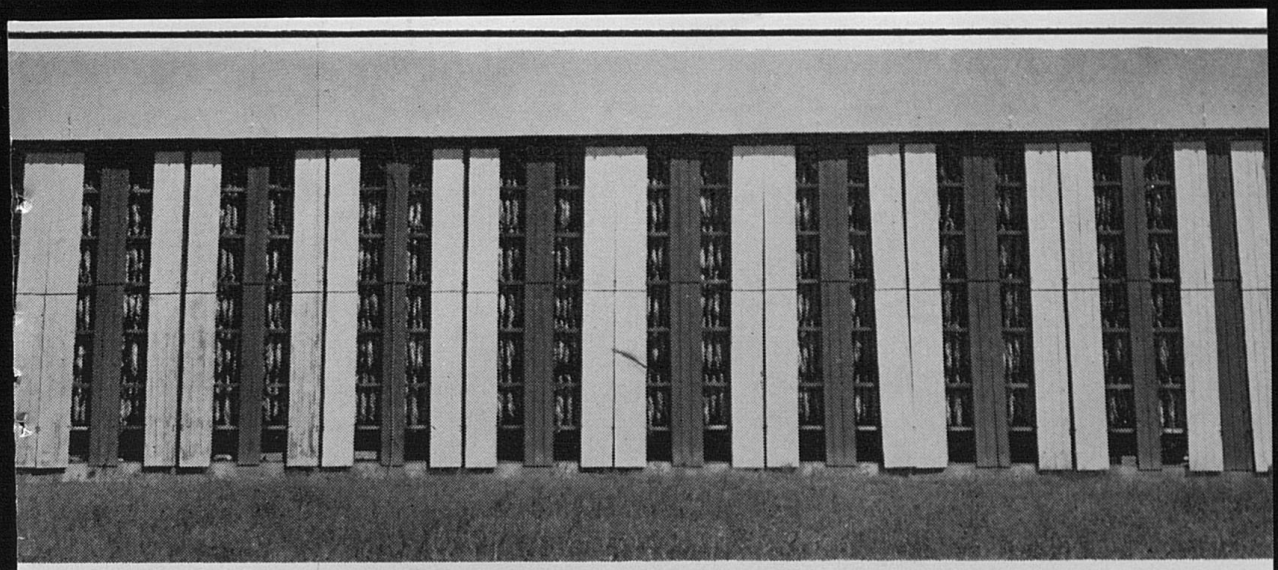

You have maximum control of curing conditions in this type barn.

# CURING BURLEY TOBACCO

By IRA MASSIE and KERMIT MILLS

Circular 578
(Filing Code 1-1)

UNIVERSITY OF KENTUCKY | COOPERATIVE EXTENSION SERVICE
AGRICULTURE AND HOME ECONOMICS

*This circular takes the place of Leaflet 234, "More Money by Improving Curing Conditions for Burley Tobacco."*

# Curing Burley Tobacco

By IRA MASSIE and KERMIT MILLS

Curing burley tobacco is an art. This circular is designed to acquaint you with some of the basic principles involved in curing. For more detailed information, see your county agent.

## HARVEST FULLY RIPE TOBACCO

For best curing, cut burley tobacco when the upper leaves are ripe and distinctly yellow. Fully ripe tobacco cures faster, has more smoker leaves, and is less likely to damage during periods of bad curing weather. Too, ripe tobacco makes better quality leaf. However, if the lower leaves are wasting badly because of unusually dry or wet weather, and if priming will not be done, it may be better to cut the tobacco before the top leaves are fully ripe.

## FACTORS WHICH AFFECT CURING

Good quality burley tobacco can be cured at temperatures from 60° to at least 90° if relative humidity is near optimum. Optimum relative humidity for curing burley tobacco is about 65 to 70 percent.

Conditions inside a curing barn are influenced by three factors:

**1. Outside**

Temperature, relative humidity, sunshine, clouds, time of day, wind speed, wind direction.

**2. Inside**

Size of plants, spacing of plants on sticks, spacing of sticks on rails, number of tier spaces filled, amount of water in tobacco when housed, rate of evaporation, relative humidity day and night.

**3. Structural**

Location, prevailing winds, ventilators, cracks, height, width, and length, arrangement of rails.

Fill all tiers from top to bottom of the barn with tobacco of the same cutting.

Hanging newly-harvested tobacco under plants harvested earlier may cause the earlier-harvested tobacco to darken.

