



SNS COLLEGE OF TECHNOLOGY
(An Autonomous Institution)
Coimbatore – 641035.



Unit 2 – Topic 1

Principles - air screen cleaners – adjustments

- This is the most important machine of every cleaning plant.
- It uses screens and aspiration (air blow) for two separations
- A coarse upper screen removes larger material, a lower fine screen stops the seeds and lets through fine matter and then the seed fraction passes through a transverse or nearly vertical air stream which can separate light impurities such as empty or partly filled seeds, husks and glumes from the seed.
- In most cases a number of sieves with different sized perforations are used and the cleaning is a process of gradually shifting out smaller particles.
- Factors which determine the quality and quantity of seed cleaned include
 1. size of the perforations,
 2. the precision of the perforation,
 3. the angle at which the sieves operate,
 4. the amplitude and speed of movement of the sieves and
 5. correct cleaning and maintenance of the equipment.

Air-Screen cleaner cum grader

The air-screen machine is the basic cleaner in most seed processing plants. Almost all seed must be cleaned by air-screen cleaner before specific specifications can be attempted. Machine size varies from small, two-screen farm models to large industrial cleaners with 7-8 screens. Two-screen models are used on farms, in breeder and foundation seed programs and by experiment stations for processing small quantities of seed. In most machines separations are made on the basis of differences in only one physical characteristic.

The air-screen machine, however, effects separations on the basis of differences in size and weight of seeds. This enables the air-screen machine to use three cleaning elements: aspirator, in which light material is removed from the seed mass; scalper in which good seed are dropped through screen openings; but larger material is carried over the screen into a separate spout; and grader, in which good crop seed ride over screen openings, while smaller particles drop through.



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