

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.

Dairy		Table 1:- Outlines recommended rates of N, P & K and ProUrea as the main N source. Farm stocked 1.0 LU /ac (210kg Org N/ha or 2.5LU/ha). Soil P and K levels assumed to be index 1						
Advice		Feb	March	April	May	June / July	Sept	Total units/ac
Product (units/ac)		0.4 bags/ac ProUrea	2.5 bags/ac 18-6-12+S	1.0 bags/ac Pro Urea	2.5 bags/ac 18-6-12	0.5 bags/ac ProUrea	0.8 bags/ac 29-0-14	
N	200	20	45	46	45	20	23	199
P	31		15		15			30
K	76		30		30			60
S	12		7		7			14
Cost €/ac		7.60	46.25	19	46.25	7.6	15.2	€142/ac
<i>ProUrea = Urea 46% + NBPT / 2-NBPT, Cost/tonne = €380/t, ProUrea 40% N & 6% S- €380t, 29-0-14 + S - €380 18-6-12+ 3% S - €370, 18-6-12 - €360. To convert units/ac to kg/ha multiply by 1.25. Apply 1 bag/ac of MOP 50% once every 4 years.</i>								

Dairy		Table 2:- Outlines recommended rates of N, P & K and ProUrea as the main N source. Farm stocked 1.0 LU /ac (210kg Org N/ha or 2.5LU/ha). Soil P and K levels assumed to be index 2						
Advice		Feb	March	April	May	June / July	Sept	Total units/ac
Product (units/ac)		0.5 bags/ac ProUrea	2.5 bags/ac 18-4-12+S	1.0 bags/ac Pro Urea	2.5 bags/ac 18-4-12+S	0.4 bags/ac Pro Urea	0.5 bags/ac ProUrea	
N	200	20	45	46	45	23	20	199
P	23		10		10			20
K	52		27		27			54
S	12		7		7			14
Cost €/ac		7.60	43.75	19	43.75	9.5	7.6	€131/ac
<i>ProUrea = Urea 46% + NBPT / 2-NBPT, Cost/tonne = €380/t, ProUrea 40% N & 6% S- €380t, 29-0-14 + S - €380 18-4-12+ 3% S - €350, 18-4-12 - €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.

Drystock		Table 3:- Outlines recommended rates of N, P & K and ProUrea as the main N source. Farm stocked 0.6 LU/ac (130kg Org N/ha or 1.5LU/ha). Soil P and K levels assumed to be index 1.					
Advice		March	April	May	June /July	Sept	Total units/ac
Product (units/ac)		0.5 bags/ac ProUrea	1.0 bags/ac 18-6-12 +S	1.0 bags/ac 18-6-12 +S	1.0 bags/ac 18-6-12 +S	0.5 bags/ac 29-0-14+S	
N	90	23	18	18	18	14	91
P	21		6	6	6		18
K	56		12	12	12	7	43
S	8		3	3	3	2	11
Cost €/ac		9.5	18.5	18.5	18.5	9.5	€75/ac
<p><i>ProUrea = Urea 46% + NBPT / 2-NBPT, Cost/tonne = €380/t, ProUrea 40%N & 6% S- €380t/, 29-0-14 + 4% S - €380 18-6-12+ 3% S - €370, 18-6-2 - €360. To convert units/ac to kg/ha multiply by 1.25. Apply 1 bag/ac of MOP 50% once every 4 years.</i></p>							

Drystock		Table 4:- Outlines recommended rates of N, P & K and ProUrea as the main N source. Farm stocked 0.8 LU/ac (170kg Org N/ha or 2.0LU/ha). Soil P and K levels assumed to be index 1.					
Advice		March	April	May	June / July	Sept	Total units /ac
Product (units/ac)		1.5 bags/ac 18-6-12+S	1.5 bags/ac 18-6-12	1.0 bags/ac 18-6-12+S	0.75 bags/ac ProUrea	0.5 bags/ac ProUrea	
N	130	27	27	18	35	23	129
P	24	9	9	6			24
K	60	18	18	12			48
S	10	5	5	3			13
Cost €/ac		27.75	27.75	18.50	14.25	9.5	€98/ac
<p><i>ProUrea = Urea 46% + NBPT / 2-NBPT, Cost/tonne = €380/t, ProUrea 40%N & 6% S- €380t/, 29-0-14 + 4% S - €380 18-6-12+ 3% S - €370, 18-6-2 - €360. To convert units/ac to kg/ha multiply by 1.25. Apply 1 bag/ac of MOP 50% once every 4 years.</i></p>							

Is protected urea more costly?

No, prices in € per tonne fertiliser and € per unit N delivered for the two main fertiliser N types available as per 21st February, 2020. To convert to cost per unit to cost per kg N multiply by 2.

Fertiliser N Product	N content (%)	Cost per tonne (€)	Cost/unit N (€)
Protected urea	46%	380	0.41
CAN	27%	250	0.46

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.