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MODERN TOBACCO GROWERS



News and events about the tobacco industry...from the grower's point of view.

Master Basics to Cure Leaf in Demand

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The first several days of curing are by far the most important part of curing. This stage is known as yellowing. During the yellowing period, three things should be accomplished (1) the characteristic green color of the leaf changes to yellow (2) the unseen chemistry of objectionable starches change to sugars (3) 20 to 30% of the internal moisture of the leaf should be removed as indicated by having a wilted leaf at the end of yellowing. The amount of wilting is controlled by the amount of ventilation provided with a temperature of about 100 degrees F°.

To correctly accomplish the above three things during yellowing requires an understanding of the tobacco with respect to internal moisture. Stalk position has a lot to do with the internal moisture content of tobacco. The moisture content of leaves may vary from 90% for the lower leaves to 80% for the upper leaves. Because of this difference in internal moisture, lower stalk moisture leaves require more ventilation than upper leaves to have the lower stalk leaves wilted at

the end of the yellowing stage.

Yellowing Stage

The temperature in the yellowing stage should be about 100 F° and never exceed 105 F° to avoid "cooking" the leaf. The leaf is still alive during yellowing and excess ventilation will cause the leaf to dry green which is very objectionable. If at the end of yellowing insufficient moisture has not been removed the leaves are stiff-being turgid with too much internal moisture. If this is the situation and the temperature is increased above 107 F° the leaves scald decreasing buyer demand. If the yellowing period is prolonged because of the excess moisture (not wilted) sponged leaf is likely to result.

Sponged leaf is characterized by being motley light-brown color which is considered off-type leaf that buyers may find objectionable. Sponged cured leaf contains less than the normal amount of sugars.

To successfully accomplish the removal of 20 to 30% of the moisture during yellowing, the tobacco should be uniform in the barn, especially in big boxes. When curing is done in bulk barns, the ventilation air is forced thru the racks or boxes. The forced air goes to places of least resistance. The forced air channels and drying is where the most air goes. Where air does not pass uniformly, correct drying does not occur, resulting in scalding in the leaf drying stage and "swelled" stems in the end.

An increasing number of growers during loading of curing boxes are weighing the loaded boxes to achieve uniformity among the boxes of green leaf within the barns. This facilitates uniform air flow thru the loaded boxes and saves curing fuel, electricity, and reduces curing time and results in cured tobacco in demand.

Curing does not improve on the quality of tobacco placed in barns; however practices during curing such as a lack of uniformity of leaf in the barn can decrease quality.

Barring Wet Tobacco

Wet tobacco, especially lower stalk tobacco should not be harvested. However, if you do harvest wet tobacco, air should be circulated without added heat up to 24 hours to remove this free moisture.

Leaf Drying

The leaf drying period consists primarily of stopping the yellowing by rapidly drying and killing the leaf. Leaf drying is accomplished by increasing ventilation and the temperature. If you've properly handled the cure during the yellowing period, you should have no problems in getting the leaves dry without lowering the quality. On the other hand, if you haven't lowered the moisture content of the leaf sufficiently during the yellowing period, the higher temperature of the leaf drying

phase may lower the quality of your tobacco considerably. High leaf moisture content with temperature of 130 or higher can darken leaf color and may result in scalded tobacco, especially in the thinner leaves from the lower stalk positions.

Stem Drying

Drying the stem is the only part of curing that remains when the leaf drying period is completed. The quality of the leaf has been largely established. About the only way that you can lower the quality during the stem drying stage is to use excessively high temperature or to maintain "killing out" temperatures too long. Experience has shown that extended periods of temperatures in excess of 160 will increase the amount of red color in tobacco, especially in some varieties.

Ventilation in the stem drying period should be gradually reduced to conserve fuel. The leaf is dead and moisture in the stem can only move so fast across the stem membranes for drying by evaporation which takes several days regardless of temperature used.