The soils here include several types—the Northern Chernozem, Northern Dark Brown, and Northern Gray Desert. These are deep silt loams developed from loessal material; they have good moisture-retaining properties and are fertile and well suited to wheat. The topography varies from nearly level valley to hilly land. In much of subregion 110, rolling to hilly land predominates. Many of the slopes are so steep that special machines have been designed to harvest the wheat. One is the self-leveling grain combine. Crawler-type tractors are commonly used for field work.

The variation in precipitation influences the intensity of farming. The rainfall varies from 25 inches annually to less than 10 inches. In the eastern part where the rainfall varies from 18 to 25 inches, the land is cropped each year and wheat is commonly grown in rotation with peas or with other small grains. The line of 18-inch rainfall is the approximate boundary of annual cropping. To the west, in the Big Bend part of Washington and the wheat areas of northern Oregon, where the annual rainfall is 10 to 18 inches, wheat alternates with summer fallow. Summer-fallowing is necessary to accumulate the moisture necessary for a wheat crop. Some fallowing is done in the area of higher rainfall (18 to 25 inches) but here the reason for fallowing is to control weeds or to turn under heavy stubble and give it time to decompose. The driest season occurs during the summer, and provides for ideal harvesting. Transportation and marketing facilities are adequate; both railroads and highways offer ample opportunity for transporting the wheat to market.

The white wheat region ranks below the hard winter and hard spring wheat regions in total wheat production as it is the smallest of the three. In 1954, it produced 87 million bushels of wheat, or 10 percent of all wheat in the United States. Nearly all of the wheat is grown on commercial cash-grain farms. Only 3 percent of the wheat was grown on other than commercial cash-grain farms in 1954.

Size of Business

This region is characterized by a highly mechanized system of farming. Subregion 110 exceeds any other wheat area in crop acres per farm, gross income per farm, total investment, and investment in machinery. Yields in 1954 were approximately 20 percent above the 5-year average. This affected the gross income and the classification of farms by economic class in 1954, but should not affect appreciably the relationships between economic classes in the acreage per farm or the investment in machinery and land and buildings.

In 1954, more than 70 percent of all cash-grain farms fell into Economic Classes I and II while less than 2 percent were in Class VI. The range in size of farms is exceptionally large; Class I farms are 20 times as large in total acres as Class VI farms. Only the Class I and Class II groups average more than one man-equivalent per farm. Measures of size of farm by economic class are shown in table 57.

Table 57.—Size of Cash-Grain Farms in Subregion 110, by Economic Class of Farm: 1954

Item	Economic class of farm						
	Total	I	II	III	IV	V	VI
Number of farms	9,109	3,346	3,303	1,233	775	325	127
Total acres per farm	1,188	2,103	874	454	325	213	110
Crop acres per farm	793	1,462	566	243	154	100	41
Capital investment per farm:							
Land and buildings...dollars	113,412	201,798	83,613	40,576	27,436	18,593	11,747
Livestock.....do	3,005	4,767	2,476	1,626	1,173	793	569
Machinery.....do	18,244	25,949	16,213	11,994	9,763	8,176	6,306
Total	134,661	232,514	102,304	54,196	38,372	27,562	18,622
Man-equivalent per farm	1.6	2.4	1.4	1.1	1.0	0.7	0.7

Crop and Livestock Organization

Wheat and summer fallow together use nearly three-fourths of the cropland in this area (see table 58). As indicated earlier there are important differences in the use of cropland within the area associated with the amount of precipitation. The farms in the eastern part of Washington and western Idaho receive more rainfall and are more diversified. The production of dry field peas is an important enterprise on many of these farms. Other farmers rotate wheat with feed grains and green manure crops. In the remainder of the subregion, the cropping system is mainly wheat and summer fallow with varying acreages of oats or barley. In the more arid parts a straight wheat-summer fallow rotation is followed.

Table 58.—Land Use on Cash-Grain Farms in Subregion 110, by Economic Class of Farm: 1954

Item	Percent of farms reporting	Economic class of farm						
		Total	I	II	III	IV	V	VI
Number of farms		9,109	3,346	3,303	1,233	775	325	127
Acres per farm:								
All land	100	1,188	2,103	874	454	325	213	110
Cropland	100	793	1,462	566	243	154	100	41
Wheat:								
Winter	87	253	496	166	57	30	12	9
Spring	30	31	43	31	18	12	10	3
Barley	77	87	163	61	27	16	9	3
Peas	16	18	34	12	8	3	2	1
Summer fallow	84	328	616	235	84	47	17	9
Land pastured	71	368	615	286	175	136	71	53

For subregion 110 as a whole, other crops occupy a little over one-fourth of the land. Barley is more important than oats. The acreage of pastureland varies from farm to farm, and consists largely of land not suited for cultivation. The smaller farms have relatively less wheat and fallow and they are located mostly in the diversified area.

The livestock system here is typical of the western wheat areas. Many of the large wheat-fallow farms with little pasture have no livestock. Some farmers keep a small flock of chickens, and enough cattle to utilize the pasture and roughage. Hogs are found on approximately 26 percent of the farms. Sheep are kept on a relatively few farms and the average size of flock for farms keeping sheep is much larger than indicated by data in table 59. The low-income farmers, as a group, have very few livestock, but this group is relatively much smaller in number in the white wheat region than in the other wheat regions. Many of the operators of the low income farms have other occupations or other sources of income.

Table 59.—Livestock on Cash-Grain Farms in Subregion 110, by Economic Class of Farm: 1954

Item	Percent of farms reporting	Economic class of farm						
		Total	I	II	III	IV	V	VI
Number of farms		9,109	3,346	3,303	1,233	775	325	127
Livestock, number per farm:								
All cattle	72	28	46	23	15	10	7	5
Milk cows	52	1	1	1	1	2	1	1
Hogs	26	4	5	5	3	3	1	2
Sheep	6	4	7	2	3	2	------	------
Chickens	64	39	37	42	48	33	27	19
Gross sales of livestock and livestock products per farm.....dollars	x x x	1,449	2,344	1,196	794	447	209	98
Investment in livestock per farm.....dollars	x x x	3,005	4,767	2,476	1,626	1,173	793	569