

## Boiler Efficiency Can Be Improved to Avoid Serious Loss

From England, where the cost of fuel is really high, come these suggestions for fuel conservation.

According to Winspear, an internal polyethylene lining of the greenhouse will provide a 38% reduction in heat loss, provided one can stand the 14% light reduction that will occur. During the critical winter months, light loss from double glazing is likely to result in a greater monetary loss of crop than is saved in fuel. Black polyethylene blinds, drawn during the dark periods will provide a one-third reduction in the heat requirement. NIAE calculates that the annual saving is 20%.

Heat losses will double as wind speed rises from 0 to 15 mph. Windbreaks are economically justifiable. It is important to ensure that thermometers and thermostats are accurate. A one degree error at 60°F could cause an extra 3,000 gallons of oil being used per acre per year. On the other hand, 10% can be saved by reducing the temperature 1 1/2° from 65°F. Evidence seems quite clear that reducing temperatures results in a greater yield loss and lateness in timing. Inefficient steam pasteurization is another fuel waster.

Other articles in the same *Grower* issue point out that equipment for measuring CO<sub>2</sub> in flue gases, and temperature, will help maintain maximum boiler efficiency. It is important to insulate that feed water tank, for up to 8,000 gallons of oil per acre can be expended if the feed tank is uninsulated. Proper insulation on the mains can save 1 1/2 gallons per day on 10 ft. of 3 in. pipe. A 1/16 inch diameter hole in a pressurized water system can cause a loss of 7-1/2 gallons per day.

In an article published by S. A. Christensen in 1970, in the *Gartner Tidende*, internal shading in Sweden has shown up to 30% saving in heat under proper conditions. John Tristan's preliminary data at CSU has shown 50% occasionally, and 20% as common. (Winspear, K. W. 1974. *The Grower*. Nov. 16, 1974. pp. 917-919.