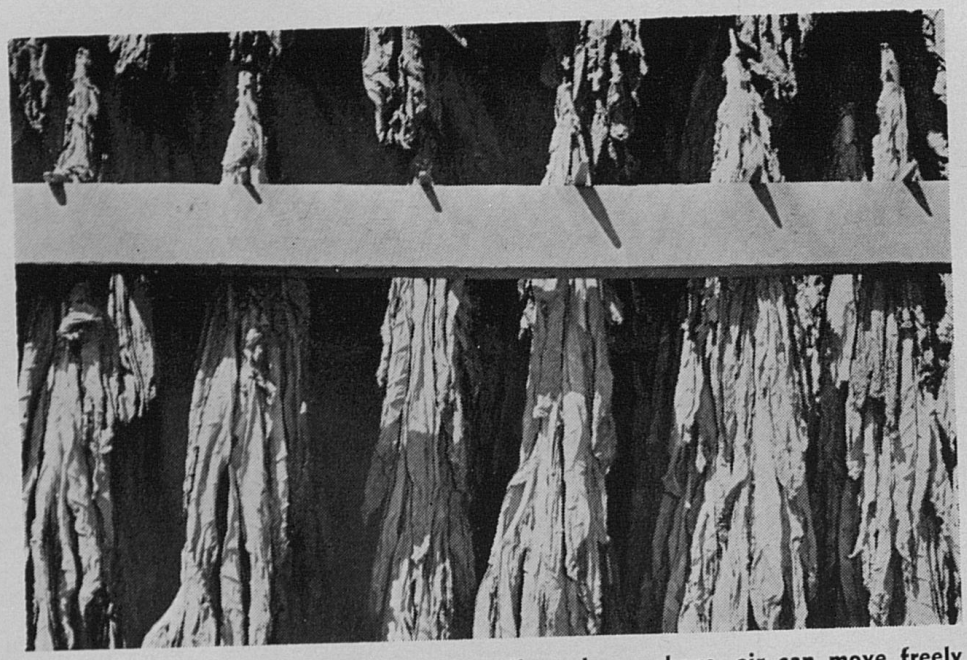

**Fig. 1.— When sticks are spaced on a rail as shown above, air can move freely in and around the tobacco.**

## AIR CURING

You can make conditions suitable for curing tobacco. How well the crop will be cured depends largely on how well humidity is regulated, how close sticks are spaced, width of the barn, size of tobacco, and amount of ventilation.

Small plants permit closer spacing than large ones. With the same amount of side ventilation, a narrow barn will safely hold more tobacco per rail than a wider barn. Barns 36 to 40 feet wide are best for housing tobacco.

Every year there are periods when relative humidity cannot be controlled by ventilators and heat should be used. Whenever tobacco remains in case for more than 24 hours, houseburning will start.

The more cracks and ventilators in the side of the barn, the more air that will pass through the housed tobacco and the closer tobacco can be spaced. Your curing barn therefore should have enough side ventilators for rapid change of air. Few old barns have enough side ventilators for best curing.

When repairing old barns or building new ones, provide ample ventilators on the sides. In barns 36 to 40 feet wide, hinge

