

Hay Moisture And How To Measure It

FAYETTEVILLE, ARK.

Making good hay is not a guessing game – especially where moisture levels are concerned, said Dirk Philipp, assistant professor for the University of Arkansas System Division of Agriculture.

Hay making is challenging in the South, where rain can be abundant in the spring and early summer, and that means “producers have to deal with sometimes narrow windows for curing and baling hay,” he said.

The irony of overly wet hay is its tendency to heat to the point of combustion, thanks to microorganisms in the hay that are made active by too much moisture. The optimum moisture levels for round bales is 15 percent and for square bales 18 percent.

However, “there’s no easy method to accurately measure moisture, but a few methods are worth learning and practicing to consistently produce high-quality hay,” Philipp said.

The first is microwave drying. Start by collecting samples across the fields from different windrows, or areas of the field custom baling. “Moisture levels will differ if the hay was close to wooded areas, or by elevation, and exposure to wind,” he said.

Using a food scale, place about four ounces of hay in the microwave, recording the exact weight. Then dry the sample, one minute at a

time, until no further change in weight is detected. Record the end weight and calculate percentage moisture by subtracting the after-microwave weight from the before-microwave weight and divide it by the before-microwave weight and multiply by 100.

“This will take about 15 minutes with just about any microwave and food scale,” he said. “This is the most accurate method for producers.”

There are moisture meters on the market, but Philipp said their readings can vary by 5 percent or more; they require high hay density around contacts which may make windrow measuring difficult and require calibration which may only work in certain ranges.

“Don’t count them out, however,” Philipp said. “I met a very successful custom hay baler in Texas who relies on a hand-held moisture meter and who is obviously able to consistently put up high quality hay at optimum moisture levels.”

The bottom line for producing high-quality consistent hay is that “producers shouldn’t just guess what moisture is,” he said. “The only accurate and reliable method for determining hay moisture is to dry the forage down and measure dry matter percentage.

“Although many claim that they know what hay moisture is by ‘feeling’ the hay, this can be very deceiving,” Philipp said. Δ