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Effect of Integrated Fertilizer Management with and organic and inorganic fertilizers on growth and productivity of groundnut.

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Abstract

Indian agriculture has made significant progress in recent years. The concept & implementation of green revolution introduced during 1950 & 1960 and five year plan resulted in such a Situation that presently India is not only self sufficient in producing adequate food grains but supply it to under development & developing countries. In Spite of food, however, several people to living below poverty line suffer from hunger malnutrition & protein. In order increase productivity and efficiency of agriculture system in present investigation efforts are made to evaluate effect of integrated fertilizer management (IFM) on Productivity Some field Crop Plants of Beed district & Simultaneously efforts are made to avoid use of only chemical fertilizers, which is used by the farmers in adequate quantity, due to which there is depletion of soil fertility & over use of chemical fertilizer which causes pollution health problems.

Experimental :

In present Study to evaluate effect of integrated fertilizer management with inorganic & organic fertilizers on growth and productivity of groundnut. Pot experiments were made i.e. plants were sown in the pots having 34 cm diameter. The pots were filled with soil (PH 7.9). The Seeds of groundnut were sown. After emergence, extra Seedlings were removed to

maintain uniform plant population of 5 plants per pot. There were in all five treatments, each replicated for five times. The treatments were as under:

- | | |
|-------------------------|--------------|
| 1) Control | : Untreated |
| 2) Rhizobium | : 2 g/pot |
| 3) NPK | : 2g/pot |
| 4) Rhizobium + urea | : 1: 1 g/pot |
| 5) Rhizobium + Nitrogen | : 2g/pot |

+ compost

All fertilizers were added in the Soil of pots. The crops were raised in pots under irrigation. Fertilizer doses were given at the age of 15, 30, 45 day after Sowing. The Control or untreated pots were without treatment.

After 25 days of age at every 10 days interval a plants from each pot was removed randomly without damaging it's root system. The roots were washed with water to remove adhering Soil particles & blotted.

The observations were made on height & root length per plant. The numbers of leaves per plant were measured, and total leaf area was determined by measuring the leaf area of each leaf using gravimetric method (Mungikar, 1986). The plants were then dried to a constant weight at $95 \pm 5^\circ\text{C}$ & dry weight per plant was recorded. Dry plant material was used to estimate nitrogen (N) Content which was determined by microkjeldahl method by digesting the material with H_2SO_4 in presence of catalyst ($9 \text{ K}_2\text{SO}_4 + 1 \text{ CuSO}_4 + 0.02 \text{ SeO}_2$) and distillation followed by titration of liberated ammonia with boric acid. (Bailey, 1967).

Results & Discussion :

Groundnut is an important leguminous Crop of Beed district, cultivated during either rabi or summer Season. It is mainly cultivated for ponds & subsequently, Kernels which are used for the extraction of edible oil. Growing population mounting more pressure on natural resources to meet increased food demand. According to conservative estimate (Kanwar, 1998), the food grain demand in India for the year 2010 & 2020 is projected to be 246 & 294 mt. respectively, population grew at an annual growth rate of around 2% in 1970s, 1980s, 1980s & 1990s, to reach 1027 million in 2001 & estimated to increase further to 1282 & 1542 million by