BY-PRODUCT MANAGEMENT IN SEED PROCESSING AND TREATMENT PLANTS

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Introduction

- In a seed processing and treatment plant, the primary product is dry treated seed of the highest possible quality.
- This quality is largely determined at the farm.
- However, even within one farm there will always be defective plants that cannot produce seed of the desired quality.
- These inferior or defective seeds are often mixed with the good seed at harvest and have to be sorted out in the factory.
- They are a byproduct since they can be used for other purposes.
• It also happens that in the process of manufacturing good seed other components are separated from it.

• Some of these separated components can find use either in the same plant or elsewhere and thus form part of the byproducts form the factory.

• In this presentation we concentrate on the management of byproducts of maize seed processing.
2. By Products of Maize Seed Processing

2.1. Sorted out off-spec maize

- This is maize that is not suitable for use as seed but is otherwise in good condition.
- It is separated from the rest of the raw material during sorting on the conveyor belt before drying of the unshelled maize.
- It should be dried separately, shelled, cleared and sold as a by-product to be used for food or feed or any other purpose.
2.2 Surplus Maize Cobs

- These are maize cobs over and above what is required as fuel for heating the drying air. It can be managed in a number of ways.
- It can be sold as it is without any processing for use as fuel or for conversion to other products.
- It can be used generate electricity that is used to provide power and lighting in the factory and the surplus sold.
- In this way there will be saving in the electricity bill as well generation of extra income.
- It can be converted to higher value products by treatments such as pyrolysis, gasification and composting.
2.3 Shelling and aspiration DVST

- This can be collected by passing the exhaust air through a cyclone.
- Can be sold for use as an ingredient in animal feed manufacture.

3. Byproducts of other seeds
   - Sunflower screenings:
     - Light and blank sunflower seeds, chaf, etc.
     - Used as livestock feed. High in oil and is an excellent fibre source.
   - Bean culls:
     - Split and damaged beans.
     - Approximately 20% protein.
     - Used as livestock feed.
   - Sunflower Seeds:
     - Seeds that are too small for seed planting purposes:
     - Recleaned and used as bird seed for birds such as parrots.
   - Others:
     - Cotton Seed hulls
     - Cotton seed screenings
     - Barley screenings
     - Sunflower hulls
     - Peanut hulls
4. Concluding remarks

• Seed manufacture inevitably leads to production components other than the desired seed.
• Some of these components can be used directly, others can be used after further processing or conversion to other products.
• Efficient utilization of byproducts can go along way towards improving the profitability of seed processing and treatment plants.
THANK YOU