

# Spreader Patterns and Calibration

Gary T. Roberson Extension Machinery Specialist Biological and Agricultural Engineering

### Broadcast Spreading

- ◆ Fertilizer
- ◆ Lime
- ◆ Soil Amendments
- ◆ Crop Protection Products

### Broadcast Spreading Objectives

- ◆ Apply the Correct Rate of Product..
- ◆ Apply a Good Pattern.
- ◆ Maintain Proper Swath and Overlap.

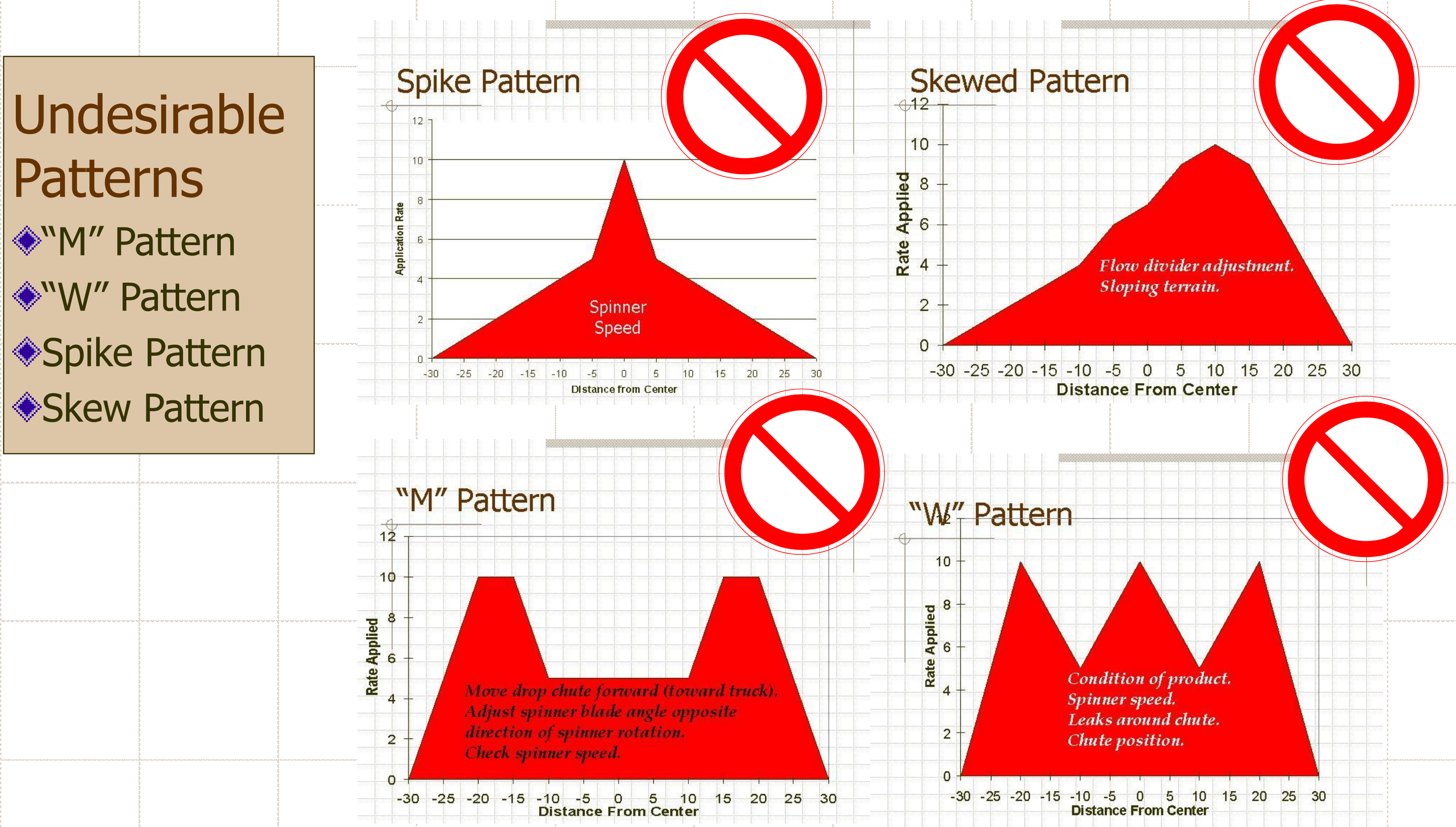
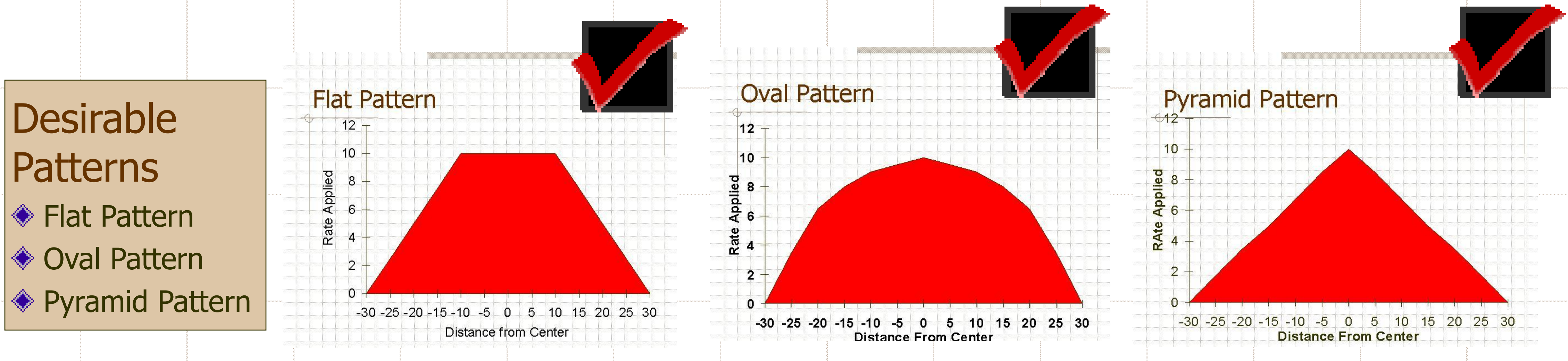
### Types of Spreaders

