The cash lease continued as the most commonly used type of lease for farmland in North Dakota, according to respondents to a recent mail survey. A total of 133 farmland brokers, county supervisors of the Farmer's Home Administration, and other knowledgeable reporters in the farmland market provided information on farm leases in their service areas. The information was summarized with averages and frequency distributions prepared for the eight farming areas of the state.

Figure 1 contains the percentage of each of the three major types of leases for the eight farming areas. The cash lease made up about 59 percent of all leases in the state, followed by 36 percent using crop-share leases, while cash-share leases were used in about 5 percent of the cases.

The cash lease was the most common type of lease used in all farming areas except the Northwest. Cash leases were most dominant in the North and South Red River Valley areas, which are known for their speciality crops. The crop-share lease leads in the Northwest farming area but is important across the northern portion of the state. The proportions for 1983 tend to be consistent with results obtained in this survey in recent years.

Figure 2 contains the landlord-tenant division in crop-share leases reported for wheat and barley in 1983. The one-third/two-thirds crop-share lease is the most commonly used share lease among all eight farming areas for wheat and barley. It was the only sharing arrangement reported for the Southwest, Southwest Central, and Northwest Central farming areas. The Southeast Central area reported two other ratios. The two Red River Valley farming areas tend to report a wider mixture of crop-share ratios. Leasing arrangements tend to persist over time in spite of changes in farm costs and returns, often with some adjustments by landlords in costs they share with tenants to encourage certain farming practices, but without changing the basic nature of the one-third/two-thirds lease. The Red River Valley probably has more variations because the higher-valued lands that require higher rents and the several speciality crops produced there.

The Southeast Central farming area may have more variations in sharing arrangements because of irrigation and corn production in this area. These variations may be under-reported in this mail survey, compared to what would be revealed in personal interviews.

Average Cash Rentals

Figure 3 contains the average cash rentals calculated for hayland, pastureland, and wheat/barley land for 1983 for the eight farming areas. The two Red River Valley farming areas have little pastureland and little is used for hayland, so these figures were not calculated. The figure also includes the range in per acre estimates of the cash rental figures reported by the respondents. The computed averages are not weighted for size of area involved.

The statewide simple average cash rental computed for hayland in 1983 was $12.29 per acre, which compares with $12.62 in 1982 and $10.50 in 1981. Hayland cash rentals in 1983 were up in the Southwest and Southeast Central farming areas, with the increase in the latter area about $3.00 per acre. Little change in the cash rental was observed for the Southwest Central and Northwest Central farming areas.

The pastureland cash rental averaged $8.65 for the state in 1983, which was down from the average of $10.15 reported in 1982 and $9.77 in 1981. One would expect a fairly stable ratio of hayland to pastureland cash rentals over time, but the last two years have not been kind to livestock producers.

The cash rental for wheat and barley cropland for the state averaged $31 in 1983, down $2 from the average of $32.97 in 1982 and $32.30 reported for 1981. The average was up about $2.00 per acre in the Northwest farming area, and up about $1 per acre in the Southwest Central farming area. No real change was noted from 1982 to 1983 in the averages for the Southwest and Northeast Central farming areas.

The cash rental for hayland in the Northwest dropped to its 1981 average, which also is true of wheat land, but pastureland rentals in that area have risen each year since 1981 by comparison. The Northeast Central farming area has reported substantial declines in land values...
the past two years, with hay and pastureland rentals down, but little change has occurred in average wheat/barley cash rents. Rents have been adjusting slowly with fewer high rentals per acre reported. Shifts in types of leases have not occurred but there have been changes in how certain items are shared in the crop-share leases.

State: Cash: 59%, Crop Share: 36%, Cash Share: 5%

Figure 1. Percent of Farmland Leases by Type, 1983.

Figure 2. Percent of Crop-Share Leases Reported for Wheat, 1983.
thus increase yield. Some new plant growth regulators are being used to increase the yield of grass seed by shortening the plant and increasing tillering. Indications are that many plant processes such as photosynthesis, respiration, and partitioning of storage materials might be controlled by plant growth regulators and the plants made more efficient.

Research projects in the Department of Horticulture and Forestry involve increasing the biological efficiency of plants by breeding and selecting superior cultivars of potato, squash, tomato and certain ornamentals. Potatoes are being selected for such attributes as yield, storability, product quality and fresh market acceptance. A new project on tree improvement will develop more adapted and pest resistant woody plants to be used in shelterbelt and ornamental plantings.

Studies on the physiology of the potato in relation to cultural procedures and environmental factors are a major endeavor. The landscape arboretum at Absaraka is a proving grounds for new woody ornamental plants for landscape plantings. Sugarbeet seed germination and establishment is a new project recently initiated as is a project on tissue culture of woody plants. These projects and future projects will emphasize increasing the biological efficiency of plants and the efficiency of production of plant products.