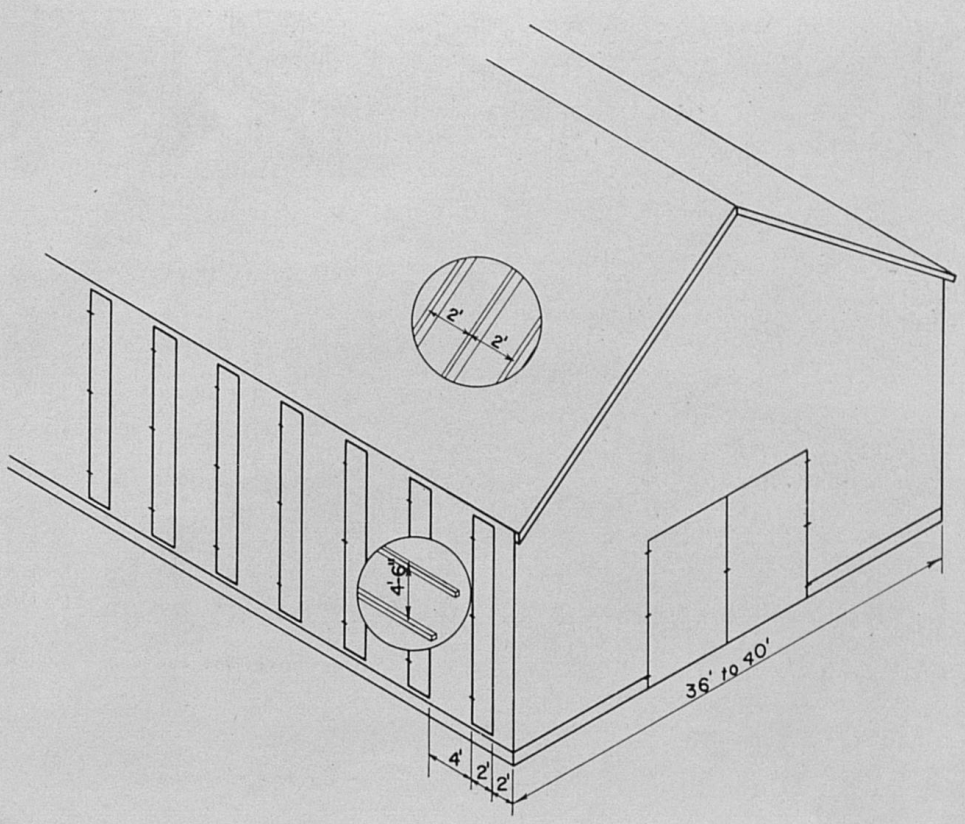


**Fig. 2.— A well-built barn with above dimensions, adequately ventilated, properly located, can improve curing conditions. See your county agent for a blueprint.**

at least a third of the boxing or siding to permit opening and closing. Wider barns need even more ventilation. To make a third of the side in ventilators, start at one end and nail 4 boards, hinge 2, nail 4, hinge 2 across the side of the barn. To have half of the side open, nail 2 boards, hinge 2, nail 2, hinge 2 across the side.

Ventilators are not needed at the ends of burley barns unless prevailing winds strike the end of the barn and tier rails run parallel with the width.

If prevailing winds strike the side of the barn and tier rails are parallel to width, then place tier rails parallel to the length of the barn, and locate ventilators on the sides. Experiments at the Kentucky Agricultural Experiment Station have shown that ventilators in the roof are almost useless, particularly when firing is used.

In building a new barn it is best to locate it on a hill or ridge rather than in the valley. Locate the side toward the southwest.

Fig. 3.— You have little control over curing conditions in a barn such as this. Sheds placed on the sides of a burley barn cut off ventilation completely. Also, ridge ventilators are useless.

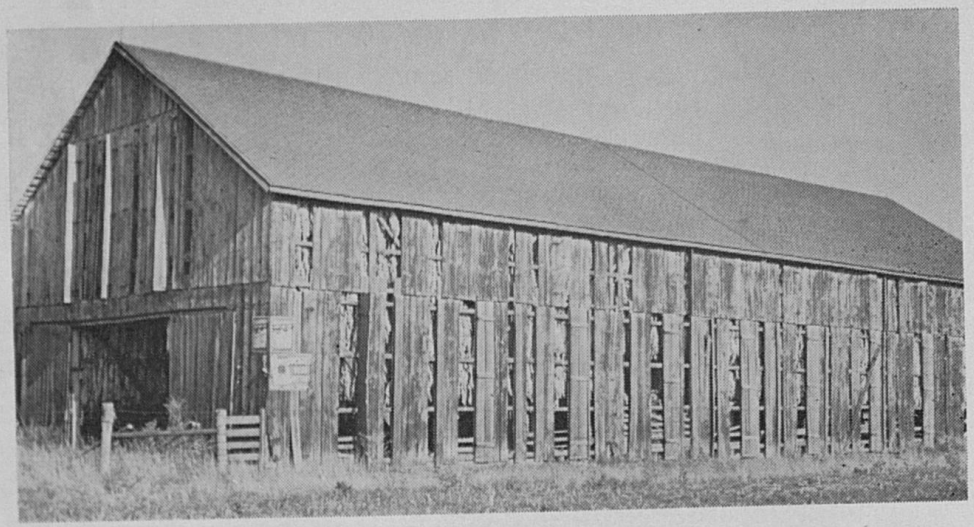

Fig. 4.— This old barn was remodeled to give maximum control over curing conditions.

