

## NEWS AND VIEWS OF THIS KILN DRYING BUSINESS

**THE PROBLEM:** How can maple and birch sapwood be dried without sticker stain?

### The Answer:

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Sticker stain can be prevented by rapid drying and use of dry narrow stickers. It was formerly thought that maple and birch from winter-cut logs were less subject to sticker stain than stock from summer-cut logs. There has been a rash of sticker stain in the East during the past winter, however, possibly because of the mild weather conditions. Although the exact cause of this stain is not understood, the practices listed below are known to be effective in controlling it.

Experience has indicated some advantage in winter cutting of the logs, at least during normal winters. If the logs are stored until summer, however, or if they are kept a short while in a hot pond, the stock cut from them might stain as much as stock from summer-cut logs. Since the demand for maple and birch requires some summer operations, and since winter conditions can't always be depended upon to prevent sticker stain, hot logging and rapid drying practices should be set up and followed at any season of the year when these woods are cut.

### Ways to speed drying

Oldtimers say the only way to prevent sticker stain in birch and maple lumber is to end rack it as soon as it is sawed. This method has been reported as being used with the very white European sycamore. If the stock is sawed in the woods and held there any time at all, it should be end racked. This practice probably should be followed at the larger mills where air seasoning is practiced. The inverted-V method is recommended so that any mark from crossing of the boards would be at the ends.

The essential features of a good end rack are a sturdy ridge pole, middle supports, and base supports. The base supports can be elevated a foot above the ground. Separate racks should be provided for each length of lumber, so that the boards will cross only at the extreme ends. The stock should be taken down and shipped,

or flat piled for further seasoning, before high shrinkage degrade starts. End-racking time will vary from 3 to 15 days, depending on the weather.

If the stock is flat piled, the pile should be designed for rapid and uniform drying. The pile should be on a well-drained site. Foundations should be firm and high enough to hold the lumber at least 18-in. above the ground. Piers or other open-type foundations should be used to allow air to circulate freely under the pile.

The pile should slope 1-in. to the foot from front to back, and the front should pitch forward 1-in. per foot of height. The spacing between piles should be at least 3-ft. Vertical flues 3-or 4-in. wide should be left between boards every 16-to 18-in. across the pile.

Each pile should be adequately roofed. If fork-lift trucks are used and package handling is practiced, slope and pitch are not so necessary, but some means must be used to hold the stock 18-in. off the ground. The piles must not be stacked close together, and roofs must be used.

Green or partially air-dried stock shipped in box cars should be unloaded and piled for kiln drying as rapidly as possible. Two or three days on kiln trucks in green storage may be enough to cause sticker stain. If kiln drying can't be started right away, the stock should be stored under a roof and some heat used, if possible, to lower the relative humidity in foggy weather.

For kiln drying, use a kiln schedule that will give rapid drying without damaging the stock. The actual kiln conditions in various parts of the kiln should be checked to see that there are no "cold spots" that would cause local areas of excessively high relative humidities.

The above suggestions for faster drying may result in checking of heartwood maple. If segregation is called for somewhere along the line, perhaps it would be best to segregate the heartwood from the sapwood right at the start and handle the heartwood more conservatively. In fact, if segregation is made, relative humidity conditions lower than those given in standard

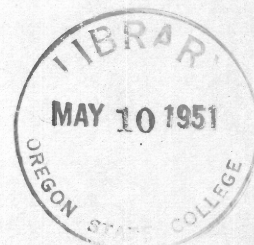
kiln schedules can be used on the sapwood stock.

### Proper stickers

One company has reported to the Forest Products Laboratory that its maple sticker-stain problem cleared up when dry maple stickers were adopted and kept separate for use with maple only. This company had previously had trouble with dry Sitka spruce and red oak stickers.

There is no apparent reason for believing chemical action of one species or another could cause the deep type of sticker stain that is so troublesome because it can't be surfaced off, but there may be some catalytic action. It is certain, however, that slow drying under the stickers is one of the primary factors in sticker staining.

Stickers should be of well air- or kiln-dried stock. They should be stored in a dry location until used. Their width should not exceed 1-½ inches. To keep warping at a minimum, sticker spacing should be not more than 24 inches, the stickers should be placed in perfect vertical alignment, and there should be a rigid support under each line of stickers.



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