

DAP fertilizer, NPK ratio, and Major types of fertilizers

Context:

Recently, Rajasthan continue of suffer an acute shortage of Di-ammonium phosphate (DAP) fertilizer, which has adversely affected the sowing of rabi crops, especially mustard and gram, in an estimated 50 lakh hectare area.

De-ammonium Phosphate Fertilizer (DAP):

- DAP is the second most commonly used fertilizers in India with its sales of 119.19 lakh tonnes in 2020-21.
- These fertilizers are applied just before or at the time of sowing as they are high in phosphorus (P) that stipulates root establishment and development – without which plants can't grow to their normal size or will take too long to nature.
- DAP consists of – 46% OF Phosphorus (P) and 18% of Nitrogen (N).
- Recently government announced a 137% increase in the subsidy on DAP from Rs. 511.55 to Rs. 1211.55 per 50 kg bag.
- The subsidy given on DAP is nutrient based subsidy whose rates vary across nutrients.

NPK ratio:

- The aim of Nutrient Based Subsidy Policy is to increase the consumption of P & K fertilizers so that an optimum balance of N:P:K = 4:2:1 can be achieved.
- There are 6 macro nutrients that are needed for well balanced growth of crops. These are –
 - Nitrogen (N)
 - Phosphorus (P)
 - Potassium (K)
 - Calcium (A)
 - Magnesium (Mg)
 - Sulphur (S)
- Nitrogenous fertilizers consist of Urea, Ammonium Nitrate, and Ammonium Sulphate.
Potassic fertilizers consist of Potassium Nitrate, Chile Sulphate.
Phosphatic fertilizers consist of Super Phosphate, Triple Phosphate.
- NPK ratio of 4:2:1 improves soil health and increase the yield of crops, resulting in enhanced income for the farmers.

Major types of fertilizers:

1. **Neem Coated Urea:** Urea is sprayed with neem oil for nitrification and inhibition properties.
 - The coating of neem shows down the process of release of nitrogen from urea and there is an increase in nitrogen use efficiency.
 - Neem Coate Urea increases the yield of paddy, sugarcane, maize, soybean, tur/Red gram.
 - Urea has very high N and K content of 46% and 60% respectively which helps in improving soil health and growth of crops.

2. Primary fertilizers includes Nitrogen, Phosphorus, Potassium –
Nitrogenous – Urea
Phosphatic – Di-ammonium Phosphate
Potassic – Muriate of Potash (MoP) fertilizers.
3. Secondary fertilizers include Calcium, Magnesium and Sulphur.
4. Some micronutrients include – Zinc, Iron, Boron, Chloride etc.