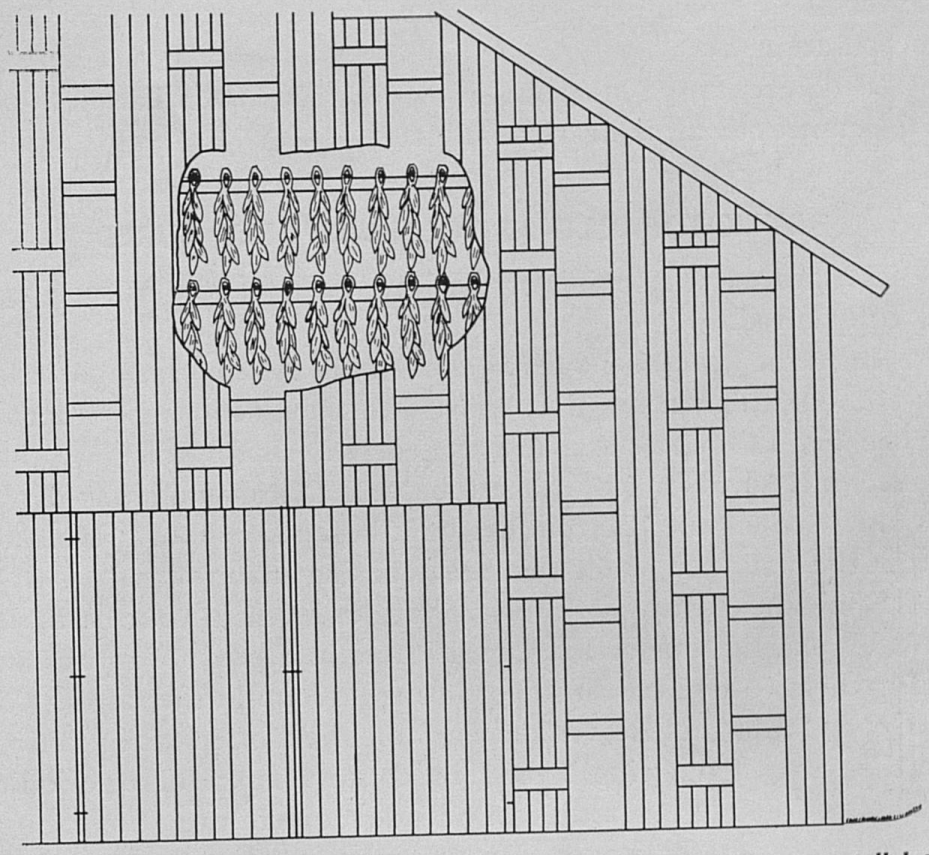

**Fig. 5.— This drawing shows how to remodel a barn when tiers run parallel to width and prevailing winds hit the end of a barn.**

## WHEN TO OPEN OR CLOSE THE VENTILATORS

During August and September the air is usually drier during the day and wetter at night. Therefore, the ventilators of the curing barn should generally be opened as soon as the dew dries in the morning and closed in late afternoon.

When you are uncertain whether to open or close the curing barn, put a few cured leaves in a sheltered place near the tobacco barn—for example, under an open shed. When these leaves are damp and hang limp, the air is high in moisture, and the barn should be closed. In general, whenever these leaves feel drier than the tobacco inside the barn the ventilators should be open. But when the tobacco inside the barn feels drier than those leaves outside, then keep the barn tightly closed.

During cool periods open the barn to get the benefit of the warmer outside air. In cool weather the temperature may be 10°

lower in a closed barn than outside because of cooling from evaporation.

If no fire is used in curing, provide as much ventilation as possible until curing is nearly complete.

## BULK TOBACCO AS SOON AS FULLY CURED

To prevent darkening of the leaf, bulk tobacco as soon as it is fully cured.

In warm weather, however, *don't* bulk tobacco in high order. If you do, it may damage severely. If it remains in high order for more than 24 hours, start the fires to dry it. Also, in warm weather, make only small bulks. If the tobacco stalks are not fully dry, it is unsafe to leave tobacco in the bulk beyond 48 hours. Moisture from the stalk may enter the stem, causing stem-rot.

Know the curing conditions at various levels in your barn. Do this by placing four or five cured leaves in a piece of canvas and tying them to a string threaded through a loop in the rafter. You can then lower these leaves and examine them often for conditions in the barn. Start firing if the tobacco stays damp for a period of 24 hours or longer, regardless of outside temperature. Use enough heat to dry out the leaves. Do not raise the temperature above 100°.

When the weather is such that the cured leaves dry out each day without fire, then firing is a waste of *fuel* and *time*.

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