# ALKALI TREATED RICE STRAW AS A ROUGHAGE FOR DAIRY CATTLE

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Rice straw, the largest annually harvested agricultural by-product in Sri Lanka, is little used as an animal feed because of its low nutritive value. But treatment with 4% (w/w (NaOH can increase its feeding value to be equivalent to a medium quality hay (Jayasuriya, 1979) making it a suitable source of roughage for low producing dairy cattle.

As this technique has not been applied on a large scale in any ruminant enterprise in Sri Lanka, the present feeding trial was undertaken to demonstrate its usefulness and practicability in a farm situation.

Thirty six Fresian cows in their mid lactation from the NLDB farm at Haragama yielding an average of 9 kg milk/animal/day were used in the feeding trial. Thirty two of them were offered **ad libitum** untreated or treated straw (variety H4) chopped into 20–50 mm lengths as the only source of roughage. Rice straw was treated with NaOH solution (40 g NaOH dissolved in 1.5 litres of water per kg of straw) by sprinkling using a garden watering can and ensuring uniform mixing. Straw was supplemented with a high protein (25% crude protein in dry matter) concentrate ration containing 0 or 20% STL (spent tea leaf) at the rate of 5 kg/animal/day/, fed twice daily in equal amounts at the time of milking. Four of the cows were given the farm ration for comparison purposes.

Alkali treatment significantly increased the milk yield compared to untreated control. The average milk yield per animal per day over the 93 day experimental period was 7.38 kg for the alkali treated group compared to 5.853 for the untreated group. The average production of the farm animals were 6.95 kg/animal/day. Total yield of butter fat over the experimental period was also significantly higher for the treated group compared to the control.

Although economically it may not be to the best advantage to feed NaOH treated rice straw to dairy cattle as a regular source of roughage it may have a significant impact as a useful source of replacement for grass or silage during periods of fodder shortage especially for low producing animals.

**Refereuce:**

1. Jayasuriya, M. C. N. (1979) Trop. Agric. (Trinidad). **56**, 75.