



Exposing Animals to Grain with Mom Improves Intake of Grain at Weaning and Feedlot Performance

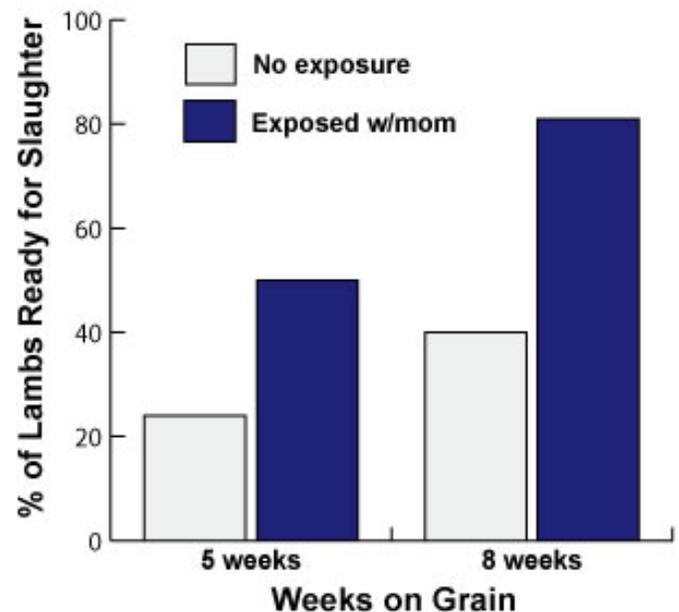
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Livestock performance in feedlots is often poor during the first few weeks after animals enter the feedlot. Sudden changes in diet and poor intake of new foods likely contribute to poor performance. Exposing young animals with their mothers to feeds they will likely encounter in the feedlot: 1) encourages intake of high grain rations, 2) enables animals to finish more quickly, 3) may cause changes in animals' bodies to use grains more efficiently, and 4) likely reduces stress and illness. In one study, lambs exposed to barley and protein pellets early in life with their mothers reached slaughter weight faster than lambs (Ortega-Reyes et al., 1992) with no exposure to grain (Figure 1).

Based on a number of studies, listed below are some things to consider when exposing young animals to concentrates (foods high in energy and/or protein and low in fiber).

1. For exposure to be effective, young animals must be able to eat the food with their mothers. Just watching mom eat the food is not effective. Young animals can learn to eat food with any other member of the herd, but they eat twice as much at weaning if they eat with their mothers (Thorhallsdottir et al., 1990). Provide enough space so that offspring can eat as much of the food as possible. Young animals are often pushed away from food by older, larger animals.



2. Creep feeding is not as effective as allowing young animals to eat with their mothers. Often creep is ignored. In one study, lambs exposed to grain for 5 days with their mothers ate seven times more grain than lambs with 8 weeks exposure to grain without their mothers (Lynch et al., 1983).

3. If animals are exposed in troughs, make sure mother and young are familiar with troughs. Feeding novel foods in familiar troughs increases acceptance of new foods (Chapple et al., 1987).

4. If ample trough space is not available, trailing grain across a clean pasture is an effective method for exposing young animals with their mothers to most concentrates (Lynch and Bell, 1987).

5. Expose animals for at least 3 to 4 days. Research shows that exposures longer than 8 days provide no additional benefit as far as encouraging young animals to eat new foods (Ortega-Reyes et al., 1992).

6. Animals should be at least 4 weeks old at the time of exposure to concentrates, but data suggest that exposing animals just before weaning is also effective. The key is making certain that young animals eat the new food with their mothers (Chapple and Lynch., 1986, Lynch and Bell, 1987).

7. For sheep or goats, just a quarter of a pound of grain per adult animal per day improved intake of grain by lambs later in life (Lynch and Bell, 1987). I am not aware of any work conducted with cattle, but a pound of grain per adult animal per day should be sufficient.

8. Animals should be exposed to foods they will encounter in the feedlot. If the foods they will encounter are unknown, familiarizing animals with any grain will increase the likelihood they will eat another grain (Mottershead et al., 1985).

9. Exposing young animals to water in a tank or automatic waterers and to feed bunks with their mothers will increase acceptance of waterers and feeders by young animals at weaning, resulting in less stress and illness.

10. Exposing young animals to grain can change the structure of the rumen. Six-week-old lambs were exposed to whole barley and a protein-mineral pellet for 8 days with their mothers. At 4 months of age, these lambs had ruminal papillae with 38% more surface area than lambs not exposed to the concentrates (Figure 2). The differences lasted for 3 weeks. Increased surface area of ruminal papillae increases the efficiency of nutrients absorbed through the rumen wall (Ortega-Reyes et al., 1992).

10. Exposing animals to grain early in life will not prevent the likelihood of animals suffering from grain acidosis when offered grain later in the feedlot. In fact, animals are more likely to have problems



Figure 2. Rumens from lambs exposed to grain early in life (top) or no exposure (bottom).

with acidosis because they will eat grain readily even if their rumens are not ready to accommodate large quantities of concentrates (Ortega-Reyes et al., 1992). Animals will regulate intake of grain provided they are offered both concentrates and roughage and their rumens have time to adjust to large quantities of grain. Suggestions for preparing animal with experience eating grain to eat grain free choice are as follows: 1) If ample trough space is available, limit grain to the amount animals will eat in about 15 minutes then increase the amount of grain offered by 10% each day until animals have grain available at all times; 2) If ample trough space is not available, mix concentrates with chopped roughage so that animals will not over ingest

concentrates. Gradually reduce the amount of roughage about 10% per day until animals only have grain available in the feeder. Watch animals for scouring and decrease the amount of grain offered if necessary.

Summary

Exposing young animals to grain they will be expected to eat later in the feedlot will greatly improve intake of grain. Learning to eat grain with their mother rather than another member of the herd is most efficient. Offering grain (creep feeding) separate from mom is not as effective as allowing youngsters to eat with mom. Young animals should be at least 4 weeks of age when exposed to grain. Exposure to grain with mom doesn't have to be long, 3 or 4 days for 10 to 15 minutes should be sufficient. Animals familiar with grain should be introduced slowly to grain to avoid acidosis.

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