

# ROLE OF SEAWEED EXTRACT IN AGRICULTURE

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## INTRODUCTION

The organic cultivation is attracting farmers all over the world due to its various advantages over modern agricultural practices. It is essentially an agricultural system that supports and strengthens biological processes without recourse to inorganic remedies such as chemicals or genetically modified organisms. Seaweed extract is a biofertilizer which is extracted from marine algae like rockwoods, kelps and lettuce. Seaweed is an organic biofertilizer which contains macro and micro nutrients. This biofertilizer is fully organic, water soluble and contains various bio-active matter such as polyphenol, betaine, lignin etc which are essential for the growth & quality of crops, resistance to the pathogens, root development etc.

## ADVANTAGES OF SEAWEED EXTRACT

### •Nutrients

Fertilizer contains about more than 30 different types of nutrients such as potassium, calcium, iron, zinc, iodine, magnesium and various vitamins which regulates plant growth and balances the endogenous elements of crop.

### •Easily Absorbed

The ingredients present in the extract gets active within 3 to 4 hours after the application to the crop because of their speedy absorption and velocity. As it is water soluble hence, it easily penetrates to the surface cells of leaves and stem of crop.

### •Soil Health

Extract works with plant-soil ecosystem hence, it increases the soil organic matter and activates the various microorganisms present in the soil. These microorganisms act as catalysts and increase the biological effectiveness and plant-microbial metabolites of the soil.

### •Long term Effect

As the extract is been applied directly to the soil-crop, it activates various microorganisms and the metabolites of crops and soil create chelation system which releases polysaccharides and humic acid slowly to crops and extends the fertilizer efficiency.

### •Non-Toxic

Fertilizer is been made from the natural seaweeds hence, they are harmless to the humans and livestock. They can be easily applied and does not pollute the environment also.

## BENEFITS OF SEAWEED EXTRACT

### •Crop Growth

Seaweed extract contains nitrogen in it which helps in increasing the leaf area of the crop. Extract contains about 1.2% of nitrogen which is delivered to the crop roots. It also contains potassium in it, which helps the crop to grow more vigorously.

### •Germination

Before sowing if seeds are soaked in this extract they germinate faster, have high

survival rates, contains larger root mass and speed up root growth.

### •Yield

When crop is been fertilized with the extract it has been found that yield has been increased in various crops such as potatoes, tomatoes, flexseed etc.

## WHEN TO APPLY

### •Budding

When applied at the time of budding it increases the budding process and helps in producing additional buds.

### •Flowering

It increases the resistance to the pests and diseases, boosts crops yield and improves the nutrients uptake from the soil.



## CONCLUSION:

Based on various studies and experiments, it can be concluded that seaweed extract show positive effect on plant growth and yield of crop, as compared to the other fertilizers. Extract has shown significantly higher effect on the plant and soil parameters. So, it can be concluded that crops in combination with the seaweed extract promotes the crop growth by

providing all the essential nutrients. In today's agriculture, seaweed can be useful in improving the soil health along with its positive effect on the crop growth and yield. As compared to other organic and inorganic fertilizers extract can be used as a cheap and efficient source of nutrient for the crop growth and improving the soil health.