



## Introduction

The most important substances for grass harvest are NPK (nitrogen, phosphorus and potassium). Leguminous plants need mainly phosphorus and potassium, and they do not require nitrogen as the tuberos bacteria on the roots capture atmospheric nitrogen and supply it to the plant. Nitrogen is the most important element for grasses, but potassium and phosphorus are no less important. Phosphorus fertilizers are especially important for legumes; the impact of potassium onto yields is similar to that of phosphorus. There is a shortage of these elements in peatlands and sandy soils. According to scientists, one nutriment cannot be replaced by another, and a shortage of one nutriment has an impact of assimilation of other nutriments as well. It is essential to ensure a balanced nutrition and Biofert is a well-balanced product for grasses and pastures. Biological NPK is the best and easily assimilated form for plants.



## Challenges

Fertile grasslands are an important asset for dairy farming. Grass is the cheapest feed for cattle, and further, the mixed grasses prairies contains all the food and most of minerals needed for the normal physiological functions and milk synthesis of cattle. Fertilization is required in order to maintain a sufficient yield.

The rate of complex fertilizers depends on the soil fertility, the botanical properties of grasses and the planned grass yield, which depends on the farmers decisions. As the price of fertilizers becomes more and more expensive, the payback of fertilization is very important.

## Solution

Biofert – microbial biostimulator for optimal nutrition of grass and pastures.

### Registration information and certificates

Suitable for: grasses and pastures.

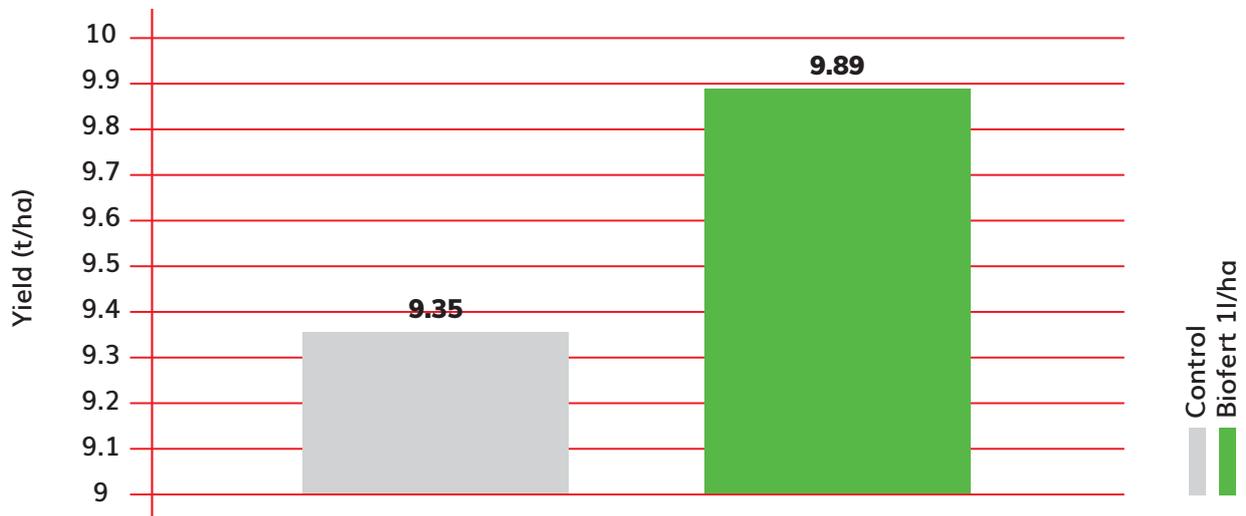
## Mode of action

*Paenibacillus* sp., *Bacillus* spp. and *Saccharomyces* sp. microorganisms act altogether to enrich the soil with NPK elements that are essential for the growth of quality pasture and meadow grass.

