

## Knowledge, patience and experience the cure for quality hay

Properly curing hay is critical for high quality hay that is not likely to combust. We have asked experienced AFIA members how they test that their hay is cured and summarised their responses below. However, always remember that no one method is 100% accurate, that moisture can vary with the day and the paddock and that continual monitoring is critical.

### Cereals

#### Paddock inspection

It is always best to check your windrows in the early afternoon prior to the baling before the night air comes in. Particular attention should be taken to inspect all parts of the windrow especially underneath, on the ground, on corners and headlands, and anywhere a tractor wheel may have run over them.



#### The bullbar test

As basic as it might seem, our contractors suggest taking a cereal hay sample that contains a head or a node, placing it on a flat surface (such as a bull bar) and hitting the head and or the node with a hammer. If this leaves moisture on the surface or the hammer, then the sample is not ready for baling. This is not fail-safe method, particularly for drought-stressed crops that might need another day or so of curing after they have passed the bull bar test. Our contractors also suggest opening the head to inspect for moisture.



#### The cereal hay node test

In a normal year, the node is the last part of the plant to cure.

To check if the nodes are fully cured take a plant sample with an intact node, place the centre of the node against the tip of your thumbnail with the stem sideways and bend the stem over the thumbnail.



If the stem splits cleanly in half on both sides your sample is cured – a fully cured stem will snap cleanly in half through the middle of the node. If the stem only half splits, that is, splits on the outside of the bend but not the inside, and is green on the inside the sample is not cured. If the sample just bends without splitting it is even further from being cured.



#### Head emergence

Drought stressed plants are often cut for baling before the head of the plant has emerged. The head of the plant can contain more moisture than the remainder of the plant and should also be tested before baling.

If the head of the plant is still inside the flag leaf, break open the stem to inspect it for moisture. The bullbar test can also be useful to assist in testing the head for excess moisture.



## Lucerne, vetch and clover hay

Making lucerne, vetch and clover hay needs two new techniques to see if the hay is cured.

### Thumbnail test for legumes

Take a sample of the cut hay. Scrape your thumbnail along the stem of the sampled plant. If a strip of the stem, or the colour, peels off the plant is not cured. If the thumbnail does not scratch the stem, the sample plant is cured and should be ready for baling.

Peeling the stem with your thumbnail is a good indicator of moisture. The plant is still too green to bale if the outer layer of the stem will peel off as shown



### The crank test for legumes

Pick a handful of the cut hay - about two inches (50mm) in diameter. Roll the sample lengthways until it forms a bunch - like a rolled newspaper. Grab the roll in both hands (like you would hold bike handlebars) with a gap of about a hand width between your thumbs. Then move your hands as if you were peddling a bike with your hands.



If, after one or two turns, the roll does not break completely in two then the sample is not cured. The sample should also sound dry when handled.

If you can't get the stem to peel get a handful of windrow as in the first picture and crank it like a bicycle pedal, if fully cured will break cleanly in one or two turns. If they hold together or need several turns to break it is not fully cured or ready to bale. If they break cleanly then it should be ready to bale that night as soon as the

night air softens the leaf up so it won't shatter. Use an electronic moisture meter to monitor dew moisture during.

### Moisture meters

Contractors use electronic moisture meters differently, but they do use them. The best results seem to come from monitoring the moisture of the crop once baling has started. In-baler meters tend to be used as a guide to relative, not absolute moisture. For example, if the in-baler meter shows an increase in moisture since beginning the job, the contractor will re test the hay - using the techniques above and / or a moisture probe - to determine whether the moisture level has actually increased since beginning the job.

One contractor says the biggest problem with in-baler moisture meters is that they will not pick up the last 5-10% of moisture in cereal hay if it is still in the node or head of the plant. Physical inspection needs to be carried out to check for this prior to baling using the methods outlined previously. Some contractors suggest that if you know the hay is 100% cured you can bale with confidence using the in-baler meters to monitor dew moisture while baling.

### Microwave oven test

Another process for testing for moisture in fodder is the microwave oven test. This involves taking a sample of the fodder, removing all moisture by heating it in the microwave and calculating the moisture percentage based on the oven-dried weight. A more detailed explanation of the microwave oven testing process can be found at [www.afia.org.au/information/technical\\_notes/](http://www.afia.org.au/information/technical_notes/).

### Testing in storage

Even taking all possible precautions during the baling process will not guarantee hay moistures will be low. Once hay has been baled and put in storage it should be tested for moisture over consecutive days to ensure stack temperatures are not increasing.

### Knowledge, patience and experience

Contractors say each season, region, paddock, crop is different. No method is fail-safe; a good contractor will use a multiple tests and continually monitor the crop through baling, stopping when moisture levels exceed their targets. Always remember that the level of curing and moisture can vary within a paddock and during the day.

**For more information on making quality hay, contact AFIA:**  
**phone 03 9530 2199**  
**email [info@afia.org.au](mailto:info@afia.org.au) or**  
**visit the website [www.afia.org.au](http://www.afia.org.au)**