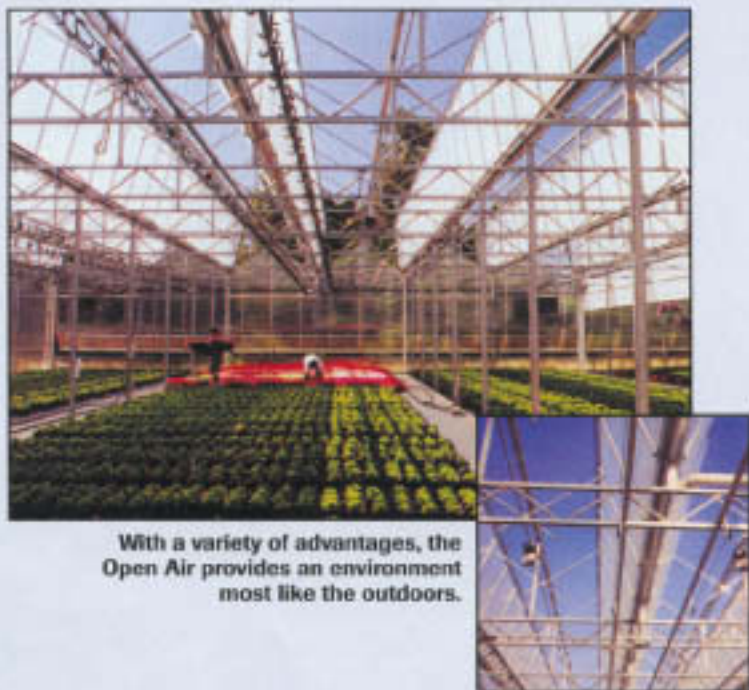


An Illuminating Idea

Rough Brothers offers a new option in roof glazing for the Open Air greenhouse.



With a variety of advantages, the Open Air provides an environment most like the outdoors.

ROUGH Brothers Inc. in Cincinnati, OH, has developed a new option in roof glazing for the Open Air greenhouse. Traditionally available with either double-poly or glass roof glazing, this alternative now offers 8 mm or 16 mm roof glazing, available in polycarbonate or acrylic.

Ideal Incentives

When glazed with polycarbonate or acrylic, the Open Air provides high light transmission paired with a reduction in the frequency of reglazing. This innovative design increases airflow, resulting in ideal growing conditions for many crops and a comfortable work environment. Its easily understood rack and pinion drive system minimizes maintenance and each motor drives one zone. The drive motors incorporate a variable frequency drive, allowing the roof to close quicker than it opens.

The Open Air not only provides full vertical roof opening, allowing maximum light and ventilation; it also caters to growers' specific needs. Standard and custom widths are available and the unique design allows the roof to be partially open in rain and snow as the peak gutter catches the precipitation, eliminating unwanted moisture on your crop.

Wind Load

- Begin to close roof at 20 mph and open gable/side vents.
- Open roof vent to be in a 45-degree position at 30 mph winds and gable/side vent in 45-degree position.
- Open roof 6-12 inches at 40 mph wind and gable/side vent at 30-degree position; when winds hit 55 mph, close roof and gable/side vent simultaneously.
- Once the winds hit 60 mph, signal the greenhouse operator to visit the site.
- Controller to use twice the dead band for decrease in small movement to prolong the life of the mechanical drive system.

Note: At freezing temperatures, and when there is no sun, the roof should be kept in the closed position to allow for thawing before opening.

The use of growth regulators can be reduced as the design of the Open Air allows the environment to harden and condition crops, resulting in less damage when shipping, improved longevity on the garden bench, and excellent performance in the garden.

Let's Get Technical

The standard widths of the Open Air structures are 23 by 36 feet wide. To meet the diverse changing needs of today's growers, custom widths are also available. Growers also have four different roof glazing options to choose including: six mm double-poly inflated, four mm tempered glass, 16 mm acrylic, and eight mm polycarbonate.

Rough's Open Air also features galvanized steel frames set at 12-foot centers to support the drive shaft and the roof gutter. The racks are spaced on 12-foot centers, as well and are 1³/₁₆-inch deep, twin-gear, U-profile, galvanized steel.

A computer control system with a weather station is required in this type of house. According to Rough Brothers, this can be accomplished with either a simple weather station with a vent control or a more intricate environmental control system.

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