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Pelleting Turkey Diets

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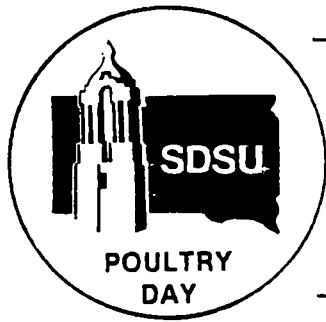*South Dakota State University*

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The pelleting process for feed production consists of compressing feed into pellets suitable for the particular animal involved. Feed is forced through small holes in a round die, utilizing steam. Some feedstuffs are more conducive to producing good pellets than others, e.q. wheat, probably because of its gluten, usually improves pellet quality, whereas, oats is difficult to pellet. The addition of fat may allow for increased quality and yield up to a point, but beyond 4-5% fat causes the pellets to be quite unstable and they break apart easily in handling.

The growth and feed utilization of turkeys can frequently be enhanced by pelleting. The responses are usually quite limited on high energy corn-soy type diets but with high fiber diets, marked improvements can be obtained. With this concern, a series of studies have been conducted with growing turkeys to evaluate the pelleting process (Poultry 83-4, 84-11).

The previous studies have involved use of wheat bran or sunflower meal, both of which are high in fiber, to enhance the pelleting response. Pelleting a corn-soy series of diets of the type used by Guenthner et al. (1978) did not improve growth, whereas, feed conversion was only slightly enhanced. But by adding 20% wheat bran, the growth responses were enhanced 7% even with poor pellets and 11% with firm pellets. Feed conversions were improved by 3 and 6%, respectively. When a corn-sunflower diet was used, growth and feed conversions were enhanced 3% by pelleting.

Much earlier (Carlson, et al. 1962) we had shown turkeys on pelleted diets containing oats to perform as well as these on corn. Therefore, it was logical to ascertain what the pelleting of an oats-containing diet would do and also to consider the addition of a similar amount of fiber from corn cobs. The results are shown in Table 1.

Surprisingly, oats alone appeared to enhance performance - this further demonstrates the ability of the turkey to tolerate fiber. Only the firm pellet appeared to improve growth performance (1%, not significant), however, feed conversion was

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enhanced by 6%. Another surprise was that the corn cob dilution effect did not reduce growth performance. Again pelleting enhanced feed conversion by 8%.

In conclusion, pelleting of turkey feeds would therefore not be recommended for corn-soy diets. Where high fiber ingredients are included, such as wheat by-products or sunflower meals, pelleting may allow for performance equal to or superior to that obtained with high energy corn diets. This could permit the use of many lower quality ingredients in turkey feed.

Table 1. Pelleting High Fiber Diets

Treatment	8 wk	20 wk	Feed/Gain
	Wt. – Kg		
Corn-Soy	3.33	12.52	3.2
Oats, 30%	3.43	12.87	3.4
Firm Pellet, 30%	3.59	13.01	3.2
Poor Pellet, 30%	3.46	12.86	3.2
Corn Cobs, 18%	3.20	12.54	3.6
Firm Pellet, 18%	3.49	13.12	3.3