July 25, 1897, lightning caused a fire which destroyed the barn with several horses and a larger portion of the collection of farm tools and conveyances. The total loss was $6,000. A new barn was constructed for the $3,000 received from insurance on the one destroyed.

The season of 1899 was somewhat unfavorable for field experiments at the Northwest Farm, as seeding was delayed until the latter part of May and the first part of June. A heavy hail storm came just before harvest. Successful work was done with clover and with cultivated forage crops. Corn tests were begun. The forestry planting was considerably increased. In 1900, excessive rainfalls and inadequate drainage again feature the reports, interfering with the small grains. Tests in growing fodder corn proved successful; seedling plums fruited; six thousand trees were planted in the nursery; and a poultry plant was successfully started. A cattle barn was authorized by the Legislature in 1901. During these years, considerable work was done in preparing for a complete system of drainage, which it was hoped could be put into operation in 1905.

**DRAINAGE INSTALLATION.**

William Robertson was appointed superintendent of the Northwest Farm in 1904, entering upon his work in 1905. The three years preceding 1905, he reported as having been unusually wet in the Red River Valley. Most of his energy was devoted to the matter of securing suitable drainage for the farm.

In 1903, an appropriation of $5,000 was made by the State Legislature for drainage, and in the following summer the highway and railway ditches which had been opened up were supplemented by 1,285 rods of capstan plow ditch. This ditch extended east and west across the farm, thence northwest through a shallow coulee to Lowell Ditch No. 1. These ditches removed some of the surface water, but were not of sufficient capacity to remove the water quickly at the spring thaws, or after heavy rains. The Legislature of 1905 made an additional appropriation of $4,000 to be used in drainage and experimenting with tile drainage.

**DRAINAGE WORK BEGUN.**

A district survey was made by the Department of Agriculture in the fall of 1895, and a petition was circulated for a county ditch passing the north side of the farm which would also furnish drainage to considerable territory north and east of the farm. In April, 1906, this petition was granted, and Polk County Ditch No. 60 was established. The office of Experiment Stations at Washington, D. C., was invited to co-operate, and John T. Stewart was appointed to supervise the work for the department. Plans were drawn for laying about 50,000 feet of tile and digging of one and one-half miles of open ditch. A portion of the farm was to be supplied with surface drainage for comparison of results. The tiles were laid at different distances apart, and at different depths, and wells were established at different distances from the tiles to determine the effect of tiles upon the water level. Tests were to be made of the alkali content of both the water and the soil at times before and after the drainage was installed, in order to determine the effect of drainage upon this feature. Expense data on the installation was kept.

The seasons of 1906, 1907, and 1908 were given up to the work on ditching and laying tile. Bulletin No. 110 was written describing this work. The year 1908 was one of the driest years on record. Experiments with clover and alfalfa showed favorable results. Five additional varieties of alfalfa were seeded that year, selected as to hardiness and yield.

**NEW ADMINISTRATION.**

Superintendent William Robertson died in January, 1910. He was succeeded by Mr. Selvig. A fuller account of Mr. Robertson's work and services is to be found in the school section of this history. In 1911, the work at the Northwest Station became largely experimental and investigational work was conducted under station specialists in direct charge.