- ◆ Single Spinner
- ◆ Pendulum
- ◆ Twin Spinner
- ◆ Air Boom

### Pattern Check Methods

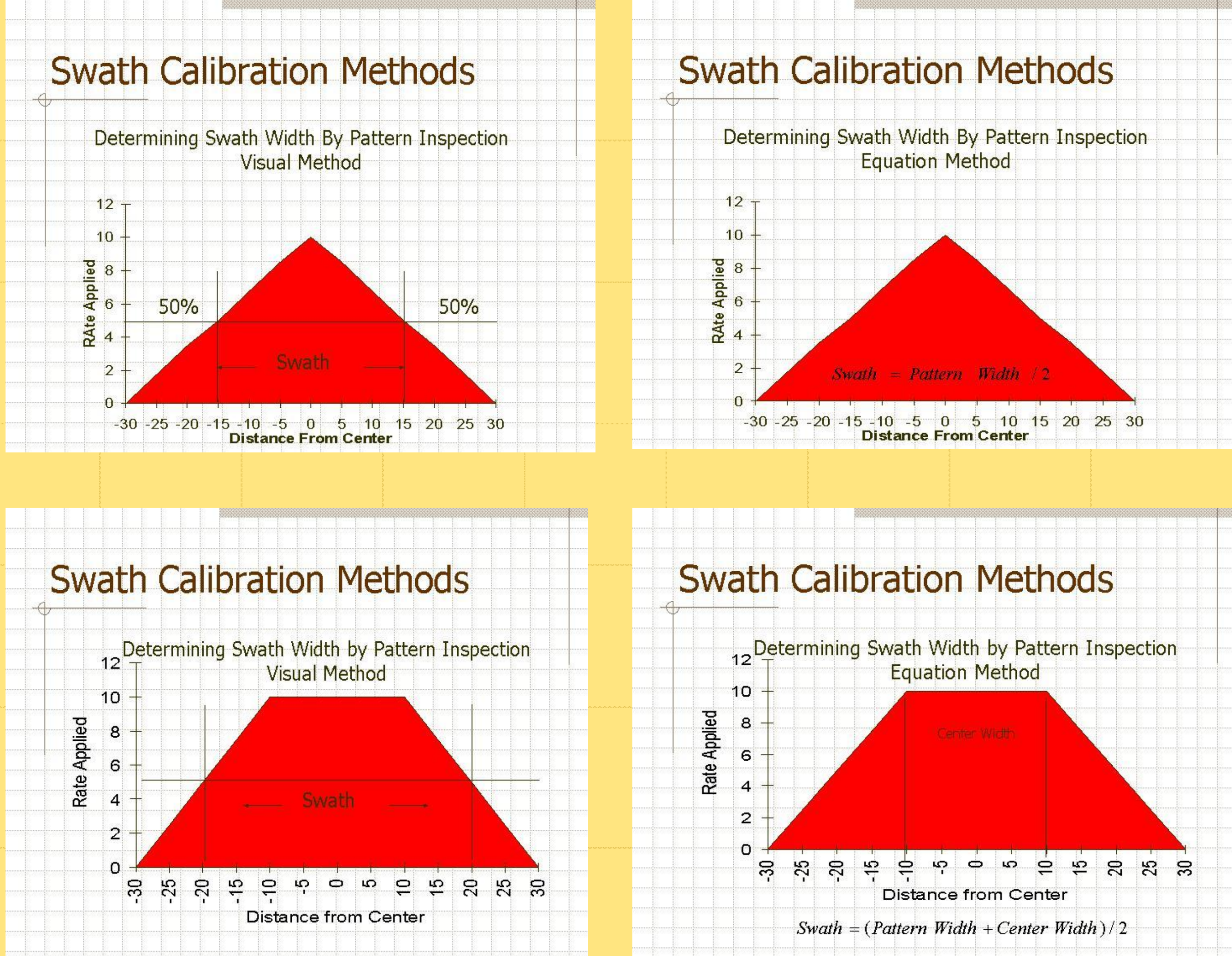
- ◆ Collection Pan
  - Test Tube
  - Scale

