



More protein
with less input
ProtaPlus

 **BARENBRUG**

More protein with less input

Your cows need high-quality protein to produce milk efficiently. Protein from concentrates is very expensive and, moreover, not sustainable. With ProtaPlus, you can effortlessly increase the protein yield from your own land by 30% (Figure 1) in a short period.

The highest grass yields

If your climate is not suitable for perennial grass, or if another crop has been harvested or perhaps failed, ProtaPlus is the perfect solution for you. Each cut yields 10% (Figure 2) more dry matter than any other annual grass.

The benefits of nitrogen

The success of ProtaPlus lies in the combination of the best annual grass varieties and the fastest-growing clovers. Clover absorbs nitrogen from the air, which has the following three advantages.

1. Less nitrogen fertilization needed
2. Increased protein production
3. Improved soil for the next crop

Drought resistant

Another advantage of clover is its deep taproot. This root extracts moisture and nutrients from deeper layers of the soil. It also loosens the soil. The grasses and your next crops also benefit from this. It makes your soil more resistant to drought and extreme rain.

If you want to find out more about ProtaPlus, please visit www.barenbrug.biz/protaplus

Figure 1: Feed value from silage

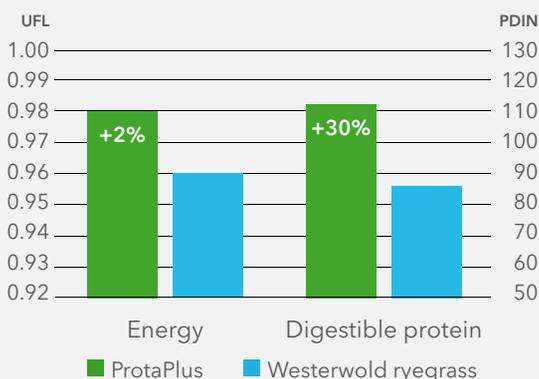
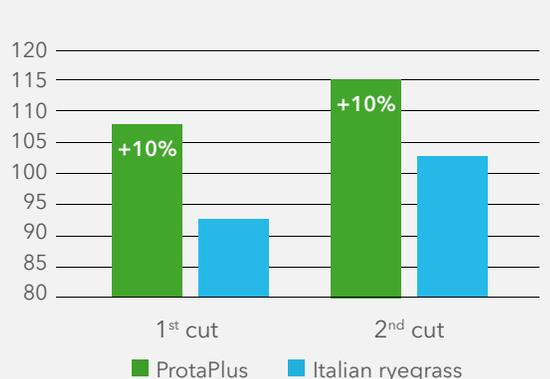


Figure 2: Dry matter yield (rel.)



Specifications of ProtaPlus



ProtaPlus is a product for short-term forage production (6-12 months). It can be used as an intercrop between arable crops like corn, cereals or cotton. ProtaPlus can be harvested 2-3 times and used as silage, hay or as fresh feed, which is directly fed to animals. Grazing is also possible, as long as rotational- or strip-grazing is applied.



Composition*	
Italian/Westerwold ryegrass	50 - 70%
Mix of Crimson-, Berseem- and Persian clover	30%

Species & benefits

<p>Westerwold ryegrass <i>Very fast establishing, outstanding yield in 1st cut, high in feed value.</i></p>	
<p>Italian ryegrass <i>High-yielding, fast regrowth, perfect for multi-cut swards, high in feed value and palatability.</i></p>	
<p>Crimson clover <i>Fast establishing, high yield in 1st cut, drought-tolerant, excellent protein quality, suitable on acid soils.</i></p>	
<p>Berseem clover <i>Late flowering, fast establishing, perfect for multi-cut swards, outstanding on humid soils.</i></p>	
<p>Persian clover <i>High-yielding, more prostrate growth habit, excellent protein quality.</i></p>	

*The exact composition is based on the specific area (climate/soil condition) and management system (spring/autumn sowing, one vs. multi-cut application, hay/silage or grazing).

Sowing

Annual clovers need a warm period to establish, so don't sow too early or late in the season: soil temperature should be > 12 °C.

Annual clovers require a minimal pH of 5.5 - 6.0. For lower soil-pH liming is recommended.

Sowing in humid soil, very fine seedbed, comparable to sugar beets or lucerne.

Sowing period	August - October (Mediterranean climates)
	April - August (Mild/oceanic climates)
Seed rate	30 kg/ha
Sowing depth	0.5 - 1.0 cm. After sowing use a roller to compress the soil

Fertilization

As a starter fertilization special attention should be paid to P, K and S.

N-fertilization isn't necessary. Possibly apply max. 25 kg/ha N before the 1st cut.

Animal manure/slurry to be applied before sowing.

Artificial fertilizer to be applied from two weeks after sowing onwards (spring/summer sowing), or shortly after winter (autumn sowing).

Harvest

ProtaPlus can be harvested 2-3 times per season (4-6 weeks interval).

Cut before the clover starts to bloom.

Don't cut too low: cutting height no lower than 7-8 cm.

Tedding and raking should be done smoothly, to prevent losses from cloverleaves.

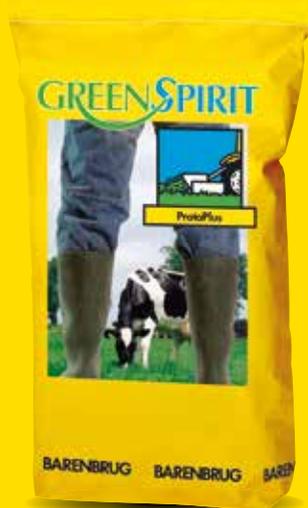
Make sure the sward isn't longer than 15 cm before winter.

High yield of **digestible protein**.

Fast **production**.

High **feed value**.

Intercrop between arable crops.



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Make Life Beautiful