

E R G F I T O I N A C T I O N

GIVE NATURE WHAT NATURE WANTS

SOYA BEANS



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SOYA BEANS

Soybeans belong to the legume family and are native to East Asia. They have been an important protein source in the Orient for over five thousand years. Soybeans have only been introduced to the Western world since the 20th century. Soybeans grow on a variety of soils and a wide range of climates, ranging from tropical Brazil to the snowy island Hokkaido in the north of Japan.

As soybeans mature in the pod, they ripen into hard, dry beans. Although most soybeans are yellow, there are also rare varieties that are black, brown or green coloured. A given area of land planted with soybeans can produce much more protein than land planted with other crops, or if the land were used to raise cattle.

Nitrogen-fixing ability:

Many legumes (alfalfa, clover, lupines, peas, beans, lentils, soybeans, peanuts and others) contain symbiotic bacteria called Rhizobia within nodules of their root systems. These bacteria have the special ability of fixing nitrogen from atmospheric, molecular nitrogen (N₂) into ammonia (NH₃).

The chemical reaction is: $N_2 + 8 H^+ + 8 e^- \rightarrow 2 NH_3 + H_2$

Ammonia is then converted to another form, ammonium (NH₄⁺), usable by (some) plants by the following reaction: $NH_3 + H^+ \rightarrow NH_4^+$

This arrangement means that the root nodules are sources of nitrogen for legumes, making them relatively rich in plant proteins.

The Soya plant is able to fix up to 40Kg of Nitrogen per hectare, once and only when the root nodules are formed. To be able to form the said nodules rhizobia bacteria must be present. The 40kg of Nitrogen per hectare represent 240Kg of proteins per hectare, therefore it is imperative to add the necessary remainder via fertilization.

Without a healthy and balanced bacterial balance in the rhizosphere, Soya will not reach either full nitrogen fixing root nodules development nor the required nutritional value of the crop.

ERGOFITO APPLICATION:

Please note that soil tiredness is responsible for low yields and the plant susceptibility to sickness and insect's attacks. In order to revitalize the field, it is advisable to use 4 tons per hectare of organic dry matter spread evenly over the hectare. Then apply **Ergostart Bio** in the following manner:

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Ground preparation:

Although this first step is a recommendation only, therefore it is optional, we strongly advise to apply it to ensure that the soil has a healthy bacteriological activity prior seeding or transplanting seedlings.

Bio Agent	Quantity	Area
ERGOSTART BIO	50 Kg	Per Hectare

Following application of the **Ergostart Bio**, wait 15 days prior seeding or transplanting. The above is applied with sufficient water, generally diluted 1:50 (1Kg of product to 50 liters of water). **Ergostart Bio** will immediately start decomposing all inert organic matter into plant food. More important it will de-mineralize any accumulation in the rhizosphere that is and has suffocated the soil. It will start by converting all of the above into humus, thus rejuvenating tired soils and allow normal and healthy roots development.

Preparing the Seeds:

It is advisable to prepare the seeds prior planting by wetting them with a mixture of water with 0,5 % of **Ergofito Universal Plus**.

Ergofito Universal Plus application:

After ensuring that the soil has all the required minerals, trace elements, correct Ph. and its fertilization, apply Ergofito Universal Plus in the following manner:

APPLICATION:

Apply	When	Quantity
Ergofito Universal Plus	When Planting or Seeding	6 Kg Per Hectare

To apply the above to either the soil or as foliar application, mix Ergofito Universal Plus with water at a minimum ratio of 1:200.

Ergofito Universal Plus can be distributed radically via the drip irrigation simultaneously with the regular fertilization. It can be applied via a pivot, bowser or any existing method of irrigation available.

For the full list of benefits of Ergofito, please refer to "Ergofito Benefits" documentation.



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