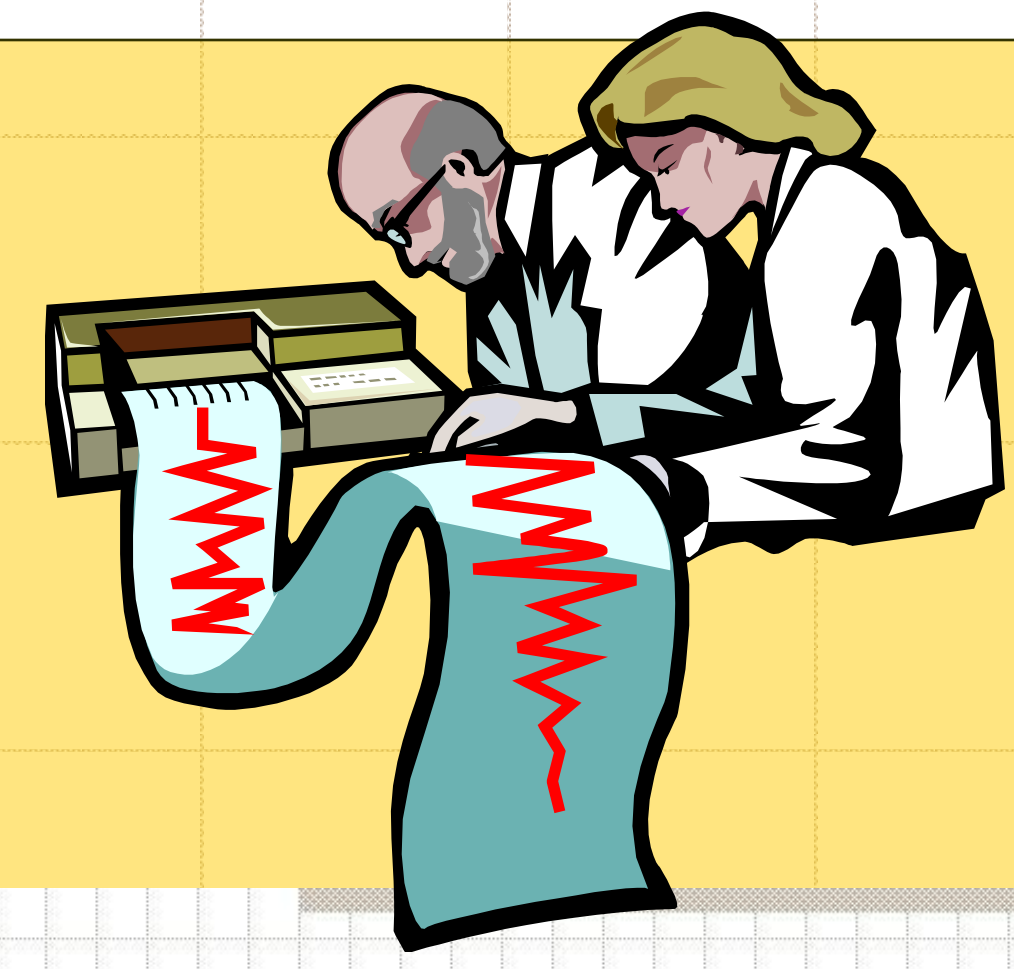




### Swath Control

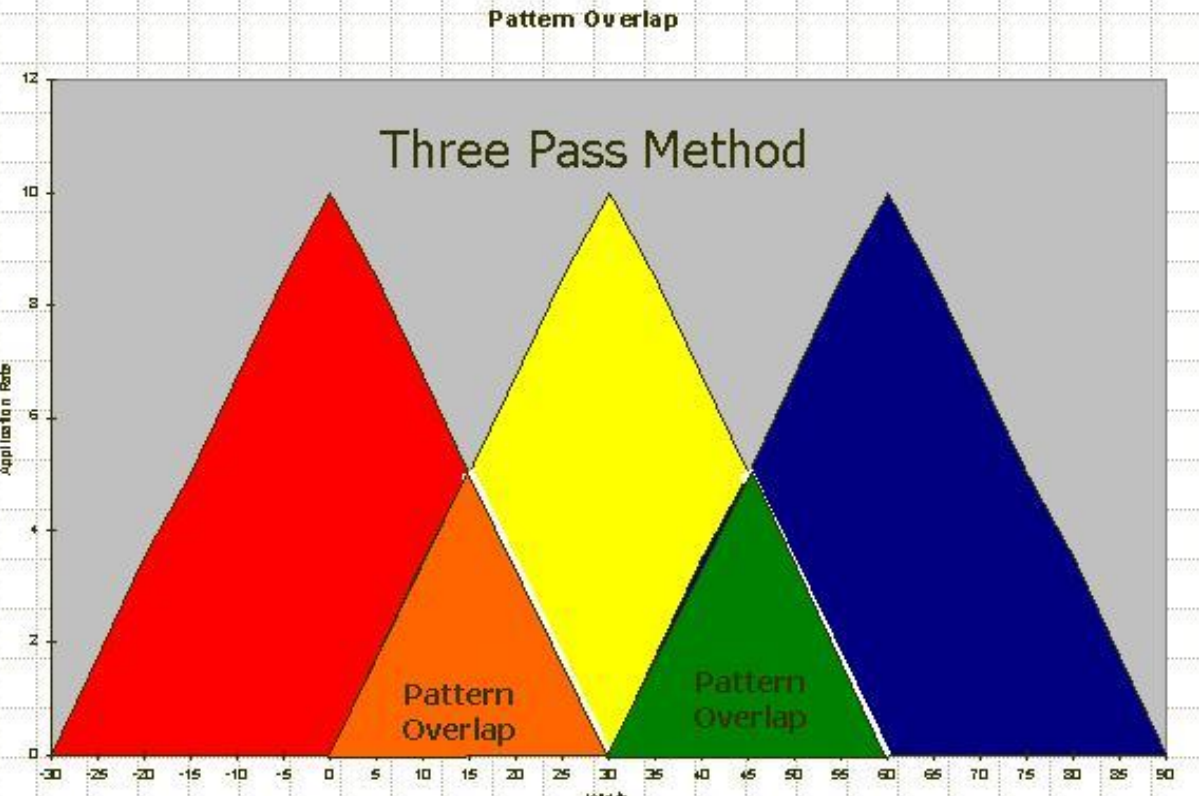
- ◆ Determine correct swath width for the spreader and product you are spreading
- ◆ Maintain Uniformly Spaced Swaths
  - Use foam markers
  - Use DGPS and Lightbar

