

KEM– ZENE (NITRO BENZENE 20 %)

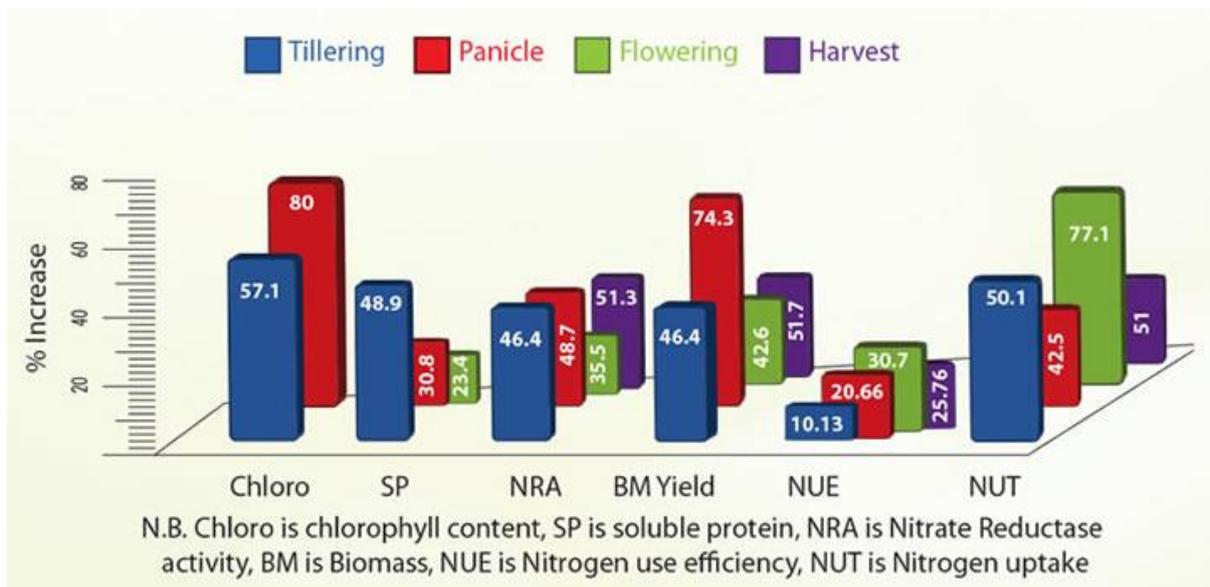
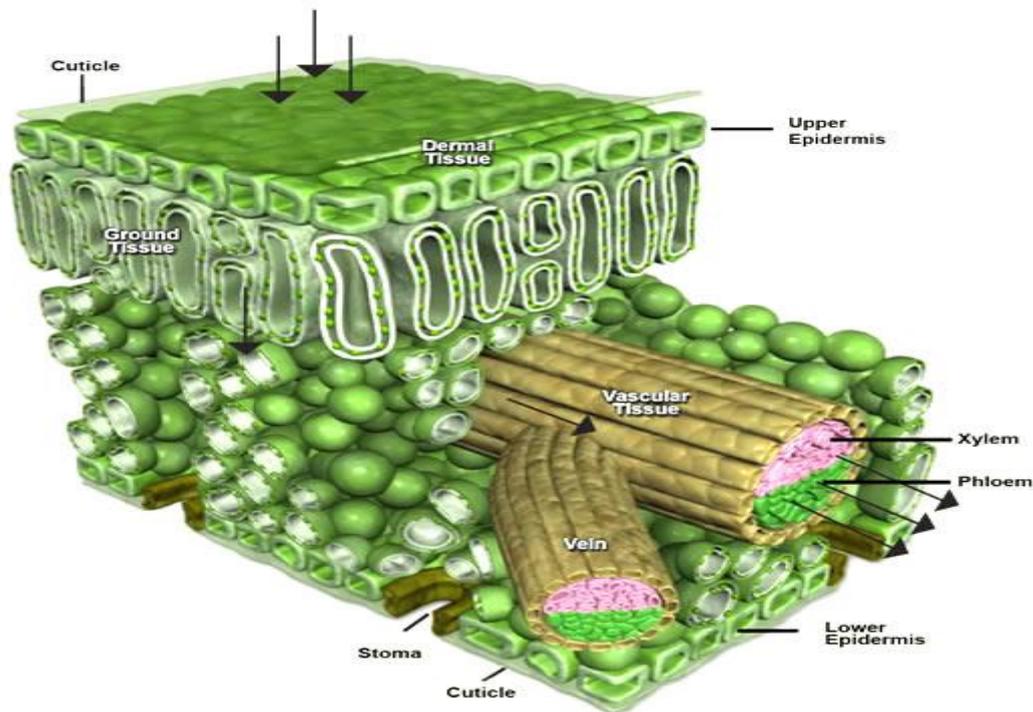
It is a new generation BIOSTIMULANT. It increases the yield of many crops significantly. It is a time-tested and proven technology being marketed in many countries and used by lots of satisfied customers worldwide.

