

Penn State Cooperative Extension

DISTANCE FOR EACH NOZZLE TO SPRAY 1/28TH ACRE & ACRE ROW

Nozzle Spacing, Row/Band Width (inches)	1/128th Acre Calibration Distance (feet)	Acre Row Ft/Acre (feet)	Nozzle Spacing, Row/Band Width (inches)	1/128th Acre Calibration Distance (feet)	Acre Row Ft/Acre (feet)
6	681	87120	28	146	18669
8	510	65340	30	136	17424
10	408	52272	32	128	16335
12	340	43560	34	120	15374
14	292	37337	36	113	14520
16	255	32670	38	107	13756
18	227	29040	30	136	17424
20	204	26136	42	97	12446
22	186	23760	44	93	11880
24	170	21780	46	89	11363
26	157	20105	48	85	10890

1/28TH ACRE CALIBRATION METHOD

1. Use nozzle spraying or band width to determine driving distance or broadcast or banded (including post-directed herbicide) sprays, respectively. Use row width for foliar sprays directed to the crop.
2. Fill sprayer 1/2 full with water, select RPM and gear settings, and note average time required to drive the measured distance without spraying.
3. Park tractor, maintain engine RPM, and catch spray in container marked in ounces for the time noted in #2. Catch spray from one nozzle for broadcast sprayers. Catch the spray from all nozzles/row for banded or directed sprays.
4. Ounces collected per nozzle (for broadcast) or group of nozzles (multiple nozzles per row) = gallons per acre applied.
5. Collect output from each nozzle to assure uniform distribution. Replace any nozzle that varies > 10% above/below the average output.

THE ACRE ROW CONCEPT FOR ESTIMATING POPULATIONS, HARVEST LOSSES, ETC.
 For a particular row spacing, divide the Acre Row distance by 1000 (move decimal 3 places left) for 1/1000 acre. For example, with 30" rows, if you count 28 plants in 17.4 feet of row, then the population estimate is 28,000 plants per acre (28 x 1000). For improved accuracy, use the average of several 1/1000 acre row lengths for these estimates.