

Curing Tobacco: A Look At What Can Go Wrong

18 February 2014

Philemon Buruzi

In an attempt to get the golden leaf onto the market now that the tobacco marketing season is upon us, most tobacco farmers are in frantic efforts to cure their tobacco and join the queue at the floors. Having come this far since the crop was planted last year, I found it handy to just remind the farmers of some of the things that may go wrong during this last lap. As you shall see hereafter some of the mistakes have the capacity to ruin the golden leaf to waste and in the process transform your potential profits into losses.

Generally tobacco curing process can be divided into 3 distinct phases namely colouring/yellowing, leaf drying and stem drying. These phases are distinguished by marked differences in temperature, humidity and ventilation requirements. Colouring is done at temperatures ranging between 32-40°C depending on the condition of the tobacco. The increase in temperature should be gradual until leaf drying stage is reached. It is recommended to check the condition of the leaves to ensure that wilting is complete before increasing the temperature. If wilting is not complete by end of colouring phase, hold the temperature around 47°C until complete wilting is achieved. Leaf drying is achieved at temperatures between 57-60°C. After that stem drying is next and this is achieved via increasing the temperatures by 2°C per hour to between 73 - 77°C.

It is however worthy to take into consideration the fact that for a farmer to achieve a good leaf at the end of the curing process, it does not start in the barn alone, but there are other factors that precede the barn that could lead to failure to achieve a good result come curing time. Below is a rundown of some of the mistakes committed in the field that can manifest during curing and cause head-aches .

- Harvesting leaves that are not yet ripe will result in green leaf in the stead of the glowing yellow leaf you will be looking forward to.
- Plucking leaves from plants that were hit by a massive water deficit or drought. Farmers should know that such leaves do not cure well as they end up with a greenish appeal which lowers the value of your produce
- Application of excessive fertiliser will result in leaves that fail to ripen properly and during curing the leaves emerge with a green-brownish colour
- When planting errors are committed such that the plants are too close to each other, this creates competition for resources. This has an effect on the leaves as they will look like ripe prompting the pickers to take them to the barn when they are still immature. Curing of immature leaves leads to green leaves.
- Excessive irrigation or leaching and inadequate fertiliser application also leads to fake ripening of leaves again resulting in disappointing curing results such as sponging and green leaves.

Turning to curing process itself , farmers should pay particular attention to temperature, humidity, ventilation and the capacity limitations of their curing barns. The following are some of the undesirable results one can obtain should deviations from the aforesaid parameters occur.

- **Soft rot:** Tobacco leaves which are close to the ground are prone to bacterial contamination. In the event that these lower leaves are harvested whilst they are wet and find their way into the curing barn, soft rot occurs. The conditions in the barn will encourage the proliferation of the bacteria which damages the leaves which then dry off with black patches. To prevent soft rot, farmers should cure leaves free from surface moisture as a rule of thumb if not possible its better to institute wilting procedures first before actual curing commence.
- **Moisture Run Back:** This problem results from lowering the temperature too early after leaf drying prior to complete moisture removal from the midrib. The remnant moisture in the midrib then seeps back into the leaves causing dark/ reddish areas on the leaf surface which are irredeemable.
- **Swollen stems/fat midribs:** this is a case whereby the drying temperatures is too low or is applied for too short a time. Moisture is not fully removed from the midrib and results in soft , pliable and larger than normal midrib. This condition can also result from uneven distribution of curing air owing to ineffective ventilation. Fat midribs reduce the quality of the tobacco and also spoils other leaves as it tends to get mouldy in storage.
- **Brown Spot:** Leaves affected by fungal disease called brown spot should not be cured alongside unaffected leaves. This is so because, the barn conditions encourage growth of the fungi such that when cured at the same temperature as normal leaf the affected area will emerge larger after curing. To avoid this affected leaves are subjected to higher yellowing temperatures as well as early and rapid leaf drying to halt the spread of the fungi.
- **Barn scald:** This problem results from improper loading of the barn which then impedes effective ventilation. This causes humidity to increase such that at temperatures just above 43⁰C the leaves begin to scald. This yield dark chocolate coloured patches. On the other hand scalding can occur in properly loaded barns if killing heat is applied before completely drying, resulting in green scalding around tips of the leaves.
- **Sponging:** Often occurs when good quality leaves are cured at temperatures lower than recommended and high humidity. In this case the leaf moisture is not removed fats enough such that the colour breakdown from green to the expected yellow is hampered. Instead the due to slow processing the colour change surpasses the desired yellow and proceeds to a grey-brownish appeal. Adequate ventilation and raising temperature between 43-62 ⁰C can prevent sponging.

In order to avoid all these problems, it is advisable to stick to the recommended temperature and humidity regimes. Farmers should also be wary of how they load their barns with the view of avoiding overloading or arranging the tobacco in a ways that might hinder the circulation of air around the barn. In all these procedures, close monitoring and paying attention to details remains key. Hoping to see your good quality produce at the auction floors.

For all questions and comments: philemonburuzi@gmail.com. Responses will be provided within the shortest possible time.