Feeding Intervals in Range Supplementation of Pregnant Ewes

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Pregnant ewes grazing winter range forage gained more—and did so without adverse effects—when supplemented once weekly as compared with five times weekly, in tests at Hopland Field Station. Birth weights of lambs were not affected by the supplementation.

SUPPLEMENTING LIVESTOCK with harvested feeds when range forage is low in quantity or quality is commonly practiced to increase productivity. Daily supplementation is most commonly used, although labor cost often amounts to as much as the feed itself. Self-feeding, using salt as an appetite regulator, has been used successfully in reducing labor costs and increasing productivity. However, the use of salt to regulate intake is difficult when low-cost supplements, such as hay, are being fed. Cost of salt as well as mixing costs are also a consideration.

Weanling ewe lambs have been supplemented once, twice, and five times weekly with little difference in results. In the winter of 1961 a preliminary test was conducted comparing once to five times weekly supplementation of ewes before and after lambing. As no serious difficulties were encountered when ewes were fed 14 pounds of alfalfa pellets once weekly, a more carefully controlled trial was conducted in the winter of 1962 and is reported here.

Procedure

Eighty-four ewes were assigned to three groups on December 18, 1962. Group I received no supplemental feed. Group II was fed the entire week's ration, seven pounds of alfalfa pellets per head per week on Monday. The supplement not consumed the first day was left to be eaten as the week progressed. Group III received one pound of alfalfa pellets per day but was fed five times per week—one pound each on Tuesdays, Wednesdays, and Thursdays; two pounds each on Mondays and Fridays.

All ewes grazed the same pasture. Late each afternoon they were brought to the barn, separated into the three groups, and fed their assigned ration. They were left in the barn overnight and turned out to graze at 8 a.m. The ewes were weighed weekly at 8 a.m. They were removed from the experiment as they lambed. The ewes started to lamb January 1, and all had lambed by January 25. Lamb birth weights were recorded.

Results

Supplementing once weekly caused no physiological disorders in the ewes and no abnormalities were recorded in any group.

When the ewes were fed the entire week's ration at one time, the feed was completely consumed in two to three days. With this feeding program even the most timid ewes had an opportunity to eat, whereas, with the ewes supplemented daily, the weak, timid ewes stood back and did not try to eat.

The native range grazed by all of the ewes provided a mixture of "old" and "new" feed. A germinating rain occurred in October to stimulate a considerable growth of new grass. The graph shows the accumulated gain for each group of ewes by date.

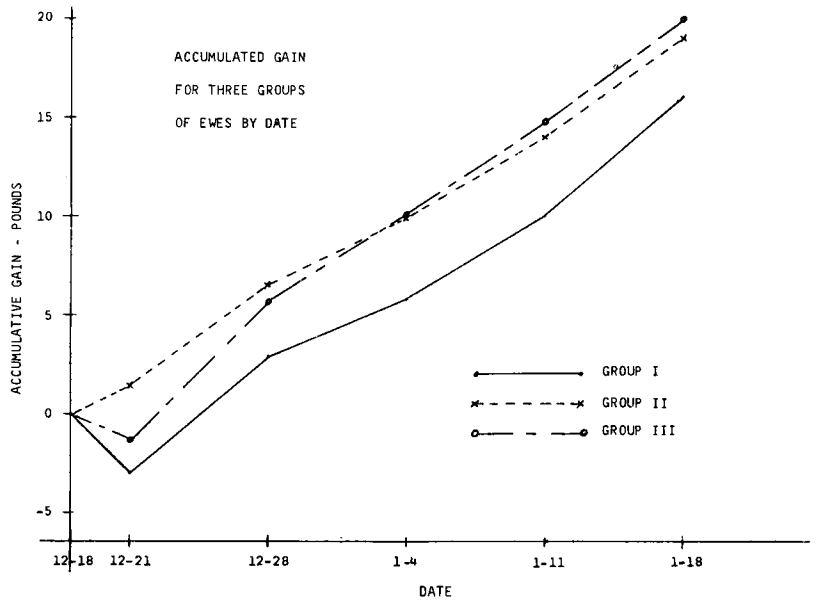
Weight gains

The control group lost more weight during the first three days of the experiment than did the two supplemented groups. After the first three days all groups gained at the same rate except, as noted in table 1, from December 21 to December 28, and again from December 28 to January 4 when Group III gained significantly more. If the loss during the first three days in the control

TABLE 1, EWE GAINS BY PERIODS

Date	Group		
	I	II	III
12-18 to 12-21	-3.0^{1}	1.4^{2}	-1.3^{3}
12-21 to 12-28	5.7^{1}	5.3^{1}	7.0^{2}
12-28 to 1-4	2.6^{1}	$3.3^{1/2}$	4.2^{2}
1-4 to 1-11	4.6^{1}	4.1^{1}	4.5^{1}
1-11 to 1-18	5.6^{1}	4.7^{1}	5.5^{1}

$^{1, 2, 3}$ values differ significantly ($P < .05$) while similar numbers in group comparisons indicate no significant difference.



group had been only shrink, the weight difference should have been compensated later in the experiment but this did not happen.

