

SEALED GLASS LAPS vs SINGLE POLY OVER GLASS

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Sealing glass laps begins with using high pressure water to blow out the debris collected between the laps of a glass greenhouse. After the laps are cleaned, a clear silicone-based sealant is injected under pressure to fill the space. This material remains pliable, allowing normal expansion and contraction. One commercial applicator guarantees the material to last ten years. "Do-it-yourself" cartridges of a sealant are also available.

Potential fuel savings to be realized with sealed glass laps are reported by Ohio as 5-40%. As with any energy conservation technique the greatest savings will generally be found in the older, looser houses. Growers have reported fuel savings of 15-50%. An average of 15% fuel savings may be expected.

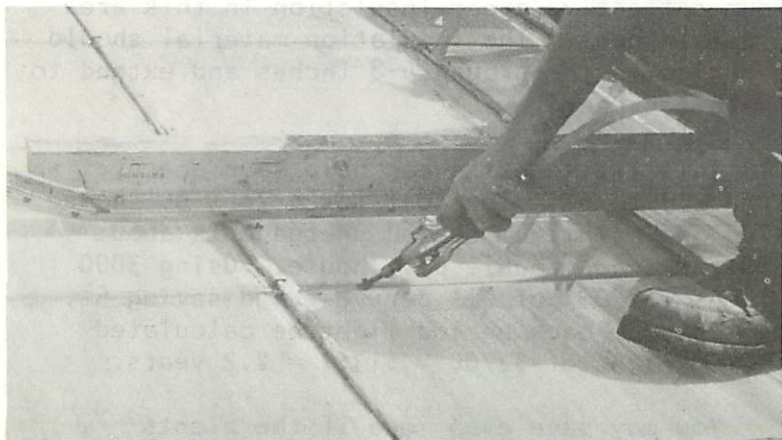


Figure 1. A professional sealing glass laps.

Additional benefits from lap seal include: more uniform house temperatures, more efficient use of supplemental CO₂, higher humidity, which may be a problem, less watering (one grower reports up to 20% H₂O savings), and little (10% maximum) crop shading.

COST

Some dripping may occur at the sealed laps, but this can be alleviated by proper ventilation and/or air circulation.

Since fresh air infiltration is significantly reduced, be certain that adequate air inlets are provided for in-house oil, gas or wood fired unit heaters. And remember that more daytime ventilation may be required.

SINGLE POLY OVER GLASS

Many growers for years have been using a single layer of polyethylene over glass to reduce air infiltration. Older houses or those exposed in windy locations have benefited most. Normally, lath or a tack tape is used to fasten the plastic



Figure 2. A "do-it-yourself" lap seal job. Very few laps were this irregular.

to the wooden greenhouse members. This is a relatively low cost conservation technique.

Fuel savings of 5-40%, depending on house condition and exposure, may be realized from this conservation method. An average of 30% savings may be expected.

Benefits similar to those outlined for sealed glass laps should also be realized. Leaks are eliminated.

A 10-20% light reduction may be expected in a house covered completely with plastic, resulting in reduced growth of high light requiring crops.

REFERENCES

Anon. 1979. *Sealing Laps Provides Ammo for War on Heat Loss.* *Florists' Review*, May 10, p. 135, 188, 189.

Badger, O.C. and H.A. Poole. 1979. *Conserving Energy in Ohio Greenhouses.* OARDC. *Spec. Cir.* 102, *Ext. Brd.* 65:19-20.

Poole, H.A. 1979. *Conserving Energy in Ohio Greenhouses.* OARDC. *Oct. No.* 15.