Cost €/ha</b>   |            | <b>11</b>  | <b>46</b>               | <b>46</b>                 | <b>46</b>                 | <b>23</b>             | <b>€172/ha</b> |
| <p><i>ProUrea = Urea 46% + NBPT, Cost/tonne = €380/t, ProUrea 40% N &amp; 6% S- €380t/, 29-0-14 + S - €380 18-6-12+ 3% S - €370, 18-6-2 - €360. To convert units/ac to kg/ha multiply by 1.25. Apply 125kg/ha of MOP 50% once every 4 years.</i></p> |            |  |                         |                           |                           |                       |                |

| <b>Drystock</b>  |            | Table 4:- Outlines recommended rates of N, P & K (kg/ha) & fertiliser products (kg/ha). Farm stocked at 170kg Org N/ha or 2.0LU/ha. Soil P and K levels assumed to be <b>index 1</b> . |                        |                        |                     |                     |                |
|--|------------|--|------------------------|------------------------|---------------------|---------------------|----------------|
| Advice   |            | March  | April                  | May                    | June / July         | Sept                | Total kg /ha   |
| <b>Product (kg/ha)</b>   |            | 185 kg/ha<br>18-6-12+S   | 185 kg/ha<br>18-6-12+S | 125 bags/ac<br>18-6-12 | 95 kg/ha<br>ProUrea | 60 kg/ha<br>ProUrea |                |
| <b>N</b>   | <b>160</b> | 33   | 33                     | 23                     | 44                  | 28                  | 161            |
| <b>P</b>   | <b>30</b>  | 11   | 11                     | 8                      |                     |                     | 30             |
| <b>K</b>   | <b>75</b>  | 22   | 22                     | 15                     |                     |                     | 59             |
| <b>S</b>   | <b>12</b>  | 5  | 5                      |                        |                     |                     | 10             |
| <b>Cost €/ac</b>   |            | <b>68</b>  | <b>68</b>              | <b>46</b>              | <b>36</b>           | <b>23</b>           | <b>€241/ha</b> |
| <p><i>ProUrea = Urea 46% + NBPT, Cost/tonne = €380/t, ProUrea 40% N &amp; 6% S- €380t/, 29-0-14 + S - €380 18-6-12+ 3% S - €370, 18-6-2 - €360. To convert units/ac to kg/ha multiply by 1.25. Apply 125kg/ha of MOP 50% once every 4 years.</i></p> |            |  |                        |                        |                     |                     |                |

### Is protected urea more costly?

No, prices in € per tonne fertiliser and € per kg N delivered for the two main fertiliser N types available as per 21<sup>st</sup> February, 2020.

| Fertiliser N Product | N content (%) | Cost per tonne (€) | Cost/kg N (€) |
|----------------------|---------------|--------------------|---------------|
| Protected urea       | 46%           | 380                | 0.82c         |
| CAN                  | 27%           | 250                | 0.92c         |

*Note :-Complete a farm fertiliser plan to determine max. N & P allowances as per nutrient legislation for your farm. Consult with your advisor on grass silage fertiliser programmes.*