Measuring Plant Size and Spacing

Plant size and spacing are important factors for determining irrigation requirement.

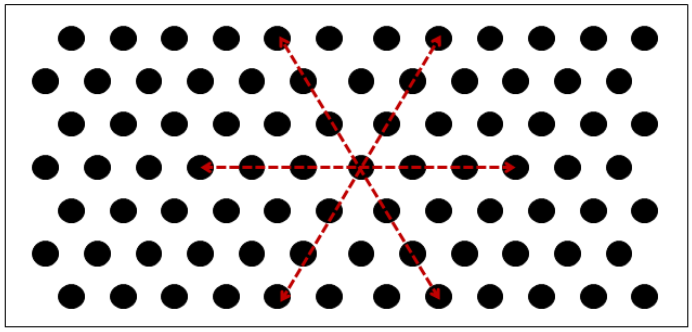

Measuring plant size and spacing while conducting irrigation research at Saunders Brothers Nursery in Piney Valley, VA.

Measuring Plant Size

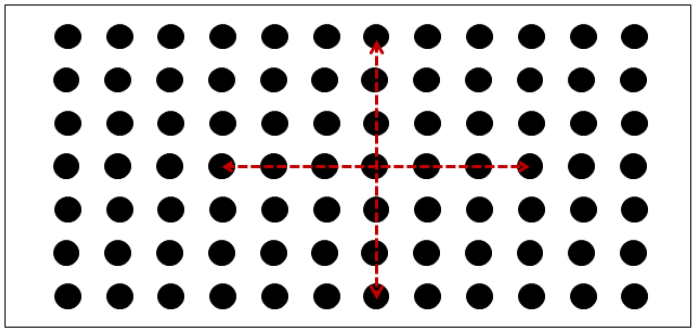
Plant height Measure from surface of container substrate to top of canopy.

Plant width Measure the widest width of the plant canopy and make a second measurement perpendicular to the first. Plant width is the average of the two perpendicular measurements.

Suggested Procedure for Determining Plant Spacing



Triangular spacing



Square spacing

Fig. 1. Type of spacing arrangement determines method of measuring spacing

Square spacing

1. Place one end of tape measure above the middle of a container. Count 10 plants down the row and measure the distance to the middle of this tenth plant in inches. Within row spacing is the distance divided by 10, the number of plants in the measurement.
2. Repeat but in a perpendicular direction across the rows (Fig. 1) dividing the measurement in inches by the number of rows away from the initial row.
3. The average center-to-center plant spacing (inch/container) is the average of the within-row center-to-center spacing and the between-row center-to-center spacing.
4. Average distance between containers (inch) is the average center-to-center plant spacing minus the container diameter.

Example

Data Within row center-to-center distance for 10 plants = 198 inch
Between-row center-to-center distance for 10 rows of plants = 182 inch
Container diameter = 10 inch

Calculation

Within row center-to-center distance = 198 inch/10 plants = 19.8 inch
Between-row center-to-center distance = 182 inch/10 plants = 18.2 inch
The average center-to-center plant spacing = (19.8+18.2)/2 = 19.0 inch
Average distance between containers* = 19.0 – 10 = 9 inch

***CIRRIG zone input for spacing**

Triangular spacing

1. Place one end of tape measure above the middle of a container. Count 10 plants down the row and measure the distance to the middle of this tenth plant in inches. Within row spacing is the distance divided by 10, the number of plants in the measurement.
2. Repeat two more times in lines that angle across rows according to triangular arrangement (Fig. 1). Divide each measurement by 10, the number of plants in the measurement.
3. The average center-to-center plant spacing (inch/container) is the average of the three measurements.
4. Average distance between containers (inch) is the average center-to-center plant spacing minus the container diameter.

Example

Data Distance down row for 10 plants = 116 inch
Distance across rows at angle for six plants = 124 inch
Distance across rows at 2nd angle for six plants = 118 inch

Container diameter = 6 inch

Calculation

Within row center-to-center distance = 116/10 = 11.6 inch
First angled distance = 124/10 = 12.4 inch
Second angled distance = 118/10 = 11.8 inch
Average center-to-center plant spacing = (11.6+12.4+11.8)/3 = 11.9 inch
Average distance between containers* = 11.9 – 6 = 5.9 inch

***CIRRIG zone input for spacing**