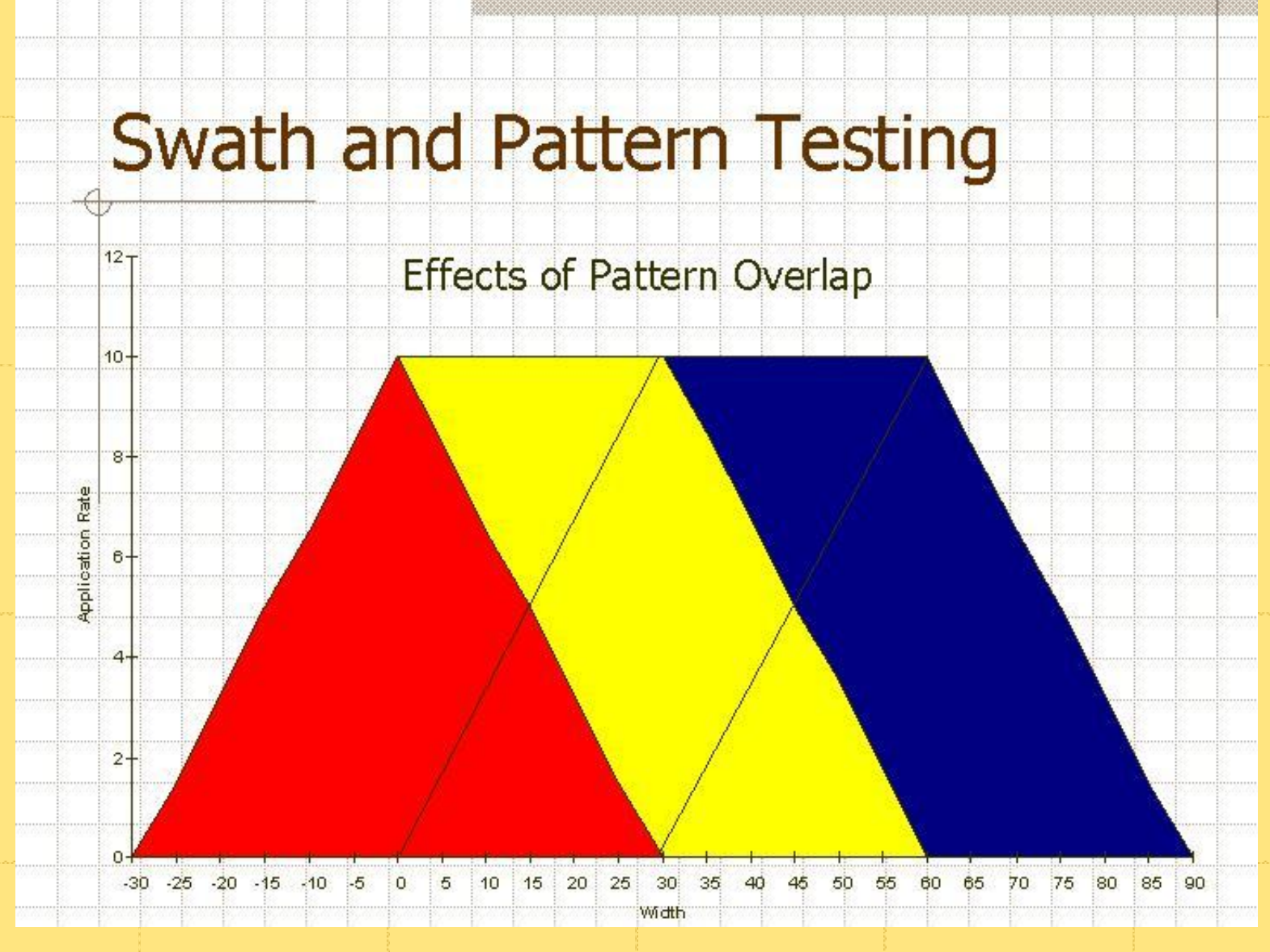
