MH-free burley tobacco

Sucker control difficult without MH

By Gary Palmer, Andy Bailey and Bob Pearce

Maleic hydrazide residue has been a concern since it was first introduced in the 1950s. Concerns center on shear volume of residue rather than health risks, which have been determined as minimal.

Residues on cured leaf used to run in the 100-parts-per-million range for U.S. burley tobacco, but in recent years levels are consistently 30 to 40 ppm. This downward trend is thought to be due in part to changes in application rates and chemicals used.

However, a market for MH-free U.S. burley has developed with incentives attached by specific buyers. This does not indicate that all U.S. burley needs to be MH-free. Tobacco producers who wish to capitalize on the incentives should be aware of potential problems and risks associated with attempts to control suckers without MH.

SUCCESSFUL PROGRAM

Dark-tobacco producers are more accustomed to producing tobacco without MH, and they realize that successful methods require more labor. The most successful method uses droplines on a high-clearance or other similar sprayer with one worker per row applying a contact (fatty alcohols) or local systemic (Prime+ or Butralin) sucker-control chemical to the top of the plant.

A contact chemical is commonly used at or before bud topping, followed by a local systemic in seven to 10 days. Some producers may mix a contact with the local systemic for the second application. While this method is the most successful, it is by no means a foolproof technique.

Blown-over tobacco — or even leaning tobacco — is a significant problem because an application made to the top will simply run to the underside of the leaning stalk. Ground suckers also are a problem since the mixture may not come in contact with the ground sucker buds as it runs down the stalk. Any sucker not contacted can grow into a significant problem and reduce yields.

Dark-tobacco producers may opt to use MH where blow-over is significant. The systemic nature of MH allows it to move inside the plant to sucker buds.

In burley, a similar approach is needed to achieve the best sucker control and still produce the desired MH-free product. However, topping at 10% to 25% bloom is recommended over bud topping in burley, and the initial contact is optional because burley does not need to stand as long after topping. The same concerns apply regarding blown-over tobacco and ground suckers, which may be more prevalent in burley.

Attempts to produce MH-free burley using high-clearance sprayers equipped with coarse nozzles to apply only contacts or local systemics have fallen short of successful sucker control. Mechanical sprays with contacts and local systemics tend to consistently miss suckers in the top of the plant. Missed suckers tend to grow unimpeded and may require removal by hand.

INCREASED LABOR

With the present labor shortage, adopting a program that requires increased labor may not be attractive to growers. An incentive would have to be substantial to offset the additional cost, while acquiring enough labor to accomplish the job might be prohibitive.

Dark-tobacco producers using the MH-free approach spend about five man-hours per acre. Dark tobacco is also shorter with a lower plant population than burley; therefore, the man-hours for burley may be greater. Typical mechanical methods using MH require approximately 10 to 15 man-minutes per acre — a substantial difference.

Growers not ready to try MH-free production may wish to reduce MH residue as much as possible. Many already have switched to coarse nozzles and have adopted a combination approach using a reduced rate of MH at 1.5 gallons per acre plus a local systemic (Prime+ or Butralin) at 0.5 gallon per acre.

This practice improves sucker control, reduces over-application or multiple applications, extends control, and works well with blown-over tobacco or crops with ground sucker problems. At the same time, it tends to reduce MH residues in the cured leaf.

The burley on the left had good sucker control with MH, while the tobacco on the right had a number of sucker escapes with a local systemic only.