## Benefits and Results

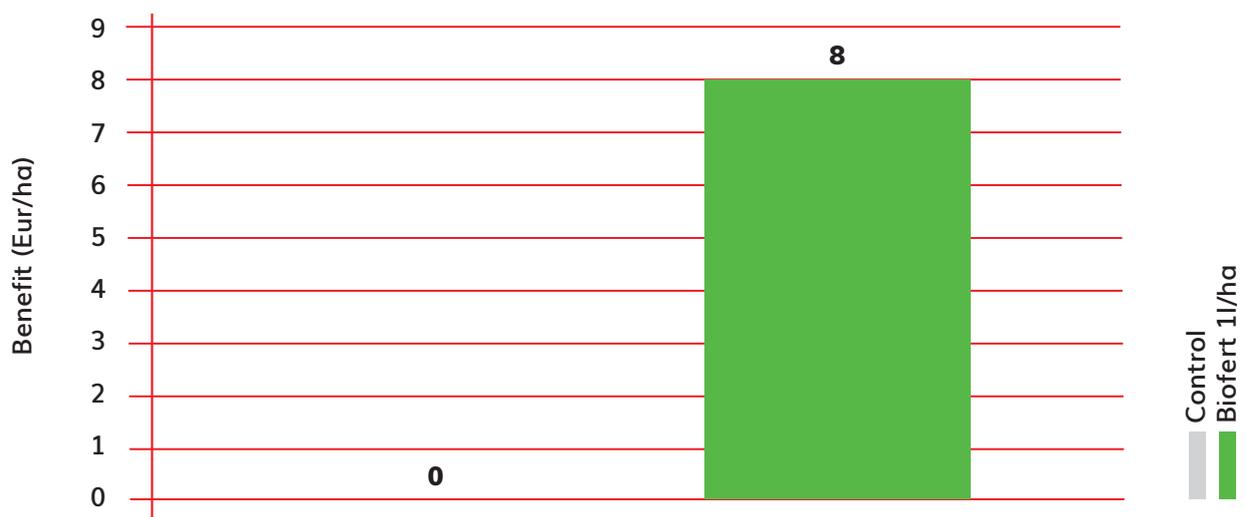
- Faster and more efficient plant vegetation;
- Higher amounts of green biomass;
- Higher amounts of accumulated sugar;
- Increased soil biological activity.

Figure 1.



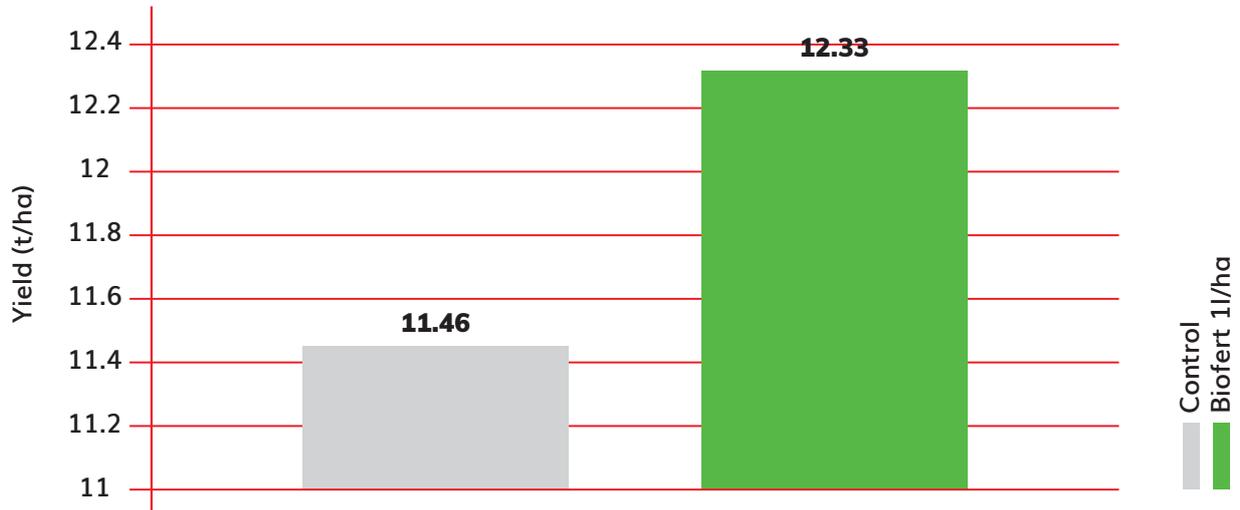
LAMMC, Vezaiciai Experiment Research Center, 1st Cut of 1st Year Grass, 2020

Figure 2.