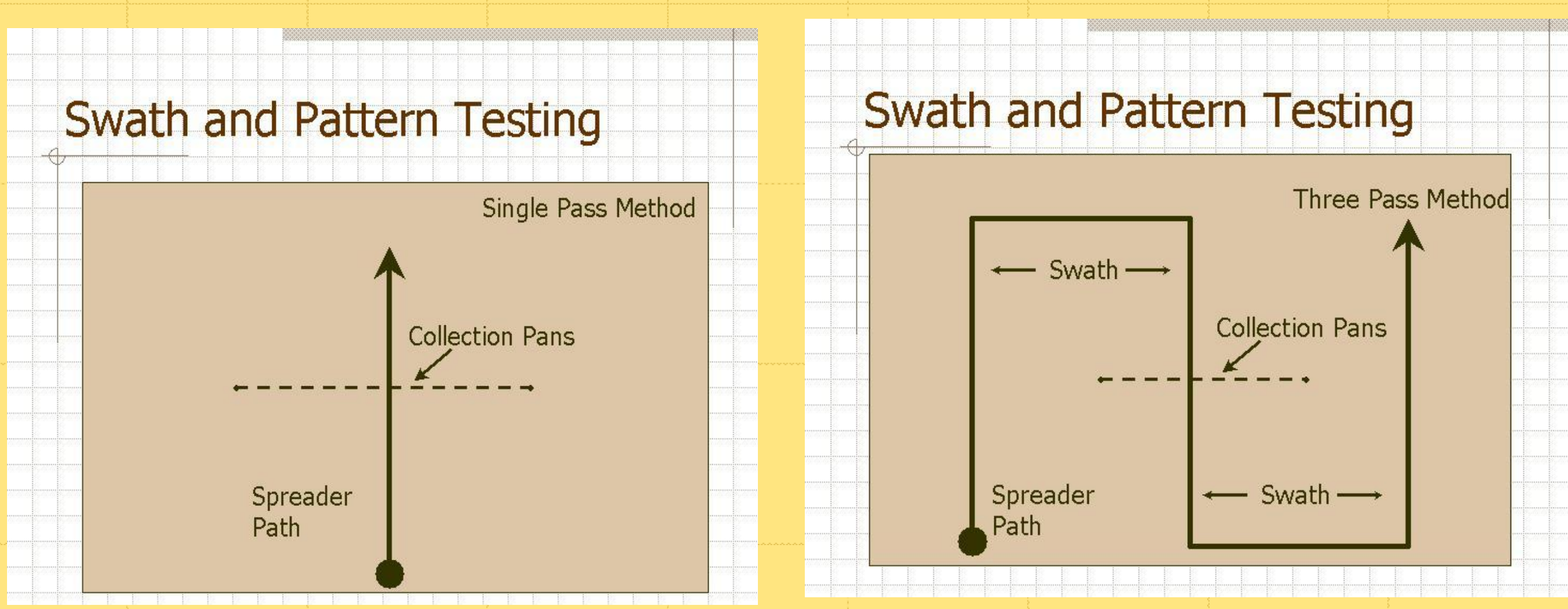