Mode of Action

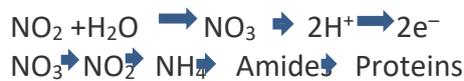
Studies on the translocation and uptake of KEM ZENE conducted at the Radio Isotope-Laboratory in India on rice, tomato, and sunflower revealed the mode of action and the influence of the active ingredient (Nitrobenzene) of KEM ZENE on various growth stages of the crops resulting in higher yields. KEM ZENE when sprayed on the foliage is absorbed through the cuticle through translaminar action and is transported to all parts of the plant including the root system.



The mode of action of KEM ZENE in inducing various biochemical pathways is in two ways:



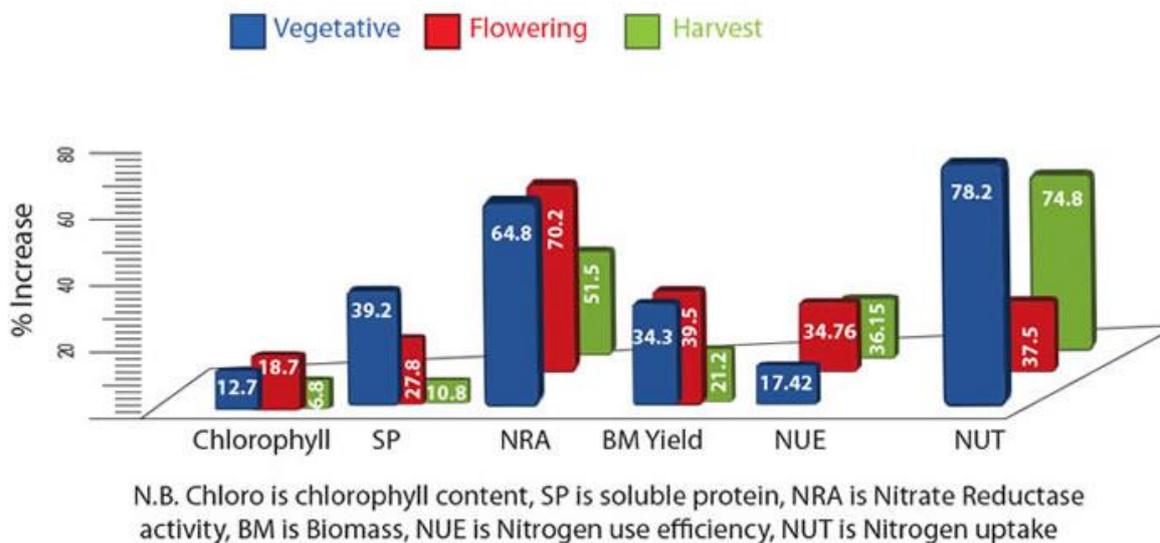
A. The NO₂ in Nitrobenzene molecule is oxidized to NO₃ during the absorption into the plants and is incorporated into the protein synthesis by the following reactions:



B. By another process the Nitrobenzene is reduced to hydroxyl aminobenzene under aerobic and anaerobic conditions and further undergoes an enzyme catalysed reaction to form 2-aminophenol, which undergoes a ring cleavage to produce 2-amino muonic semi aldehyde with the release of NH₄⁺ thus influencing the protein synthesis for higher yield.

As given in the figure below, KEM ZENE spray a week prior to transplanting resulted in triggering the nitrate reductase activity on rice. Hence at the time of transplanting the higher vigorous stature of KEM ZENE treated seedlings as compared to the seedlings without KEM ZENE application was observed.

