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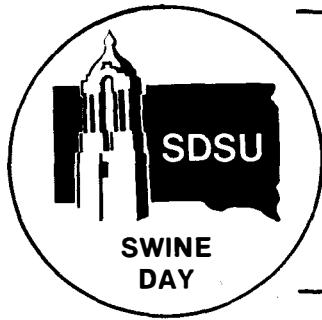
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## EFFECT OF INTERVAL FEEDING ON THE REPRODUCTIVE PERFORMANCE OF SOWS AND GILTS

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Interval feeding (allowing ad libitum periodic consumption of feed) has been suggested as an alternative to daily feeding of sows during gestation. Less labor is involved and less equipment cost per sow is needed since, with planning, several groups of sows can be fed from the same feeders. The study reported herein was designed to evaluate the reproductive performance and the efficiency of feed utilization when sows were allowed feed three times a week during 4-hour feeding periods.

### Experimental Procedures

Two trials were conducted with a total of 43 sows and gilts farrowing during the fall of 1977 and the spring of 1978. The sows and gilts were each divided into two groups by ancestry and weight. The experimental treatments were:

1. Control - 4 lb. of feed per sow per day
2. Interval fed - allowed free access to a self-feeder 4 hours 3 days a week.

The gestation diet is shown in table 1. It contained 12.6% protein and .91 and .70% calcium and phosphorus, respectively.

The sows which were fed daily were given feed in individual feeding stalls to control consumption. The sows which were interval fed were allowed access to the feeders for 4 hours on Monday, Wednesday and Friday.

Data collected were sow weights at the beginning, 110 days gestation and beginning and end of lactation, feed consumption during gestation and lactation and pig weights and numbers at birth and at 3 weeks.

### Results and Discussion

The results of the combined trials are shown in table 2. Forty-three sows and gilts were farrowed. Gestation gains were greater for those sows fed daily even though they consumed considerably less feed on a daily basis. The gains achieved on the interval feeding system were adequate for both sows and gilts. However, on the average, daily feed consumption was 35 to 45% higher with the interval feeding system. Number of live pigs born was slightly higher for sows and lower for gilts on the interval feeding system. Average birth weight was similar among all groups ranging from 2.9 to 3.1 pounds.

Number of pigs weaned followed the same pattern as number of live pigs born. For both sows and gilts, average pig weaning weight favored the sows from the daily fed gestation group.

During lactation, total feed consumption was slightly higher for those sows fed by the interval feeding system during gestation.

It would appear that more feed is required for the sow during gestation when interval fed. Gains were less when sows were fed by this system and would be even lower if time at the feeder was limited to control intake to an average of 4 lb. per day. However, reproductive performance was very satisfactory when interval feeding sows and gilts.

#### Summary

Forty-three sows and gilts were allotted to treatments of 4 lb. of feed per day or access to a self-feeder for 4 hours on Monday, Wednesday and Friday. More feed was consumed by both sows and gilts which were interval fed and lower gestation gains were realized. Slightly higher sow lactation gains were obtained from the interval fed sow group. Number of live pigs born and pigs weaned was slightly higher for sows and lower for gilts on the interval feeding system.

Table 1. Composition of Gestation Diet

| Ingredient                     | Percent of diet |
|--------------------------------|-----------------|
| Ground yellow corn             | 77.6            |
| Alfalfa meal                   | 10.0            |
| Soybean meal (44%)             | 9.0             |
| Dicalcium phosphate            | 2.3             |
| Limestone                      | .5              |
| Trace mineral salt (high zinc) | .5              |
| Vitamin premix                 | .1              |

Table 2. Production Results from Sows and Gilts Fed  
4 Pounds of Feed Per Day or Interval Fed

|  | Sows             |                 | Gilts            |                 |
|--|------------------|-----------------|------------------|-----------------|
|  | 4 lb.<br>per day | Interval<br>fed | 4 lb.<br>per day | Interval<br>fed |
| No. of sows                              | 12               | 16              | 7                | 8               |
| Gestation gain, lb.                      | 105              | 95              | 124              | 82              |
| No. live pigs born                       | 9.5              | 10.2            | 9.3              | 7.7             |
| No. stillborn pigs                       | 1.9              | 1.0             | .8               | .5              |
| Litter birth wt., lb.                    | 28.6             | 28.6            | 28.8             | 22.2            |
| Avg pig birth wt., lb.                   | 3.1              | 2.9             | 3.1              | 2.9             |
| No. pigs weaned                          | 6.5              | 7.1             | 6.8              | 6.0             |
| Litter weaning wt., lb.                  | 74.4             | 79.0            | 86.7             | 62.9            |
| Avg pig weaning wt., lb.                 | 11.7             | 11.0            | 12.3             | 10.3            |
| Daily gestation feed<br>consumption, lb. | 4.0              | 5.8             | 4.0              | 5.4             |
| Sow lactation gain, lb.                  | 18               | 31              | 24               | 16              |
| Lactation feed, 21 days, lb.             | 219              | 232             | 209              | 236             |