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**LAVERTY ELEVATOR, INC.**  
**COMPLETE CALIBRATION SERVICE PROGRAM**

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**Introduction**

The business of selling and servicing crop protection chemicals and fertilizers is becoming very technical and complex. Luckily, we have trained the people in this business well. Odds are that within every dealership we have open in Iowa, there is at least one competent professional who can help our farmer customer. At a drop of the hat, this individual can begin quoting economic thresholds, rates per acre, cost per acre, depth of incorporation, harvest intervals, adjuvant combinations, etc. We have the knowledge to recommend the correct product, but who insures the correct application?

The process is complete if applied by the custom applicator. If the farmer is to apply the product, the war is only half won. The value of your recommendation and product sold is directly proportional to the efficacy of application. How many times are product performance complaints the direct result of poor application? How many times would a calibration service call stop a performance complaint from happening?

The following presentation describes the calibration services we offer.

**History**

Lavery Elevator is a one outlet, independently-owned business located in Indianola, Iowa. We service a 15-mile radius of approximately 400 active farmer customers. Grain, fertilizer, feed, ag-chemicals, seed and associated services comprise the majority of our business; a typical country elevator except in 1988 we stopped providing custom ground sprayer application. Why?

Over 80 percent of our customers were applying ag-chemicals with their own equipment. This is where we decided to concentrate our services; helping the farmer help himself. A drastic move which has met with success.

## Services Provided

Ammonia applicators and toolbars are all calibrated in the field with the farmer. This involves reviewing the safety procedures and safety equipment, setting the proper knife depth, determining the correct tractor speed and adjusting the nitrolator. Equipment needed for this service includes:

1. Safety worksheet checklist
2. Gloves and goggles
3. Personal water bottles
4. Wrist watch or stop watch
5. Assorted tools for setting equipment
6. Red marker flags
7. Nitrolator setting guide

Pull-type dry fertilizer spreaders are calibrated and set prior to delivery. This involves setting the gate opening based on the density of the material being used and rate per acre. Prior to each spring and fall season, all our spreaders are run through our shop to insure proper equipment maintenance. Spread pattern tests are done on an as-needed basis. Experience has shown us that spread patterns change very little on properly maintained pull-type spreaders. Spread pattern test kits can be purchased through your fertilizer equipment dealers.

Approximately 60 percent of our corn and soybean herbicides are now sold in bulk. The majority of our mini-bulk containers are owned by the farmer. We send out mini bulk service reminders to insure that the pumps and meters are cleaned and properly winterized for storage at the end of each season's use. We use a five gallon volumetric calibration jug to calibrate each meter prior to a herbicide's use. Because of the high maintenance required to keep these meters operating correctly, many of our customers are now using in-line batchmate volumetric cones. The gallon site gauges on these cones are not always correct. We have also seen a need to recalibrate these cones. Meter and cone calibration is done in our bulk chemical facility when the farmer picks up the bulk herbicide.

Planter application of granular herbicides and insecticides involves on-farm calibration. Approximate planter box settings can be found on each herbicide or insecticide bag. Because planter box mechanisms wear with use, individual planter box calibration is necessary for proper application. For years the ag-chemical companies have provided us with plastic vials or pocket scales to calibrate planter boxes. Unfortunately, several 500 to 1000 foot jaunts through the field are often needed to correctly calibrate the entire planter. In the last few years, the ag-chemical companies have developed electric motor devices that will run the planter boxes without moving the planter. We currently have two of these electric calibrating devices for our use. Once the planter speed is determined, these electric-calibrators can be effectively used. Equipment needed for planter box calibration includes:

1. Face mask and gloves
2. Grease pencil to mark settings on planter box
3. Specific insecticide or herbicide calibration containers or pocket scales
4. Wrist watch or stop watch
5. Red marker flags
6. Blank insecticide or herbicide granules if available

Last but not least is our sprayer calibration service. Pull-type sprayers are fairly easy to calibrate. Correctly calibrating a sprayer mounted on a field cultivator or disc becomes more involved. Items we check include:

1. Field speed and radar unit calibration, if necessary
2. Incorporation depth
3. Sweep width and spacing
4. Nozzle width, height, type and angle
5. Screen sizes
6. Individual nozzle output
7. Tank size
8. Type of pesticide being used

Equipment we use to perform these checks includes:

1. Wrist watch or stop watch
2. Red marker flags
3. McKenzie spray tip meter
4. Delavan Spray Catalog
5. Twenty-five foot tape measure
6. Pocket-size notebook
7. Assorted tools
  - a. Crescent wrench
  - b. Pliers
  - c. Toothbrush
  - d. Duct tape
  - e. Grease pencil
  - f. Thread tape
  - g. Joint compound
  - h. Toothpicks
8. Goggles, rubber gloves, rubber boots

When the calibration is complete, the following information is written down and given to the farmer:

1. Speed
2. Pressure setting
3. Amount of water being applied per acre
4. Pesticide rate per acre
5. Amount of pesticide per tank load
6. Mixing order
7. Acres sprayed per tank load

### **Summary**

Ammonia, spreader, herbicide meters, planter and sprayer calibration has helped us to maintain our business. If our customer purchases our products, we offer to calibrate his equipment. We do not charge for this service. The benefits we gain from this service include:

1. Satisfied customers
2. Repeat customers
3. Environmentally correct application
4. Economically correct application
5. Significantly reduced performance complaints

### **Handout Materials**

1. 1990 Delavan Ag-Spray Catalog
2. Monsanto Technical Manual, "One-Pass Surface Blend Incorporation"
3. The McKenzie Spray Tip Tester Brochure