

## Solvent

### SEASONING OF REDWOOD

Present methods for seasoning redwood take as much as one year for 1" stock. Redwood is also subject to staining. A faster method, called solvent seasoning, is being investigated.

Basically, solvent seasoning involves the continuous extraction of water from the wood by means of a water-soluble, polar, organic solvent. The wood is placed in a chamber and is brought into contact with the solvent either by immersion or by solvent flowing over the boards. As it comes into contact, the solvent diffuses into and out of the wood, bringing with it the water as well as some of the soluble extractives. The solvent is separated from the water, for reuse, by distillation. When the desired amount of water has been removed from the wood, the retained solvent is removed by blowing hot air over the boards, sometimes followed by steaming.

Although solvent seasoning has not yet been adopted commercially due to lack of information about it, the process warrants investigation with respect to redwood because of the problems associated with drying by conventional processes. Of particular interest will be the effect of solvent seasoning on subsequent staining and a comparison of its costs with those of conventional methods.—*W. B. Fearing, Forest Products Laboratory, Berkeley.*

## Elongation and bending of

### ASPARAGUS SPEARS

Harvested asparagus continues to elongate during transit and marketing if moisture is available to the butts of the spears. A negative response to gravity, dependent on elongation, can result in upward bending of spears held horizontally. Spear growth and spear bending can be serious market defects.

Both elongation and curvature are markedly influenced by temperature within the range to which harvested asparagus is commonly exposed. The rates of elongation and curvature and the total growth attained are greater at the higher temperatures. At all temperatures, most of the elongation occurs during the first few days of holding.

From a commercial viewpoint, the results suggest that elimination of the moist pad now placed under vertically packed spears might be desirable if

water loss and shrivel can be prevented by other means. Horizontal packing of the spears, now under commercial consideration, would seem feasible if water loss can be controlled.

Interesting physiological aspects of current studies include: the effect of spear length; the role of the spear tip; the effect of light; the possible use of growth regulators; and the effect of elongation on storage life and respiratory activity.—*L. L. Morris and A. E. Watada, Dept. of Vegetable Crops, Davis.*

## Plastic covers for vegetable crop

### FROST PROTECTION

Conventional paper hotcaps, used to cover individual plants of warm season, field grown vegetable crops, provide a microclimate suitable for their growth during the winter season. Polyethylene continuous row covers have more recently come into use, and have been found to have several advantages over the paper hotcap.

Frost protection for the plant is one of the primary functions of hotcaps or continuous plastic row covers. To provide frost protection, it is necessary that there be enough heat in the soil to compensate for that lost from the soil and the protecting cover by radiation, conduction, and convection during the night hours. Preliminary studies indicate that the shape, size, and the perforations or ventilation of the covers greatly influence the heat build-up in the soil during the day. This, besides affecting the actual growth of the plants under the covers, influences the degree of frost protection during the night. Studies are underway to determine the effect of cover characteristics and various soil factors on actual frost protection as well as the location within the covers of cold or hot spots, which have a great deal of significance when temperatures are near the freezing point.—*C. A. Shadbolt, Dept. of Vegetable Crops, Riverside.*

## Virus disease of the

### GRANULATE CUTWORM

An outbreak of a virus disease—granulosis—occurred in larvae of the granulate cutworm on grass, clover, and dichondra in northern California during the fall of 1959. Hundreds of dead and dying larvae showed essentially the same

symptoms and post-mortem changes, and all proved to be infected with a granulosis virus.

Further study is necessary to determine whether or not the virus disease can be incorporated in a program to control the granulate cutworm.—*Edward A. Steinhilber, Dept. of Insect Pathology, Berkeley.*

## Fruit cartons in

### BULGE TEST

Fruit cartons commonly bulge somewhat due to internal pressure from the packed fruit. If the bulge is more than slight it allows the pack to loosen and settle. Such a carton appears not to have been filled full, and the fruit in it is likely to be damaged by vibration. A test is being developed by which the effects of carton design on bulge may be measured.

A rubber bladder is placed in an empty carton and inflated with air. Pressure in the bladder is measured with a sensitive gage and resulting bulge of the top, bottom, sides and ends is measured by the increase in dimensions of the carton. A pressure of one pound per square inch increases the inside volume of a typical carton by 20%.

Effects on bulge of dimensions, materials, type of construction, and location and size of vents are being studied. Stiffer and more economical carton designs are expected to result.—*Rene Guillou, Dept. of Agricultural Engineering, Davis.*

## NEMATODE CONTROL

### for deciduous fruit and nut trees

Experiments with the root-knot nematode disease of peach and the root-lesion nematode disease of walnut proved it is possible to establish susceptible trees in nematode-infested areas after preplanting soil fumigation. However, a few nematodes always survive and multiply until the population again reaches a high level. Current emphasis is on methods and frequency of application of dibromochloropropane, because this compound can kill nematodes at dosages that do not injure the trees.

Other research, on the common and the less understood nematodes associated with fruit and nut trees, is aimed at such questions as how nematodes find and injure their hosts and what factors influence population density.—*B. F. Lounsbury, Dept. of Plant Nematology, Davis.*