

## Recent Developments / Technologies

### 1. Nano urea liquid

- Nano urea liquid is a patented technology of Indian Farmers Fertiliser Cooperative Ltd (IFFCO) developed at its Nano Biotechnology Research Center, Gujarat.
- IFFCO has priced nano urea liquid at ₹240 per bottle, which is 10 per cent cheaper than the cost of a bag of conventional urea.
- Nano urea liquid is environmental friendly, smart fertilizer **with high nutrient use efficiency** and a sustainable solution for curtailing pollution and reduction in global warming in the long run as it **reduces the emissions of nitrous oxide** into soil, air and water bodies.
- The size of one nano urea particle is 30 nanometre and when compare to the conventional urea it has about 10,000 times more surface area to volume size when compare to granular urea.
- Due to the ultra-small size and surface properties of nano urea, it gets absorbed by the plants when sprayed on their leaves. Upon penetration, these nanoparticles reach plant parts where nitrogen is required and release nutrients in a controlled manner.
- IFFCO said **nano urea requirement will be lower than conventional urea fertiliser to fulfil plant's nitrogen requirement.**
- The efficacy trials demonstrated that **nano urea increases crop productivity and can reduce the requirement of conventional Urea by 50 per cent.**
- Further, **application of nano urea (liquid) improves yield, biomass, soil health and nutritional quality of the produce.**
- Nano Urea liquid is completely safe for human, animals, birds, rhizosphere organisms and environment at the recommended levels of application.

It may be noted that **urea forms 82 per cent of the total nitrogenous fertilisers consumed in India** and it has recorded **exponential increase in consumption over the years.**

**Around 30-50 per cent of nitrogen from urea is utilised by plants** and the rest gets wasted due to quick chemical transformation as a result of leaching, volatilization and run off, thereby low use efficiency.

## Departments / Organisations

### 1. National Dairy Development Board

- The National Dairy Development Board is an institution of national importance set up by an Act of Parliament of India.
- The Board was created to finance, support and support producer-owned and controlled organisations.
- Its programmes and activities seek to **strengthen farmer cooperatives** and support national policies that are favourable to the growth of such institutions.
- **Cooperative principles and cooperative strategies are fundamental to the board's efforts.**
- **The National Dairy Development Board (NDDB) now organises farmer's orientation programmes across the country, under which women farmers are trained in scientific best practices on animal health, fodder quality, clean milk production, and accounts management.**