ProloNg® technology

Nitrogen efficiency

ProloNg® fertilisers are formulated to overcome the problem of loss of applied nitrogen (N) by volatilisation, de-nitrification and subsequent leaching and are ideal for all sports turf applications.

Researchers estimate up to 50% of nitrogen applied worldwide is lost to the environment rather than utilised by plants. The naturally occurring enzyme 'urease' works to break down urea into a form that can volatilise causing a loss of nitrogen. Leaching of nitrate can also be a significant loss and damaging to the environment. **ProloNg®** ***uses technology that actively shields and manages nitrogen in the soil at molecular level.*** *The shield prevents the action of urease on applied nitrogen and slows nitrification. This allows the plant improved access to stable forms of nitrogen throughout the growing season and without destroying the spectrum of naturally occurring soil bacteria and enzymes.* ProloNg™ *technology is biodegradable, water soluble and leaves no adverse environmental footprint.*

ProloNg®, by preventing nitrification, eliminates lush plant uptake of nitrates. This results in less flushes of unwanted growth, and reduction in soft tissue (stored protein in leaves) and therefore reduced disease susceptibility. ProloNg® manages your nitrogen increasing nitrogen use efficiency, enabling prolonged availability of applied nitrogen and ensuring root zone bio-diversity is maintained.

Benefits of **ProloNg®** include:

- **Prolonged Nitrogen availability from single application**
- Improved utilisation and plant take up of applied Nitrogen
- **Promotion of tillering, increasing sward density**
- Reduced waste Nitrogen resulting in improved cost efficiency and reduced environmental impact by:
    - **Preventing volatilisation**
    - **Slowing down nitrification**
    - **Preventing leaching**
- **Reduces unwanted growth flushes**
- Safe, reduced scorch susceptibility formulations
- **Reduces soft lush growth and disease susceptibility**
- Protects water courses from nitrate pollution (less algae growth in ponds/lakes)
- **Discourages annual grasses in greens (e.g. Poa annua) – promotes perennial grasses**
- Can safely be applied at any time of year when conditions allow
- **Low salt formulations improving root zone environment and enhancing root activity**
- Range of granule sizes, pricing and formulations, to meet every turf managers requirements
- **Proven technology, with scientific explanation; ProloNg® technology really works!**
- Excellent grass colour

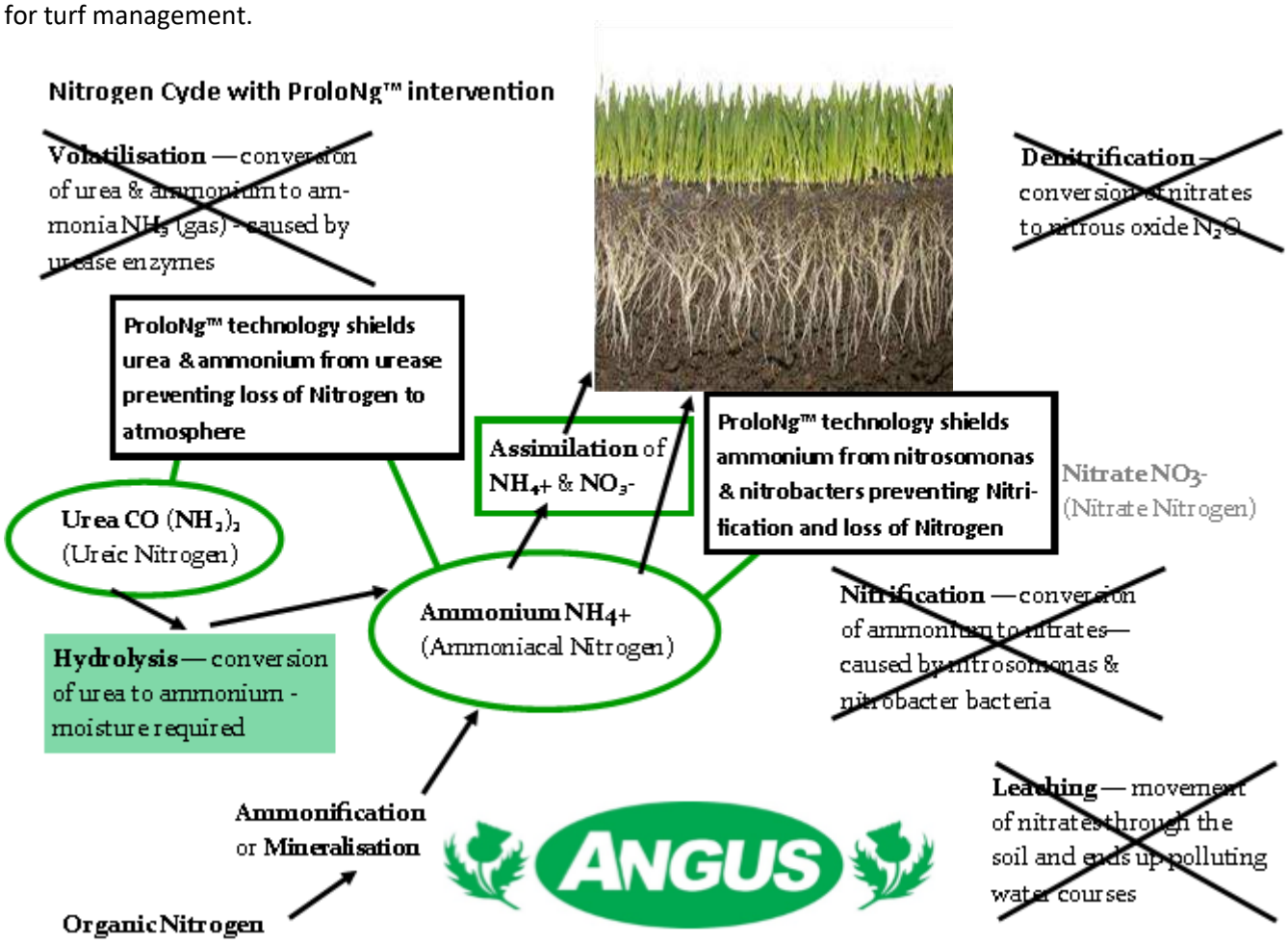
Many times over, users have reported healthier swards of better colour; this is due to the fact that when nitrogen is applied, at whatever time of year, with ProloNg® technology the plant will only assimilate its nitrogen requirements in the form of ammonium. The plant therefore has enough, but not too much nitrogen and is stronger/sturdier, healthier/less susceptible to damage (physical or disease pressure) and of improved appearance. There's no more requirement for 'artificial green-ups' using harmful products like iron sulphate.



