Hood Sprayer Nozzle Selection Calibration
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With hooded sprayers today, growers have the option of applying a directed band under the foliage and under a hood between rows simultaneously. This has presented some problems with making sure that the correct amount of chemical is applied per acre to achieve maximum control without crop injury. **Growers should not make the assumption that a new hooded sprayer has the correct nozzles installed.**

1. Because of the potential for crop damage, make sure that you calibrate for the band. Also, this area is where control is absolutely necessary.

2. After the band has been calibrated then the nozzle(s) under the hood can be selected to achieve similar application rate per acre.

3. Last, make the tank mix based on the band calibration rate. This will make sure that 100 percent of the chemical rate is applied on the band. The hood rate will not be the same but nozzles can be selected to provide enough chemical for control.

The Excel spreadsheet “Hood” will assist in deciding which nozzles to select for the band and the hood in order to apply a fairly uniform rate of chemical mixture across the field.

Direction for the Spreadsheet (hood.xls).

1. Measure the actual speed of application. (i.e. measure time and distance traveled). This can be estimated \(1.47 \frac{ft}{sec}\) equals 1 mph.

2. Type in known inputs for the band. Enter the nozzle name, operating pressure (psi), row spacing (in), and number of rows.

   Select a pressure to apply the chemical mixture. For band spraying under foliage the recommended pressure is between 15 and 20 psi.

3. Enter the band width (inches), number of nozzles on the band and the GPM for each nozzle (Table 1.).

4. The spreadsheet will calculate the GPA for the band. If this is acceptable then proceed on to the next step. If not, either change travel speed, band width or nozzle size.

5. Next, go to the **Full Hood Spray** section and enter the width (inches) and number of nozzles used under the hood. Operating pressure for the nozzles will
be the same as on the band.

6. The spreadsheet will calculated the GPM for each nozzle.

7. From Table 1. select the nozzle with the GPM similar to the flow rate calculated in step 6 enter the GPM.

8. The spreadsheet will calculate the GPA for the full hood.

9. The spreadsheet will calculate the percent rate being applied under the full hood of the band spray. This needs to be within reason. If it is too high or low reselect a nozzle and flow rate.

10. Next, go to the **Half Hood Spray** section and enter the width (inches) and number of nozzles used under the hood. Operating pressure for the nozzles will be the same as on the band.

11. The spreadsheet will calculated the GPM for each nozzle.

12. From Table 1. select the nozzle with the GPM similar to the flow rate calculated in step 6 enter the GPM.

13. The spreadsheet will calculate the GPA for the half hood.

14. The spreadsheet will calculate the percent rate being applied under the full hood of the band spray. This needs to be within reason. If it is too high or low reselect a nozzle and flow rate.

15. The final calculation is combination for amount of tank mix being applied per acre. This figure is strictly for land measure purposes.

14. Finally, tank mix should be calculated for band spray rate.