

The FosFix logo is displayed in a stylized, bold font. The letters are white with a thick blue outline. The 'F' and 'i' are particularly prominent, with the 'i' having a dot. The background of the logo is a solid blue rectangle.

# FosFix

**The new way of phosphorus fertilization**

The Bico Energy LT logo is located in the bottom right corner. It consists of the word 'Bico' in a large, bold, white font, with 'ENERGY LT' in a smaller, bold, white font below it. The text is set against a green rectangular background.

**Bico**  
ENERGY LT



Chemical fertilizer application is an effective method to increase yields, but is costly and may also lead to environmental problems. Therefore our company has found a way to make phosphorus fertilization cheaper and more efficient.

Phosphorus is a very important biogen for photosynthesis and metabolism involved in nucleic acid (RNA and DNA) synthesis as part of the cell membrane phospholipids composition. A healthy plant's dry weight contains about 0.25% phosphorus. In the absence of phosphorus plants stop growing; their shoots get thinner and shorter, the lateral buds die, tips of the leaves turn red, brown, fruits ripen slowly, change their shape. Phosphorus is essential for plant growth; it also is the main regulator of growth. Especially high amounts of phosphorus are needed in grain crops - from 60 to 70 kg/ha per year.

As phosphorus is a very active element chemically, we do not find him in a free form in nature.

FOSFIX helps solve phosphorus absorption problems.

How does it work?

FOSFIX contains of the bacteria *Bacillus megaterium* var *phosphaticum*. When these bacteria's are applied in the soil they break the forms of unavailable phosphorus in to available phosphorus forms. After application plants do not show phosphorus deficiency and they may develop and evenly ripened harvest. Scientific studies have shown that after a month of application of FOSFIX there were 22% more of plant available phosphorus in the soil, and in two months this number rose up to 31 %.

FOSFIX is recommended for use in soils that contain high amounts of phosphorus to make it more accessible to plants and in soils low in phosphorus to increase the use of phosphorus fertilizer efficiency.

FOSFIX fertilization is recommended for use in all cultures that are sensitive to phosphorus deficiency.

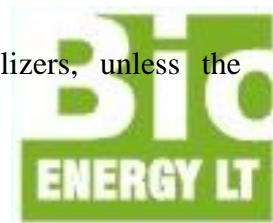
Usage time: before or after sowing until the plant foliage completely covers the soil surface.

Application rates: 1l/ha

Composition:

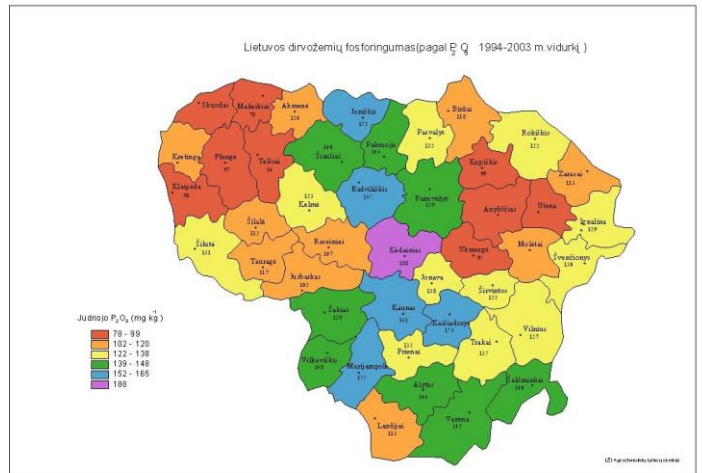
- *Bacillus megaterium* var. *Phosphaticum* (along with the remainder of the culture medium) 96.6%; not less than  $1.0 \times 10^9$  / ml.
- Micro elements Mg, Mn, Fe, no more than 0:01%

The product can be mixed with all kinds of pesticides or fertilizers, unless the manufacturer of a pesticide or fertilizer states otherwise.



## FOSFIX trials in Lithuania

The amount of phosphorus in Lithuania varies very much in every region. Therefore we have done a lot of different trials in different soils. In the picture you can see the differences of phosphorus in Lithuanian soils. Trials were held in 5 different parts.



### Trial Nr.1

FOSFIX was applied in high phosphorus soil with more than 200 mg/kg of P. The application was on summer wheat crops in the mixture with the first herbicides. It was very hard to spot the differences at first but after three weeks of application the differences were visually seen. The stems got stronger, the plants seemed healthier. The harvest differences were 650 kg/ha.



### Trial Nr.2

We have also done a lot of trials in the Lithuanian Institute of Agriculture. The results were more than satisfying. If we give adequate phosphorus fertilization regarding nitrogen and potassium we can reduce phosphorus fertilizers by 25%. But if the amount of given P fertilizer is lesser than needed that



FOSFIX enhances the amount of plant available phosphorus in the soil from 22% to 37% during the first two months of application. If the amount of phosphorus fertilizer is very high the results of FOSFIX were not be so high but still economically efficient.

### Trial Nr.3

FOSFIX was used in low phosphorus soil (not more than 70 mg/kg) on winter rape crop in application with soil herbicides right after sowing. The differences were seen within two weeks. The plants even stressed less from the negative effect of herbicides and also did not



show any phosphorus deficiency signs, when the control field was stressed and had some blue color in their leaves. The additional yield was 550 kg/ha.



#### Trial Nr.4

Corn usually shows phosphorus deficiency right after popping up from the ground. FOSFIX was applied with herbicide “Maister”. After a week of application there were almost no signs of phosphorus deficiency left. The plants were stronger and the yield increased almost 8 t/ha in green matter. In the field where corn was grown for grain, the harvest differences were 850 kg/ha.



#### Trial Nr.5

Sugar beet is a very popular culture in Lithuania and it is held the most economically efficient one. But only two regions grow them because of the sugar factories. Both of these regions have high phosphorus soils and very intense technologies. But we still managed to get outstanding results because of the inadequate fertilization of



phosphorus fertilizers regarding nitrogen ones. The amount of N fertilizer usage is very high in Lithuania and P fertilizer is very low. Therefore after spraying FOSFIX on sugar beet with the combination with insecticide and boron we got average additional yield of 7.5 t/ha

For more information please contact us:

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or visit our site:

[www.bio-energy.lt](http://www.bio-energy.lt)