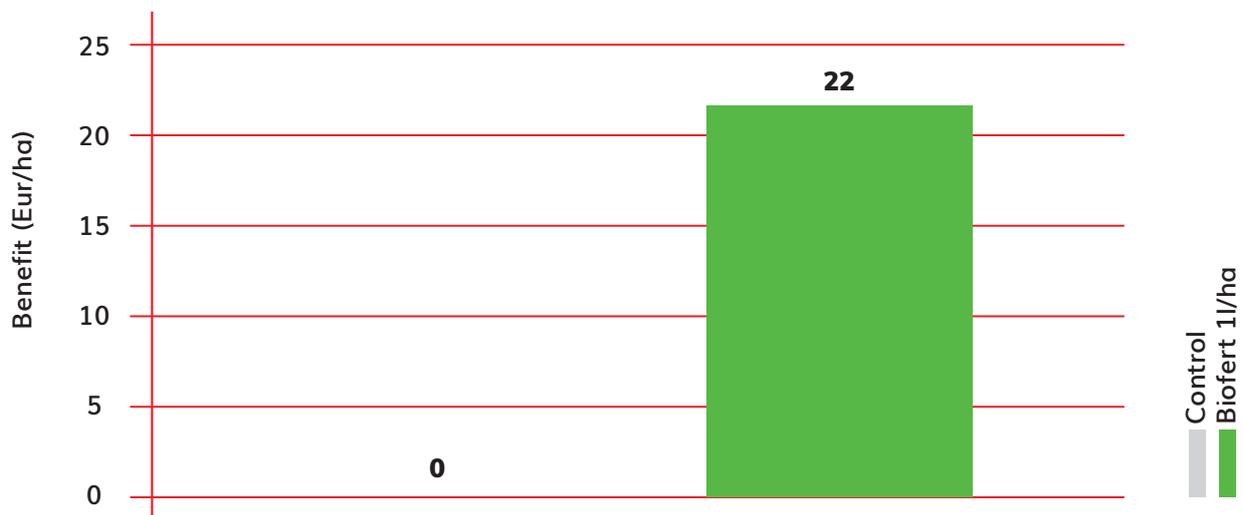
Grass Price 43 Eur/t, 2020

Figure 3.



LAMMC, Vezaiciai Experiment Research Center, 2nd Cut of 1st Year Grass, 2020

Figure 4.



Grass Price 43 Eur, 2020

## Application rate, technology

**Application rate:** grassland and pasture 1-5 l/ha. After seeding; after cutting; early spring.

**Application time:** spray on to the soil before sowing or until the plants do not cover the whole soil surface. In other cases, it is recommended to consult with a sales representative.

**Application requirements:** the sprayer pressure must be 1-10 bar or 15-145 psi; nozzle size is at least 50 µm.

**Safety and storage:** product can be mixed with all kinds of fertilizers and pesticides unless the manufacturer of fertilizer or pesticide states otherwise. May contain natural sediments. Storage at high temperature above 30 °C must be avoided. Use Biofert as soon as possible after opening or store in the refrigerator (4 °C) once it is opened and use it within 72 h. Contamination of the product may occur at any time after opening and the manufacturer takes no responsibility for opened and unused product.

**Product is non-toxic and has no irritating compounds.** There is no risk to humans, animals and the environment. After contact with the skin or eyes, wash with running water. Microorganisms may have the potential to provoke sensitising reactions.

## Specifications

**Composition:** *Paenibacillus polymyxa* MVY-024; *Bacillus aryabhattai* MVY-004; *Bacillus megaterium* MVY-011; *Bacillus amyloliquefaciens* MVY-008; *Saccharomyces cerevisiae* MVY-002, (in total,  $1.2 \times 10^{12}$  CFU/l). K-3490 mg/l; Na-2090 mg/l; S-1140 mg/l; P-553 mg/l; Ca-452 mg/l; Mg-103 mg/l.

**Packaging:** 20 l; 10 l; 5 l; 1 l.

- **Biological activity:** product is intended for grasses and pastures;
- **Physical state:** liquid biological product;
- **Viability, shelf life:** 12 months. The manufacturer does not recommend storing the product above 30 °C.
- **Working conditions:** 5-42 °C soil temperature; 4 to 10 pH;
- **Chemical parameters:** dry matter 7.3%; pH 6.4; organic matter 80.5%;
- **Physical parameters:** colour from dark brown to black; dynamic viscosity 0.7 mPas; density 1.07 g/cm<sup>3</sup>.

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