### Swath and Pattern Testing

#### Pattern Overlap





### Calibration

- ◆ Adjustment for proper rate of discharge.
- ◆ Pattern adjustment for desired shape.
- ◆ Swath control to maintain width and overlap.

### Discharge Rate Calibration Methods

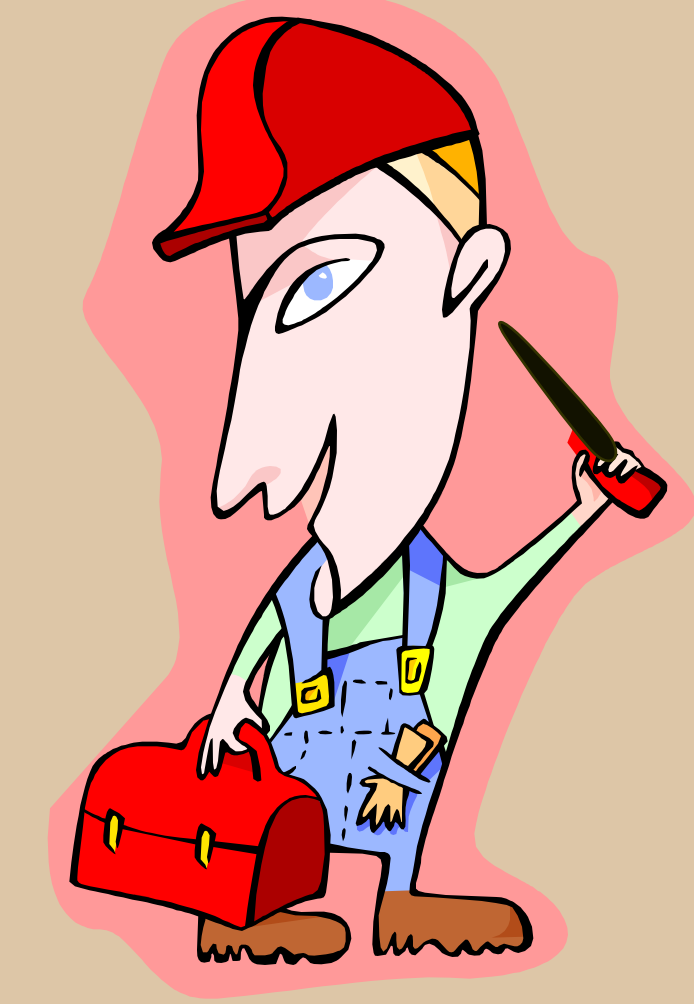
- ◆ Drag Chain Delivery
  - Measure discharge rate at drop chute.
  - Weigh sample for time or distance, convert into pounds per acre.
  - Adjust calibration.

### Discharge Rate Calibration Methods

- ◆ Test Tube Sample
  - Collect product in pans across width of swath.
  - Measure volume, Convert into pounds per acre.
  - Adjust calibration.

### Troubleshooting

- ◆ Drag chain condition.
- ◆ Reversed hydraulic lines.
- ◆ Worn or bent spinners or blades.
- ◆ Build up on spinners.
- ◆ Flow divider or drop chute.
- ◆ Frozen adjustments.
- ◆ Corroded components



**Summary 1. Know your equipment. 2. Calibrate when necessary. 3. Be safe!**