

being lactation length. As lactation length increases, the interval from weaning to estrus decreases. The mean lactation length used in the present experiment was 27 days.

Data are now being processed to determine what effects fasting has on ovulation rate, embryonic mortality and number of pigs born alive at the subsequent farrowing. Allrich and Tilton (1978), using preliminary data, have indicated that fasting may be detrimental to the aforementioned factors.

SUMMARY

Ninety-nine Duroc sows were utilized in an experiment to determine the effect of a postweaning fast on the weaned sow's ability to return to cyclic activity. Any degree of fasting (2, 3 or 4 days) increased the interval from weaning to first estrus when compared to the control animals (0 day fast). The control group required an average of 5.2 days to return to estrus after weaning, compared to 6.4, 6.9 and 5.8 days for the 2, 3 and 4 day fasted groups, respectively. These differences were not statistically significant.

From present results, it appears that fasting sows at weaning should not be recommended due to its effect of delaying the return to estrus. Further research needs to be conducted on the feeding level of the sow during the interval from weaning to estrus. It may be that an increased feeding level in this interval would be the most beneficial.

TABLE 1. DAYS TO RETURN TO ESTRUS AFTER WEANING

Fasting Period (Days)	Number of Sows	Days to Return (Mean)
0	28	5.2
2	22	6.4
3	21	6.9
4	28	5.8

References Cited

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NONRESIDENT WATERFOWL HUNTING LEASES

Jay A. Leitch and Donald M. Elliott*

One alternative available to hunters faced with dwindling hunting opportunities is to lease hunting rights from landowners. In 1976, 18 percent of nonresident waterfowl hunters in North Dakota paid for the right to hunt on private land at an average cost of \$26 each.

Most Americans have considered hunting a basic right. Present day conditions often interfere with the freedom of hunters to pursue game as they did in bygone years. Increased population, dwindling wildlife habitat, and pressure by groups opposed to killing wild animals have all brought pressure to bear on the freedom of hunters. One of several alternatives available to hunters

is to lease hunting rights from landowners. In North Dakota this generally implies leasing from farmers who own wetlands or wildlife habitat.

There are several advantages to leasing hunting rights. One advantage to the hunter is that it assures him of a place to hunt. He will not have to spend hunting time trying to get permission to hunt from landowners. Also, the lessee, by virtue of leasing a selected piece of land, expects to have a fairly good chance of hunting success, better than at a place where he could get permission to hunt without paying. Because of this, leasing

*Leitch is research associate and Elliott is graduate research assistant, Department of Agricultural Economics.

may be less expensive, in terms of time and money, than not leasing.

Leasing hunting rights is also advantageous to the landowner. It can provide an additional source of income with very little added expense. This is added income to the farm operation that does not reduce any other revenue from the operation. The lessee may post the area and police it to see that no unauthorized hunters enter. The landowner thus has an individual or group he can hold responsible for any damages as a result of hunting.

Leasing hunting rights can also be beneficial to public agencies charged with maintaining wildlife habitat. It encourages landowners to preserve their habitat to attract hunters, thereby aiding public agencies' responsibilities of habitat preservation.

Information on leasing hunting rights is difficult to collect from hunters. The lease may be for several hunters; or the payment may be in the form of gifts or services, not money. Also, the lease may be for wetland, a field, a goose pit, or the entire farm. The following discussion is presented given these limitations.

Eighteen per cent of the nonresident waterfowl hunters in North Dakota paid for the right to hunt on private land in 1976.¹

Nonresident waterfowl hunters who leased hunting rights in 1976 paid an average of \$26 each for those rights. Hunters generally leased hunting rights as a group, with an average group size of 4.2 hunters. Therefore, the average amount paid for a lease by a group of hunters was \$109. Over 90 per cent of those indicating they had leased paid \$250 or less per group for the lease. The average payment for those groups who paid \$250 or less was \$65, or \$14 per man (4.7 hunters). The average payment for those groups who paid more than \$250 was \$534, or \$98 per man (5.5 hunters). The highest payment reported was \$1,200 by eight hunters for 2,300 acres in Dickey County.

The length of hunting lease varied from one day to the entire season — with a week, half a week, and the season being the most common arrangements (Table 1).

The smallest area leased was 10 acres and the largest was 9,000 acres. However, several hunters reported leasing "goose pits" or "duck passes" without mention of the acreage. Groups of hunters who paid \$250 or less for their lease in 1976 reported leasing an average of 136 acres. Those who paid more than \$250 per group had lease arrangements covering an average of 524 acres.

Over half of the leases for waterfowl hunting rights by nonresidents in 1976 occurred in Dickey, Ramsey, Sargent, and Towner counties (Table 2 and Figure 1). Fifty per cent of the hunting leases over \$250 were in Dickey County, while only 12 per cent of those paying \$250 or less for leases were in Dickey County. Most leasing occurred in counties in the Devils Lake-Rolla area in northeast central North Dakota or in the Oakes area in southeast central North Dakota.

A cross-check of nonresident hunters who had leased in 1976 showed that leases were evenly distributed by home states and occupational group. The proportion of

hunters from each state leasing waterfowl hunting rights was nearly the same. The number leasing from each occupational group was also approximately proportional to the total number in each group. The type of home area — city, town, or rural area — also did not appear to have significant effect on leasing by nonresident hunters.

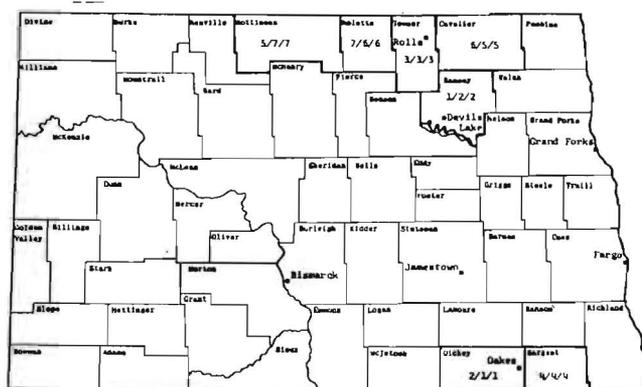
TABLE 1. PERIOD COVERED BY NONRESIDENT HUNTER LEASE AGREEMENTS FOR WATERFOWL HUNTING RIGHTS ON PRIVATE LAND IN NORTH DAKOTA, 1976

Time Covered by Lease	Percent of Leases
One Day	7.9
One-Half Week	31.1
Week	34.8
Two Weeks	1.9
Three Weeks	0.5
Month	0.5
Season	20.5
No Response	2.8
TOTAL	100.0

TABLE 2. NONRESIDENT WATERFOWL HUNTING LEASE AGREEMENTS BY COUNTY, 1976

County	Nonresident Lease Agreements	Leases for \$250 or less	Leases for Over \$250
		Per Group	Per Group
		— Percent —	
Dickey	16	12	50
Ramsey	17	16	17
Sargent	8	8	11
Towner	11	11	*
Bottineau	7	7	*
Cavalier	7	7	*
Rolette	6	6	*
All Others	<u>28</u>	<u>33</u>	<u>22</u>
TOTAL	100	100	100

*Less than 0.5 per cent.



Numbers represent rank of county by number of nonresident waterfowl hunting leases in 1976/1975/1974. Number 1 represents the county with the greatest number of leases, etc.

Figure 1. Counties Where Leasing by Nonresidents Occurred Most Frequently

¹This article is based on the responses of 2,246 nonresident hunters to a mail survey conducted during March, April, and May, 1977.