Seed and Seed Quality

A seed is fertilized ovule which can grow into a full plant. The seed is formed as a result of reproduction in the plants. Actually, the seed is a basic agricultural input. Also, it is an embryo, embedded in the food storage tissue. Seed is also defined as a matured ovule. Basically, it consists of an embryonic plant with storage of food and surrounded by a protective seed coat. Botanically, seed is defined as "a mature fertile ovule". Seed is also defined as "an embryo, a living organism, embedded in the supporting or food storage tissue surrounded by seed coat". Seed is also defined as "any plant part (cuttings, corms, bulbs, rhizomes etc.) used for growing commercial crops".

Seed plays a vital role in agriculture because it is the carrier of genetic potentialities of certain crop or more specifically a variety there by sustaining the agricultural production and growth. Somehow, seed is being the cheapest input compared to other costly inputs such as water, land, pesticides and fertilizers. The timely availability of the seed is only thing that would be worried along with its quality.

A quality seed must have following characters:

a) **Genetic purity**: Trueness to the parental type
b) **Physical purity**: Seed lot should be of same kind, that is it should be devoid of inert matters, broken grains less than half in size, soil particles, chaff etc.
c) Seed germination and vigour
d) **Planting value**: (Purity (%) * Germination (%) * 100)/100 * 100 gives the planting value. It is the real worth of the seed. It is calculated as pure live seed percentage
e) **Free from other weed seeds**: For example, rice grains are often mixed with other grassy weed seeds like guinea grass or weedy rice.
f) **Seed health**: Free from seed borne diseases and pests.

g) **Seed moisture**: Seed must be dried to safe moisture content.

In spite of these, seed weight, seed size, specific gravity etc. also plays a great role in the quality of a good seed. The success of crop production can be attributed by the improvement in seed quality as it contributes about 30% increase in total production. Making quality seeds available is the biggest challenge before the seed sector. The seed' of highest quality is expected to possess the properties like highest physical and genetic purity, free of noxious weeds, high germination, high vigour to perform well under favourable conditions in the field, free of any pathogens like fungus, bacteria, virus, nematodes or insects and mites, seeds conforming to cultivar claimed and possessing appropriate level of moisture content to avoid any decay of the seed.