ProloNg® fertilisers

Nitrogen efficiency

Below is a diagram showing how **ProloNg®** effectively interrupts the Nitrogen cycle demonstrating the benefits for turf management.



The Benefits:

All applied Nitrogen is utilized by the plant	economic to budget and environment
No N loss to atmosphere or water courses	protecting environment and budget
Long lasting, so less applications required	labour efficient & cost saving
No lush uptake of Nitrates	healthier & stronger plants
Promotes tillering, increasing sward density	improved playing surfaces

The solution: **ProloNg®**

Economically,
Agronomically &
Environmentally the best!



ProloNg™ mini

Nitrogen efficiency

- **High quality homogenous mini granules for greens, tees and all sports surfaces**

ProloNg™ mini — 24 - 3 - 7

Spring/Summer Fairway
Sports Pitches

44% of Nitrogen (N) as Ammonium with ProloNg™ technology
56% of Nitrogen (N) as Urea with ProloNg™ technology
100% of Potash from Muriate of Potash

*Potential longevity: spring/summer application, 3-4 months
autumn/winter application, 5-7 months

Rates of Application: 50g/m² — 20kg bag treats 400m²

Nutrients applied per m² @ 50g/m² — 12g N – 1.5g P_2O_5 - 3.5g K_2O — **1-2.5mm granules**

ProloNg™ mini — 18 - 3 - 18

Fairways & pitches

40% of Nitrogen (N) as Ammonium with ProloNg™ technology
60% of Nitrogen (N) as Urea with ProloNg™ technology
100% of Potash from Muriate of Potash

*Potential longevity: spring/summer application, 3-4 months
autumn/winter application, 6-8 months

Rates of Application: 50g/m² — 20kg bag treats 400m²

Nutrients applied per m² @ 50g/m² — 9g N – 1.5g P_2O_5 - 9g K_2O — **1-2.5mm granules**

ProloNg™ mini — 14 - 1 - 7 + 3% MgO + 2% Fe + 4% CaO

Tees & Approaches

90% of Nitrogen (N) as Ammonium with ProloNg™ technology
10% of Nitrogen (N) as Urea with ProloNg™ technology
100% of Potash from Muriate of Potash

*Potential longevity: spring/summer application, 2-3 months
autumn/winter application, 5-6 months

Rates of Application: 50g/m² — 20kg bag treats 400m²

Nutrients applied per m² @ 50g/m² — 7g N – 0.5g P_2O_5 - 3.5g K_2O + 1.5g MgO + 1g Fe + 2g CaO **1-2.5mm granules**

ProloNg™ mini — 11 - 5 - 5 + 3% CaO + 8% SO_3

Spring greens & tees

100% of Nitrogen (N) as Ammonium with ProloNg™ technology
100% of Potash from Muriate of Potash

*Potential longevity: spring/summer application, 8-10 weeks

Rates of Application: 50g/m² — 20kg bag treats 400m²

Nutrients applied per m² @ 50g/m² — 5.5g N – 2.5g P_2O_5 - 2.5g K_2O + 1.5g CaO + 4g SO_3 — **1-2.5mm granules**

*Longevities quoted are based on recommended application rates & are purely a guide, as plant variety, plant density and environmental conditions, as well as timing of application will dictate plant Nitrogen use and therefore the speed in which applied Nitrogen is utilised.

best quality, best service, best value