

DICAMBA CALIBRATION ANSWER KEY – 7 points per question, 35 points total

$$1. \frac{(12.8 \text{ oz})}{(1 \text{ acre})} \frac{(600 \text{ sq ft})}{(1 \text{ rep})} (4 \text{ reps}) \frac{(1 \text{ acre})}{(43,560 \text{ sq ft})} \frac{(29.5735 \text{ ml})}{(1 \text{ oz})} = 20.9 \text{ ml}$$

2. Select TTI 11003 from approved nozzle list copied from Engenia web site. Participants must measure 15-in. nozzle spacing on sprayer for correct calculation. Note: The third choice (29.7 gal/acre) is correct for #3 tips, but at 20-in. nozzle spacing. Other multiple choices would work for #1 and #1.5 tips, respectively, on 15-in. centers but these nozzles are “off” commercial label. It is assumed that contest participants will not be aware that “research and demonstration” allows use of off-commercial labels.

$$\text{Gal/acre} = \frac{\text{GPM} \times 5940}{\text{MPH} \times \text{Spacing}} \quad \text{MPH} = \frac{(4.8 \text{ km/h})}{1.609 \text{ km/h per MPH}} = 3.0 \text{ mi/h}$$

$$\text{Gal/acre} = \frac{(0.3 \text{ gal/min} \times 5940.)}{(3.0 \text{ mi/h} \times 15 \text{ in.})} = 39.6 \text{ gal/acre}$$

$$3. \frac{(1 \text{ h})}{4.8 \text{ km}} \frac{(1.609 \text{ km})}{1 \text{ mi}} \frac{(60 \text{ min})}{1 \text{ h}} \frac{(60 \text{ sec})}{1 \text{ min}} \frac{(1 \text{ mi})}{5280 \text{ ft}} (100 \text{ ft}) = 22.9 \text{ seconds}$$

$$4. \frac{(39.6 \text{ gal})}{(1 \text{ acre})} \frac{(600 \text{ sq ft})}{(1 \text{ rep})} (4 \text{ reps}) \frac{(1 \text{ acre})}{(43,560 \text{ sq ft})} \frac{(128 \text{ oz})}{(1 \text{ gal})} \frac{(29.5735 \text{ ml})}{(1 \text{ oz})} = 8259.1 \text{ ml} (8250 \text{ to } 8270)$$

5. 110 ft (on label)