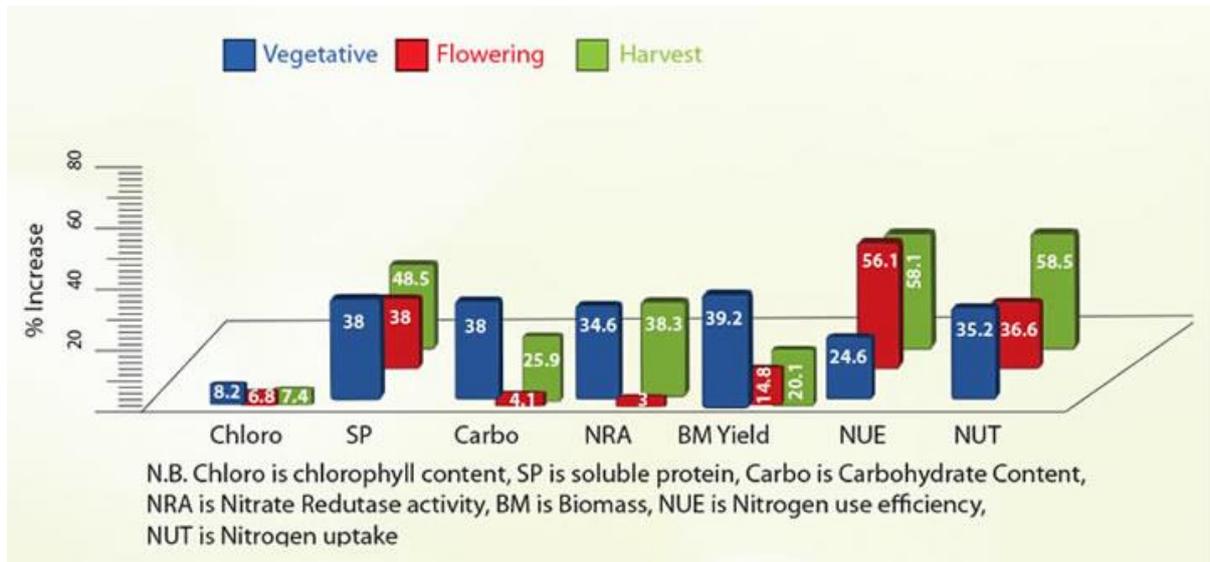
The graph below also shows a significant increase in chlorophyll content, nitrate reductase activity and nitrogen uptake which have resulted in increased biomass yield. Application of KEM ZENE also significantly influenced the uptake of other macro nutrients such as P & K and micro nutrients such as Fe, Mn, Zn and Cu due to the influence on making the root system robust and active which has resulted in more vigorous seedlings and increased biomass yield.



The graph below shows a significant increase in chlorophyll content, nitrate reductase activity and nitrogen uptake on tomato which have resulted in increased biomass yield.

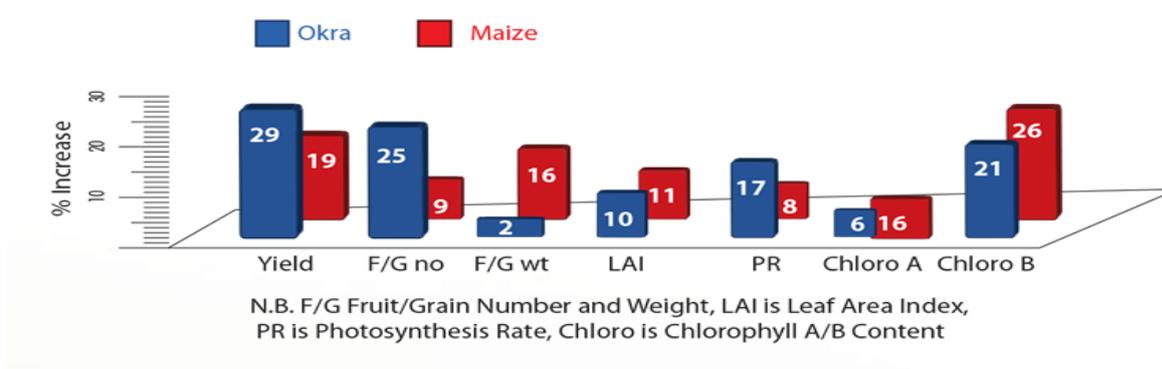
Application of KEM ZENE also significantly influenced the uptake of other macro nutrients such as P & K and micro nutrients such as Fe, Zn and Cu due to the influence on making the root system robust and active. This resulted in vigorous seedlings and in increased biomass yield.