It is assumed that once-a-week feeding allows the timid ewes an equal opportunity to consume the supplement, thus a more uniform gain; however, the standard deviations of the gain during the three-day period are nearly the same in all groups. Even though the gains in the once-per-week supplementation group were no more uniform than the other groups, this group did not experience the loss of weight shown by the other groups.

Since the ewes lambed over a three-week period, the gains may be correlated with the stage of gestation. Table 2 gives the ewe gain by weeks (1, 2, 3 and 4) before lambing.

TABLE 2, PRE-LAMBING EWE GAINS PER WEEK

Weeks pre-lambing	Group I	Group II	Group III
1	4.7[1/2]	3.6[2]	5.3[1]
2	4.7[1]	4.6[1]	4.4[1]
3	2.8[2]	4.0[1/2]	5.5[1]
4	4.1[1]	3.5[1]	2.6[1]

[1,2] values differ significantly ($P < .05$) by weeks

During the week before lambing, Group III gained significantly more than did Group II and during the third week pre-lambing, Group III gained significantly more than did the control Group I. Otherwise, the gains were nearly the same for the other weeks and groups.

Lamb birth weights were not affected by supplementation, as shown in table 3.

TABLE 3, LAMB BIRTH WEIGHTS

	Singles lb	Twins lb
Group I	11.8	9.8
Group II	12.0	9.5
Group III	11.3	9.9

No pregnancy paralysis or ketosis was observed whether or not the ewes were receiving supplemental feed. Under more severe conditions when range feed is in critically short supply, weekly feeding of supplements might cause such trouble. These results only apply when reasonable amounts of range feed are available to pregnant ewes. Ewes will consume seven pounds of pellets per head per week in two to three days, which gives opportunity for all ewes to eat some of the supplement.

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Applications of nontoxic sorptive dusts during construction of houses or oth buildings appear to offer a high degree of protection from infestations of coc roaches and other household pests, according to tests during the past six years two large housing developments, as well as in the laboratory at University California, Los Angeles. Excellent results were obtained with applications of silica aerogel (Dri-Die 67) in the walls of houses during construction. To suppl ment this protection for either new or old construction, the additional procedure blowing the same desiccating dust into voids under and behind cabinets, built- kitchen appliances, shelving, bookcases, and similar structures was also found be very effective. Insects are controlled as long as the dust layer remains dr

"BUILT-IN" PEST CO
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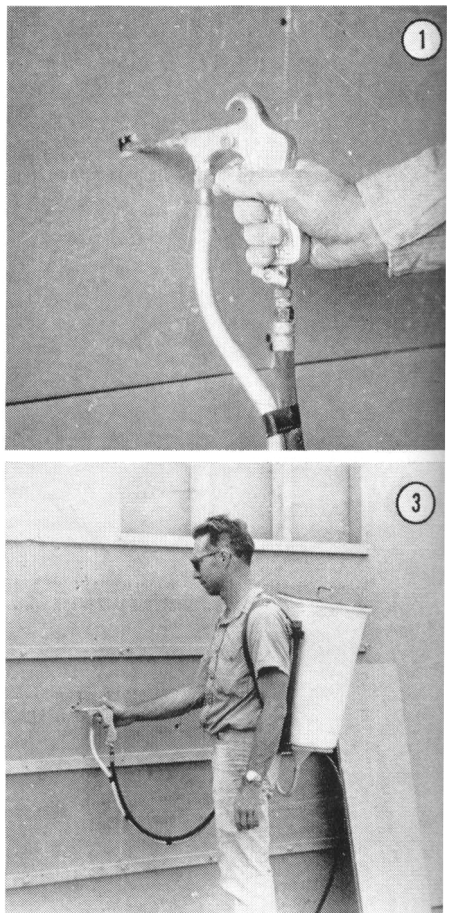
A COMPLETE PROGRAM of "built-in" pest control involves first the treatment of the soil for the prevention of infestation by subterranean termites. Since the soil is treated around the periphery of the foundation, ant control is often obtained as a secondary benefit for both slab and joist-type construction. Also, many years of control is possible for pests originating beneath buildings of joist-type construction. Soil treatment is now a standardized method along with attic dusting with sorptive dust for the prevention of drywood termites. Over 40,000 attics have already been dusted for this purpose in California. Information reported here details some problems met in dusting during building construction—both with wood-frame and concrete buildings.

The project involved was the Ventura Town House, a complex of a seven-story concrete and ten one-story wood-frame apartment buildings for senior citizens. The construction involved only "dry wall" both in the concrete and the wood-frame buildings. In the wood-frame buildings, the sheets of dry wall were joined on either a horizontal or vertical line. Holes were drilled for injection of dust only along these lines, because they could then be taped over. Where the sheets were joined horizontally, a hole was made along this juncture, between every two studs. Each interstud void was then dusted separately, using a one-second blast (3 grams) per hole.



Equipment and technique used in "built-in pe during construction of a building: (1) "Blasto" of silica aerogel dust (Dri-Die 67) as it comes fr bly applying dust in a void below the fire blo board; (4) dead (from desiccation) Oriental co