

# VIBRA SCREW CASE HISTORY



C-237

## Vibra Screw Pan Feeder Superseded Manual Blending of Hybrid Sweet Corn

### Customer

Musser Seed Co., Inc., Twin Falls, Idaho. Contract grower of sweet corn and garden and commercial beans for major seed companies.

### Problem

At its Caldwell, Idaho division, Musser produces and processes hybrid sweet corn seed. The company has two box dumpers, one on either side of their feed elevator, and when they have two lots of seed and want to run a blend, they can add whatever percentages they want from either side. Blending is necessary at times to achieve the desired quality of germination by optimizing nature's variations. The company used to blend by shoveling seed by hand into boxes before it went to a holding bin preceding treatment. Most seed is treated, although some is untreated (dry pack) for customers who then pack the seed in small individual packages. In either case, the blending process was slow, not too accurate, and usually messy.

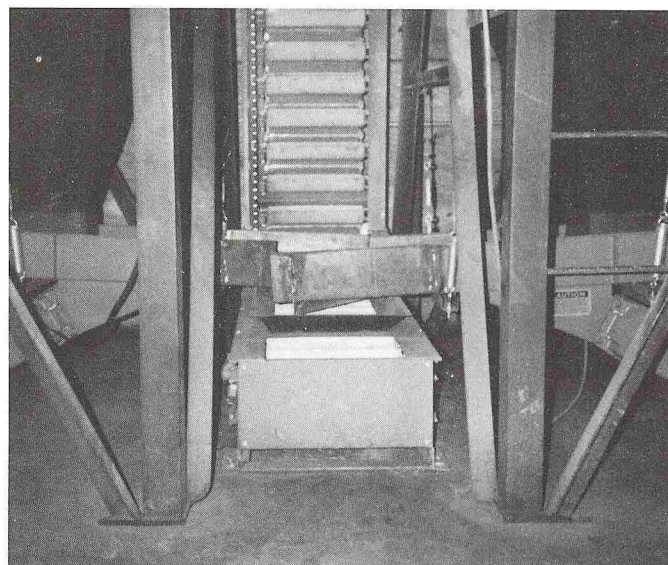
### Solution

Vibra Screw Vibrating Pan Feeder, carbon steel construction, electromagnetic drive, open trough. The sweet corn seed has a bulk density of 35 lbs. per cu. ft., and it is handled at the rate of 500 cu. ft. per hour. The Vibra Screw Pan Feeder was chosen to replace manual handling because it uses a compact, patented AEG-Telefunken electromagnetic vibrator which is quiet, powerful and durable. It is built for continuous operation, has an adjustable-speed drive and is maintenance-free. The feeder operates with sub-resonant tuning, or slightly below its natural frequency. This minimizes energy requirements, and has the further advantage of automatically compensating for changing headloads.

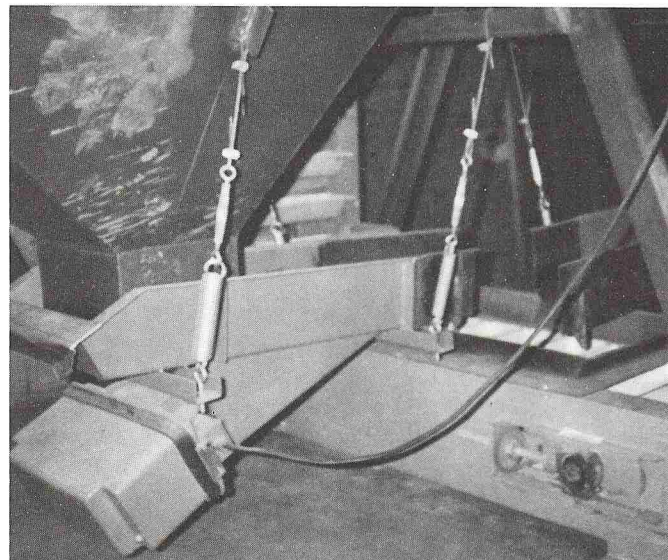
The box dumpers handle the boxes, which are 3' x 4' x 6', that contain the sweet corn seed. The boxes go into the cradle which rotates and tips the box over to dump its contents. One dumper operates over each Vibra Screw Pan Feeder, which feeds the bucket elevator located between the box dumpers. The edge of each Pan Feeder trough is bias cut to permit spreading material flow across the entire width of each bucket. The blended lots are then elevated into holding bins from which they are either treated or dry packed and put into 50 lb. bags, ready for shipment to customers.

### Results

Blending sweet corn seed uniformly to obtain the highest possible level of germination can be critical, especially when two lots of different quality are involved. By using box dumpers aided by the Vibra Screw Pan Feeders, the company can blend with speed,  $\pm 5$  to 10% accuracy, and uniformity for higher sweet corn seed.



Two Pan Feeders receive seed from dumpers, and feed it onto an elevator, creating the desired blend.



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