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Basic Types of Seed Treaters

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BASIC TYPES OF SEED TREATERS

- I. TRUE MIST-O-MATIC TYPE
- II. TRUE SLURRY TYPE
- III. METERED SLURRY TYPE
- IV. DRY OR DUST TYPE

I. TRUE MIST-O-MATIC TYPE

The true Mist-O-Matic type seed treater uses the weight of seed to operate the seed dump and chemical measuring system of the treater. The amount of seed is measured by placement of a weight on the weigh pan arm while the amount of chemical applied to each batch of seed is determined by the size of the chemical cup (dipper cups) in the metering tank.

Each time the weighpan trips, seed flows to the retarding hopper, where it is gradually released to a dispersion cone. At the same time, chemical is delivered to the chemical cup receptacle and flows through a hose to a revolving disc which atomizes the chemical into a penetrating mist. As seed falls over a dispersion cone and through the treating chamber, it is enveloped by chemical mist that contacts even the hard to reach indentations of the seed.

The Mist-O-Matic treater is especially recommended when small amounts of chemical must be applied to relatively large quantities of seed.

II. TRUE SLURRY TYPE

The true slurry type seed treater actually has the chemical metering tank and the premix or slurry tank combined as part of the treater and this tank must be filled at various intervals either by pouring by hand or pumping from an auxiliary tank. Chemical measurement is accomplished by a chain of cups and seed measurement is by a one pan counterweight system. Each time a batch of seed is dumped, the chemical in one cup on the chain is dumped onto the seed. Blending of the chemical and seed together is accomplished in a film coater unit.

III. METERED SLURRY TYPE

Like the Mist-O-Matic type treater, the metered slurry type treater uses the weight of seed to operate the seed and chemical measuring system. The amount of seed measured is controlled by placement of the counterweight while the amount of chemical measured at each trip of the weighpan is determined by the size of chemical cups used in the metering tank.

Each time the weighpan trips, seed flows through the measuring unit and into the coating chamber. At the same time,

chemical is delivered to the chemical cup receptacle and flows through a clear vinyl tube to the coating chamber.

As the seed and chemical are conveyed through the coating chamber to the discharge, they tumble together, producing an even coat of chemical on each individual seed. This mixing action before final discharge also allows some of the moisture in the chemical to evaporate from the seed, for easier handling after treating.

IV. DRY OR DUST TYPE

The dry or dust type treater is an especially designed treater for treating peanuts, beans, peas, and grass seed, and other commodities where a dry chemical must be applied or where the seed to be treated is very fragile in nature. With the dry type seed treater, measured amounts of powdered chemical are uniformly and continuously applied to seed by the use of a vibrating feeder from a Syntron Control. Like the Mist-O-Matic and metered slurry type treaters, seed measurement is controlled by placement of a counterweight and the use of a double weighpan system. As with the metered slurry type and true slurry type treaters, the blending of the chemical and seed together is accomplished in a film coater or coating chamber which normally contains a tampico brush or nylon brush for gentle movement of seeds at the end of the seed coater.

BASIC PARTS OF A SEED TREATING OPERATION

- I. CHEMICAL RECEPTACLE SYSTEM AND PUMPING SYSTEM (A Holding Receptacle for the Chemical and a Means of Transporting From the Receptacle to the Seed Treater.)

This can vary from merely using the drum that the chemical is shipped in with a small centrifugal or diaphragm (piston) pump to an elaborate two hundred (200) gallon stainless steel premix or slurry tank with internal paddle agitation and a built in high volume pump.

- II. MEASURING OR METERING SYSTEM (For accurately Measuring and Delivering exact amounts of Chemical to exact amounts of Seed)

All major types of seed treaters use the weight of seed to actuate both the seed dump and the chemical delivery system. The Mist-O-Matic type, metered slurry type, and dry type treaters utilize a double weighpan seed dump system, the true slurry treaters uses only a one pan seed dump system. The true slurry treater employs "slurry" cups on a revolving chain or belt that dips into the chemical holding tank on the treater and dumps chemical on seed in unison with each seed dump. The Mist-O-Matic and metered slurry types of treaters employ two (2) chemical cups inside the metering tank on the treater that alternately dump chemical onto the seed in unison with each seed dump of the weighpan. The dry type seed treater employs a vibrating feeder system controlled by a Sytron Control which is activated by each dump of the weighpan, thus continually vibrating dry chemical onto measured amounts of seed.

- III. APPLICATION OR BLENDING SYSTEM (Blending or Mixing Chemical and Seed Together).

On the true Mist-O-Matic treater, this system is the mist chamber. The true Slurry treater, metered slurry and dry dust treater may employ various kinds of blending systems; a film coater or coating chamber with brush blending element, flighting or auger blending element or rods (paddle) blending element or might be a revolving cylindrical drum or hexagonal drum.