



# Role of fertilizers in agriculture

Caitlin smith\*

Department of Agricultural Sciences, University of Washington State, Pullman, Washington, USA

\*Corresponding author. E-mail: caitlin.smith@asu.edu

**Received:** 28-Feb-2022, Manuscript no: GJARR- 22-59020, **Editorial assigned:** 2-Mar-2022, PreQC no: GJARR-22-59020 (PQ)

**Reviewed:** 15-Mar-2022, QC no: GJARR-22-59020, **Revised:** 19-Mar-2022, Manuscript no: GJARR-22-59020 (R), **Published:** 31-Mar-2022, DOI no: 10.15651/GJARR.22.9.2

## ABOUT THE STUDY

Fertilizers, synthetic or natural, are the additives that boom plant productiveness and improvement. Fertilizers assist the soil boom its fertility thereby selling increase. The use of manures as compost is probably as antique as agriculture itself. With the assist of fertilizers, plant life growth to be resilient towards dangerous plant pathogens, pests, and weeds. Elimination of sicknesses in plant life will increase the fee with inside the harvest.

Present-day artificial fertilizers include as a minimum one of the 3 additives which can be maximum enormous in plant sustenance: nitrogen, phosphorus, and potassium. Of secondary importance are the factors sulphur, magnesium, and calcium.

## Role of Fertilizers in the Growth of Plants

The soil calls for the normal upkeep of its fertility. Naturally, soil incorporates of very high-quality rocks, one-of-a-kind sorts of minerals, and natural depend because of the decomposition of the organic species. The right tillage/tilth is supported via way of means of sand, minerals, and natural depend however those do now no longer assist in helping and keeping ok quantities of meals for the plant required for its nourishment and increase.

At the time of plant increase, vital vitamins are required via way of means of the plant for its unimpeded increase. Incorporating fertilizers into the soil ensures that the plant is getting right nutrients throughout its improvement.

## Importance of Fertilizers

It could be very hard to satisfy the needs of the growing populace with such fewer resources. Loss of soil fertility, pests, and shortage of vitamins has led to a lower in agricultural production. This has elevated the significance of fertilizers in agriculture.

Fertilizers may be critical to the plant life with inside the following ways:

- Fertilizers boom plant life` tolerance in the direction of pests. This has decreased their reliance on pesticides and herbicides, thereby, generating more healthy crops. Consequently, sicknesses have decreased, offering aesthetic fee to the crops.
- Fertilizers enhance the water maintaining ability of the plant life and boom root depth.
- The potassium content material gift with inside the fertilizers strengthens the straws and stalks of the plant life.
- The phosphorus gift with inside the fertilizers allows with inside the quicker improvement of roots and formation of seeds with inside the plant life.
- Nitrogen with inside the fertilizers complements the increase of the plant life which may be characterised via way of means of the inexperienced colour of the plant life.

Since the chemical fertilizers adversely have an effect on soil fertility, bio fertilizers had been introduced into use. These are materials that comprise residing or la-

tent cells, or even micro-organisms. They offer the soil with the vital vitamins and microbes for the increase of the plant life. They assist the soil to keep its fertility. They are environment-pleasant and additionally wreck pathogenic additives chargeable for inflicting ailment in plant life. Acetobacter and Rhizobium are such broadly used bio fertilizers.

### **Advantages of Fertilizers**

The benefits of fertilizers are cited below:

- They are clean to transport, store, and apply.
- For providing a selected nutrient we will choose a selected fertilizer because of its nutrient unique nature.
- They are water-soluble and might without difficulty dissolve with inside the soil. Hence, they may be without difficulty absorbed via way of means of the plant life.
- They have a fast impact at the crops.
- They boom the crop yield and offer sufficient meals to feed the big populace.
- They are predictable and reliable.

### **Disadvantages of Fertilizers**

Fertilizers have the subsequent disadvantages:

- They are expensive.
- The elements with inside the fertilizers are poisonous to the
- Overuse of fertilizer damages plants and reduces soil fertility.
- Leaching occurs and fertilizer enters the river, causing eutrophication.
- Prolonged use reduces microbial activity and soil pH.

### **Organic Fertilizer**

Over the years, farmers have used chemical fertilizers to increase crop production to meet growing demand. However, over the years, continued use of these fertilizers has proven to be harmful to all living organisms, causing air and water pollution and the deterioration of minerals from the soil.

Therefore, it is necessary to switch to organic farming that uses organic fertilizers. Organic fertilizers are organisms that improve the quality of the soil. This refers to the use of various types of microorganisms such as bacteria and fungi that improve fertility. Organic fertilizers are also far more beneficial to the environment when compared to their synthetic / chemical fertilizers. This is exactly why the use of organic fertilizers is so beneficial and important.