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Pine Sawdust as a Roughage Replacement in Feeder Cattle Diets

A. L. Slyter and L. D. Kamstra

Eight lots, five or six heifers each, (42 heifers total) were fed one of four diets for 119 days to study the effect of sawdust inclusion in a growing diet on the performance of feeder calves. The diets were alfalfa-concentrate, sawdust-concentrate, corn silage and sawdust silage. (See table 1 for specific diet composition). Trace mineral salt and dicalcium phosphate were fed free choice and vitamin A was supplemented to provide a calculated 10,000 to 12,000 I.U. per head per day. Brome-alfalfa loose hay was provided for the first week during adaptation to the experimental diets.

Average daily gains are shown in table 2. A marked decrease in consumption of the sawdust-concentrate diet was noted preceding the March 16, 1971, weigh date and was accompanied by negative weight gains (figure 1) for heifers on this diet during this particular period. During this period sawdust was obtained from a different source at the mill and as a result was finer in particle size and lower in moisture, thereby increasing the actual dry matter from sawdust in the diet. A return to the original sawdust source resulted in a return to normal consumption and greatly improved average daily gains for this ration following this period as shown in figure 1. Heifers fed sawdust-corn silage were the most efficient (table 2) in dry matter utilization followed by those fed alfalfa-concentrate or corn silage.

These results indicate possible use of sawdust as a partial roughage replacement in growing diets for calves. Additional studies are needed to determine optimum levels, particle size and types of diets for best use of pine sawdust as a feedstuff.

Table 1. Percentage Composition of Diets

	Diet			
	Alfalfa-concentrate	Sawdust-concentrate ^a	Corn silage	Sawdust-corn silage ^b
Ground corn	75.0	67.0	--	--
Ground alfalfa hay	20.0	--	--	--
SBOM	5.0	13.0	4.8	6.7
Sawdust	--	20.0	--	23.3
Corn silage	--	--	95.2	70.0
Avg. percent moisture	15.0	20.6	59.2	63.2
Avg. percent crude protein (dry basis)	13.5	14.9	11.0	12.6

^a Sawdust, as received, was mixed with each 1,000 lb. batch of feed as fed.

^b Sawdust, 65 percent moisture, was mixed with corn silage at the time of ensiling.

Table 2. Pine Sawdust as a Roughage Replacement in Feeder Cattle Diets

	Diet			
	Alfalfa-concentrate	Sawdust-concentrate ^a	Corn silage	Sawdust-corn silage
Number of heifers	10	10	11	11
Initial shrunk wt., lb.	466.5	468.5	465.9	470.9
Final shrunk wt., lb.	658.0	578.0	610.2	594.7
Avg. daily gain, lb.	1.65	0.92	1.21	1.04
Avg. daily feed, lb.	13.85	11.58	21.45	19.37
Feed/cwt. gain, lb.				
As fed basis	840	1287	1779	1862
Dry basis	714	1022	726	685

^a Sawdust supplied courtesy of Homestake Sawmill, Spearfish, South Dakota.

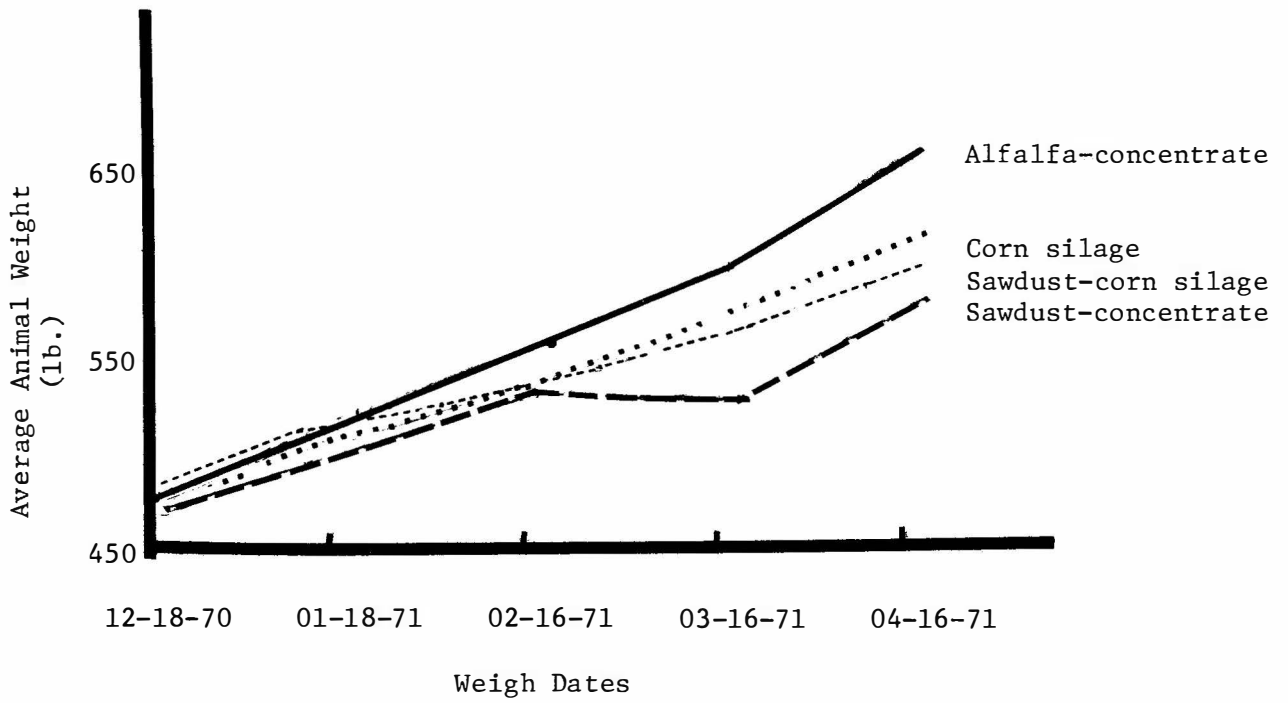


Figure 1. Average weights during feeding period.