

SEED PROCESSING AND ITS IMPORTANCE

Article Id: AL202126

Arunkumar S^{1*}, Arunkumar R² and V. Balamurugan²

¹Department of Genetics and Plant Breeding, Faculty of Agriculture, Annamalai University, Tamil Nadu, India.

²Department of Agricultural Extension, Faculty of Agriculture, Annamalai University, Tamil Nadu, India.

Email: arunkumaragri97@gmail.com

Seed is a fertilized mature ovule consisting of an embryo, endosperm with a protective seed coat. Seed is the basic input in agriculture. A good quality vigorous seed utilizes the resources and rises as a healthy seedling. Seed also exhibit the greater variation in shape, size, colour and surface characteristics. To overcome all these problems seeds have to be processed to achieve a uniform and quality seeds. After harvesting, seeds are brought to the seed processing unit from the field are frequently at high moisture content. Seed lots also contain inert matters, damaged seeds, trash materials, deteriorated seeds, off-size seeds etc. Seed processing is the vital one to bring the seeds to a safe moisture content level by drying the seeds and also to reduce undesirable materials to the maximum possible. This article outlined the seed processing, objectives, materials removed during processing and sequence of operations.

Seed processing is a fundamental thing which is engaged with making high quality seed. It guarantees the end clients, seeds of high quality with least contaminated. In Agriculture, the term seed handling incorporates cleaning, drying, seed treatment, packaging and storage. Seed processing mainly targets to boost the seed viability, vigour and health.

Purposes of seed processing

1. To lower the expenses of additional processes like storage and transport.
2. This is accomplished by reducing the bulk of the seed lot by cleaning debris and by eliminating empty or fractured seed (pre-cleaning).
3. To increase the life span of seeds; by drying seeds to safe moisture content and treating with synthetic substance.
4. To decrease the variability in vigour by strengthening the seeds and eliminating the low vigour seeds.

5. To improve the uniformity in seed shape or size by grading or by pelleting.

Principles and objectives

The seed quality is improved in two ways during processing: Separation of inert matter, the disposal of low quality seeds.

The maximum pure seed percentage with maximum germination capacity is acquired by seed processing. Harvested produce is heterogeneous in nature. By seed processing, we can get the product as homogeneous nature. This will help in getting uniformity in the field. Seed processing can be carried with the approval of the Director of Seed Certification. Seed processing is an important process to achieve uniform seeds by using suitable processing methods.



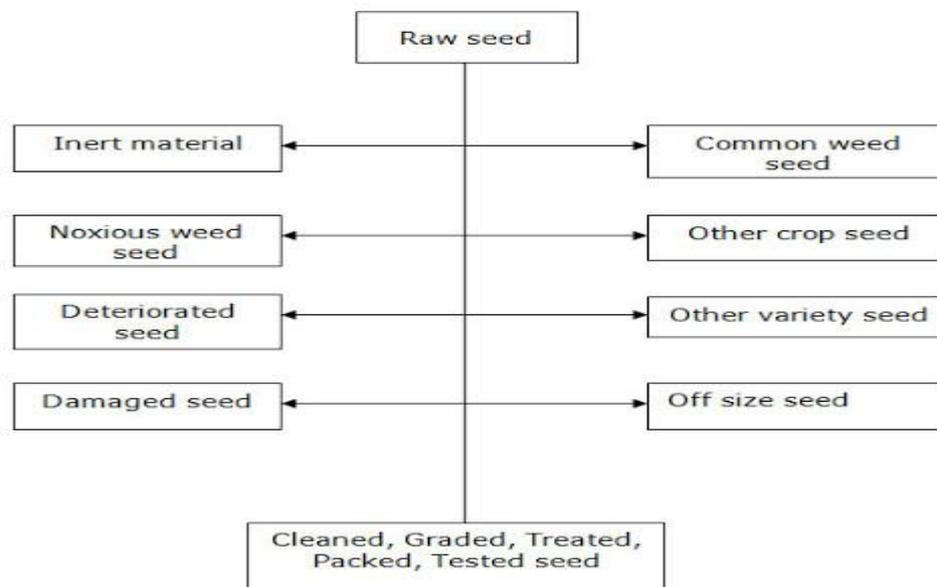
Types of materials removed during seed processing

Inert materials, Common weed seeds, Noxious weed seeds, Deteriorated seeds, damaged seeds, other crop seeds, other variety seeds and Off-size seeds

Sequence of operation in seed processing

Each seed crop possesses unique seed structure. Seed processing can be carried out on the basis of seed shape, size, weight, length, surface characteristics, colour and moisture content. Therefore suitable operations carry out using suitable equipment's. However,

sequences of operation in seed processing are drying, receiving, pre-cleaning, conditioning, cleaning, separating or upgrading, treating (Drying), weighing, bagging and storage or shipping.



Conclusion

Seed processing should be done to get high quality seeds at a sufficiently high rate per hour to minimize the cost and make it commercially viable. Seed processing assures the good quality of seeds to the end users.

Reference

Mustakas, G. C., Kirk, L. D., Sohns, V. E., & Griffin, E. L. (1965). Mustard seed processing: Improved methods for isolating the pungent factor and controlling protein quality. *Journal of the American Oil Chemists' Society*, 42(1), 33–37.

Šimić, B., Popović, S., & Tucak, M. (2004). Influence of corn (*Zea mays* L.) inbred lines seed processing on their damage. *Plant, Soil and Environment*, 50(4), 157–161.

Kockelmann, A., Tilcher, R., & Fischer, U. (2010). Seed Production and Processing. *Sugar Tech*, 12(3–4), 267–275. <https://doi.org/10.1007/s12355-010-0039-z>.