The graph below shows a significant increase in chlorophyll content, nitrate reductase activity, carbohydrates and nitrogen uptake on sunflower which have resulted in increased biomass yield. Application of Boom Flower® also significantly influenced the uptake of other macro nutrients such as P & K and micronutrients such as Fe, Mn, Zn, and Cu due to the influence on making the root system robust and active which has resulted in more vigorous seedlings and increased biomass yield. In particular, the nutritive value of the Boom Flower® treated oil seed has also increased due to the higher concentration of oil.



Field Experiments

Statistically designed replicated factorial Randomized Block Design trials on okra and maize (corn) revealed that Boom Flower® along with the 75% of the recommended rate of nitrogenous fertilizer (urea) improved the yield by 29% in okra and 19% in maize, thus increasing the use efficiency of nitrogenous fertilizer applied and giving a saving of 25% in the rate of application of that fertilizer.



Handling & Application:

Shake the KEM ZENE bottle well, before measuring for the preparation of spray solution. Take the required quantity of KEM ZENE and mix in a small quantity of water and stir well for uniform suspension and then add to the recommended volume of water to load into the sprayer tank. Stir well each time before loading to the sprayer tank.

Methods of Spraying

- Spray the foliage thoroughly for maximum retention and to cover the upper and lower surface of the leaves and stem
- Uniform pressure to be maintained all through the spray
- Best time to spray is preferably in the morning after dew drops have dried up or in the late afternoon
- In case of heavy rain within 3 hours from spraying time, please repeat the spray the next day



Application of KEM ZENE

KEM ZENE is unique and it is very important to apply at the right growth stage of the crop for best results. Normally 3 to 4 sprays are recommended on seasonal crops depending on the duration of the crop.



1. Early phase:

Spraying 10 to 20 days after sowing/transplantation. This spray is aimed at early root development and also to increase the tillers/branches and for robust growth.

2. Flower initiation phase:

Spraying 15 to 20 days before flowering. The flower initiation will not be visible externally as it is an internal process and this action decides the number of flowers, length of the panicle, etc. This spray is aimed at increasing the number of flowers for a higher yield.

3. Flowering phase:

Spraying at the time of flowering is aimed at preventing the flower drop and enhancing the flower/fruit development for increased yield and good-quality produce.

For single flowering crops like rice, wheat, corn etc., we need to time the application carefully to match the flower initiation time. Three rounds are sufficient and all the 3 are important.

Continuous flowering crops like tomatoes, other vegetables, cucurbits, cotton, fruits and flower crops where different stages of flowers and fruits can be seen, the spray application after the early phase will have to be repeated at an interval of 20 days till the end of the crop.

Therefore, it is essential to understand the critical crop growth stages before making a suitable spray schedule.

Key Attributes of KEM ZENE

- KEM ZENE is a plant energizer and yield booster
- KEM ZENE improves the root formation and prepares the plant to build a robust vegetative growth
- KEM ZENE facilitates better anchorage of plants & improves nutrient uptake & nutrient use efficiency of plants
- KEM ZENE induces profuse flowering and reduces premature dropping of the flowers, buds and fruits
- KEM ZENE improves organoleptic factors of the produce
- KEM ZENE induces early maturity and harvest
- KEM ZENE when applied at the critical growth stage of the crop significantly increases the yield

Additional Benefits

KEM ZENE is quickly absorbed by the plants

It is non- toxic and environment friendly

At recommended dosages, it dissipates quickly in the environment

Formulation

KEM ZENE is available as Emulsion Liquid Formulation and Encapsulated Granular formulation to adapt in different agricultural practices.

Compatibility

KEM ZENE is compatible with all foliar fertilizers and most of the insecticides and fungicides predominantly used in agriculture. It is not recommended along with Bordeaux Mixture and Sulphur-based chemicals.

Packing

Pack sizes in 50 ml, 100 ml, 250 ml, 500 ml, 1 litre, 5 litre and 20 litre, 200 litre.