

Influence of three types of treated straw on intake and growth rate in beef cattle

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In a recent experiment with beef cattle, three types of straw were used : a 5 % urea treated wheat straw (AS), an untreated wheat straw (US), and a microbe-fermented wheat straw (MS). Thirty head of Simmental-Chinese Yellow cross beef cattle, approximately 12 months old and weighing 200 kg, were randomly allocated to the 3 treatments and received one of the three straws as basal diet. A daily supplement of 2.5 kg concentrate, consisting of 40 % cottonseed cake, 40 % corn and 20 % wheat bran was added. The main trial lasted 60 days to assess intake, live-weight gains and food efficiency, and a subsidiary trial was performed to measure *in vivo* apparent digestibility.

The live-weight gains of beef cattle were : 1.19 kg/d for the AS basal diet, 0.66 kg/d for the US diet, and 1.16 kg/d for the MS diet.

Differences in intake and performance between cattle given the straws closely reflected differences in degradation characteristics determined by *in sacco* measurements (Ørskov and McDonald, 1979). The *in vivo* apparent digestibility of straws were 0.544 (AS), 0.479 (US) and 0.551 (MS).

It is concluded that both urea and microbe treated straw can be incorporated and utilized in diets for fattening beef cattle. Therefore, we should attach importance to this new microbe-fermentation method (Zhang Weixian, 1984), and study it in depth.

| Straw treatment | AS | US | MS |
|--|-------|-------|-------|
| Concentrate (kg/d) | 2.5 | 2.5 | 2.5 |
| Straw intake (kg DM/d) | 6.97 | 6.26 | 7.12 |
| Dry matter digestibility coefficient | 0.671 | 0.624 | 0.692 |
| Live-weight gain (kg/d) | 1.19 | 0.66 | 1.16 |
| Food efficiency (kg gain per 100 kg food DM) | 12.6 | 7.5 | 12.1 |