

Proper spray equipment, technique keys to Asian Soybean Rust control

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Whether Virginian farmers will deal with soybean rust in the coming growing season is uncertain, but there are steps in preparing for disease control.

A diligent scouting program, adequate spray equipment, and timely fungicide application(s) is vital in controlling rust in soybean fields this year. To help farmers best prepare for an intense spray schedule, specialists with Virginia Tech have collaborated to formulate a plan of action.

Extension engineers suggest farmers and commercial applicators preparing to control rust should consider three main aspects:

1. What type of nozzles should be used?
2. Can they operate at the right pressures for proper coverage?
3. Can they get enough water to the sprayer to keep going?

Spraying fungicides is unfamiliar to some Virginia growers, and applying them is different than applying herbicides or insecticides. With a full soybean canopy, spray soybean rust with 20 gallons of water per acre. This is much more water than producers are accustomed to using in grain crops.

Good canopy penetration to reach the lower leaves and coverage are also essential. The key to good coverage with fungicides is having many smaller droplets vs. a few large droplets from the

nozzle. “Medium” droplet size is preferred (250 microns \pm 100 microns). Small droplets do not reach lower canopy, and larger droplets bounce off, or do not cover leaf surfaces.

The actual distribution of different nozzles depends on pressure and volume, but this is a good target to shoot for. Higher pressures than those used for herbicide applications may be needed to achieve a medium droplet.

Avoid using cone nozzles if possible because droplet sizes are too small to ensure adequate canopy penetration. Twin-nozzle configuration improves canopy penetration over a single-nozzle configuration. Utilize nozzle manufacturer’s literature to select nozzle size, operating pressure, spray volume, and travel speed. Make certain this combination generates the correct droplet size distribution.

The boom height should assure good coverage over the canopy. Match boom height to nozzle spacing to provide good coverage and avoid skips in the top canopy. A combination that works well is a nozzle spacing of 20 inches and a boom height of 12 to 18 inches above the canopy for wide angle nozzles (110 degrees). Adjust boom height as necessary to improve coverage and penetration.

Timely spraying is also a key to reducing potential rust damage. Do

maintenance checks on spray equipment so it will be ready when needed. Be sure equipment is large enough to spray all fields within only a few days.