



How do I size my evaporative cooling system?

1. The first thing that you need to determine is the amount of air required.

1. This is stated in CFM (Cubic Ft. of Air per Minute).

2. The total CFM required is based on several factors:

A) Light Intensity - determined by your geographic location and whether you use shade cloth

B) Length of Greenhouse - from air inlet to air outlet

C) Temperature Difference - from air inlet to air outlet

3. Use the following formula to determine the CFM required for your greenhouse:

$CFM = Length \times Width \times 12$

Example: Greenhouse that is 12' wide and 24' long requires 3456 CFM ($12 \times 24 \times 12$)

4. Increase or decrease the CFM amount calculated by using the following factors:

Shade Cloth Percentage Factor

40%	50%	60%
.6	.5	.4

Length of Greenhouse Factor

25 Ft or Less	26 Ft. To 50 Ft.	51 Ft. to 100 Ft.
2.0	1.5	1.2

EXAMPLE: 12' x 36' Greenhouse with 50% Shade Cloth.

Determine basic CFM required using standard formula. $12 \times 36 \times 12 = 5184$ CFM. We must now adjust this based on the Length Factor and Shade Factor.

$5184 \times .5$ (Shade Factor) $\times 1.5$ (Length Factor) = 3888 CFM

This is the CFM required to properly cool this greenhouse. If using evaporative coolers (swamp coolers) make certain that you size these units in accordance with their Actual CFM instead of the Industry CFM figures.

Remember, you must provide an adequate exit for the total CFM being supplied by the evaporative cooling units. You can use an open door, roof vents or exhaust shutters properly sized for the total CFM. The most efficient system utilizes exhaust shutters situated on the wall opposite from the evaporative cooler.