

Improving the nutritive value of hay and straw

A simple water-based fortifying mixture of urea, sulphate of ammonia, and molasses can help to improve the palatability and feed value of round-baled hay or straw. Research has shown that molasses, containing sugars and minerals, is an important ingredient, since it stimulates the animal's appetite and digestive processes.

Making the mixture

For each 1,000 kg hay, mix:

- 16 kg urea
- 4 kg sulphate of ammonia
- 70 L molasses
- 50 L water

Procedure

(Note: Freshly made bales should not be treated until at least three to four weeks after baling, to give them time to settle.)

1. Make a hollow spear from aluminium piping; pierce six holes at its pointed end.
2. Fully insert the spear into each round bale of crop-stubble or mature-pasture hay.
3. Using a small fire-fighting unit or jetting rig adjusted to deliver 25 L of solution per minute, pump the liquid through the spear. This allows the operator 1 to 2 minutes to administer the solution.
4. As the pressurised solution squirts from the holes and runs around the internal layers of the bales, slowly withdraw the spear.
5. A fast-acting, on-off trigger allows you to reposition the spear without wasting any of the solution.
6. For uniform distribution in a 500 kg round bale, an average of 25 evenly spaced injection sites are needed (see figure 1). Good distribution of the mixture through the hay usually takes about 1 week, depending on the coarseness of the hay and the density of the bale.

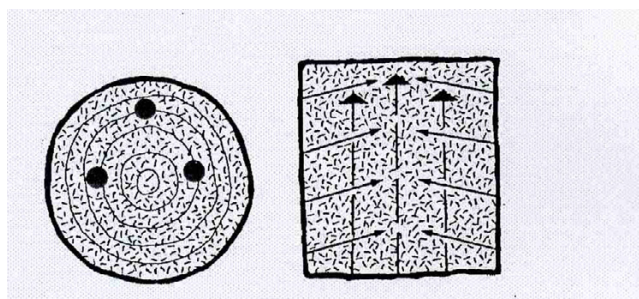


Figure 1 Injecting the supplement into a round bale lying on its side

(Adapted from Stephensen, RGA *et al* 'Pasture hay production in western Queensland' *Queensland Agricultural Journal* 114 (3) pp 175-78)

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