

**Salt Lake Valley.** This county is well watered close to the mountains by numerous small streams, and lower down by multitudes of artesian wells. Many acres are not irrigated. This county is full of orchards, gardens and fields, while roots, small grain and hay are raised in abundance. The elevation is 4215 to 4500 feet above the sea. The area is 160,000 acres. The soil is sandy but with clay near the lake. There is no report from this county.

#### MORGAN COUNTY.

This lies directly east of Davis on the east side of the Wasatch, and occupying Weber Valley as far as Croyden. This is elevated nearly 6000 feet above the sea, and is only adapted to small grain, root crops and hay. The water supply is fair and the opportunities for storage good. The area is 675,840 acres, of which about 10,000 acres are cultivated. The soil is chiefly sandy.

#### SUMMIT COUNTY.

This county lies almost wholly in the upper valley of the Weber, and includes Parley's Park. It occupies the angle between the Wasatch and the Uintahs, and lies north of the latter. Its cultivated land is elevated 6000 to 8500 feet above the sea. It is cold and best adapted to small grain and hay. Much produce is raised without irrigation, and only a small amount of water is required per acre to mature crops. The valley of the Weber is a succession of green fields for many miles, while on Chalk Creek and other tributaries are many scattered farms. The area of the county is 2,419,200 acres of which 7500 are under cultivation. This county also reports storage of water as the only means of increasing its cultivated area. Deep artesian wells might be successful here. The soil is sandy.

#### SALT LAKE COUNTY.

This county lies between the south end of the lake and the Wasatch mountains, occupying all the southern end of Salt Lake valley, and lying between the Oquirrh and Wasatch mountains. This county takes the lead in water supply and position, since the valley is ten miles wide and 20 long, runs north and south, and is watered by the Jordan and by numerous large streams that flow down from the heart of the Wasatch. There are also a few streams flowing from the Oquirrh mountains. Throughout the lower part of the valley thousands of artesian wells are flowing. The soil is sandy in the upper and clayey in the lower part of the valley. The elevation is 4215 to 4500 feet above the sea. The area of the county is 614,400 acres. The cultivated land is 38,587 acres. The water supply is 365.5 to 425.5 cubic feet per second, all in use. The irrigating season is 122 to 152 days long, and the duty of water is about one cubic foot to 80 or 100 acres. The rainfall during the irrigating season is only 7.882 inches, being more than double that in many other parts of the Territory. There are 13,668 acres of lucern raised, hay 2215 acres, small grain 13,566 acres, roots and vegetables

3470.5 acres and fruit 1628.5 acres. There are 37 canals, with an aggregate length of 213.8½ miles. There is enough water running to waste outside of the irrigating season to redeem 44,000 acres. There are 11 reservoir sites in the mountains reported in detail, aggregating 50,250,000 cubic feet, and several others of good size are reported. There are four sites reported in the valleys, and one of them—Utah Lake—if raised two feet would irrigate 53,000 acres, and if raised five feet would irrigate 133,000 acres. But this lake can never be filled in a dry season—the total inflow last winter was only enough to raise the lake a foot—and for other reasons hereafter given it will never cut much of a figure as a reservoir. The average depth of snow in the mountains is four to ten feet. The relative humidity for the year is 48.3 per cent, during the irrigating season it is 42.3 per cent. The annual temperature is about 51.2 degrees.

#### UTAH COUNTY.

This county lies chiefly in the beautiful Utah Valley, with its large fresh water lake in the center, 8,000 acres in area. Most of the arable land is in this valley, but there is considerable arable land on the Spanish Fork River. The elevation is about 4600 to 4800 feet above the sea. Though it is some higher than Salt Lake Valley, it is nearly as warm because of sloping toward the sun. The area of the county is 1,344,000, of which 69,126 acres are cultivated. The irrigating season lasts about 122 days. The duty of water is reported as 40,000 cubic feet per year, but it is probably not less than one cubic foot per second for 100 acres. The water supply comes from fourteen streams, and one river whose flow in July was 808 cubic feet per second. There are sixteen canals reported, length 66.2 miles. There are many artesian wells in the valley. They lost 28,985 acres of crops this year by lack of water. There are eight reservoir sights given in detail in the mountains, and two in the valleys, capacity 791,000,000 cubic feet. There are five additional sites given in the valley and nineteen in the mountains, capacity not specified. Enough water runs to waste to irrigate 50,000 acres. About the same amount of rain falls here as in Salt Lake Valley. The average depth of snow in the mountains is four feet. The soil in this county is mostly sandy. Along the Spanish Fork River are many farms with an elevation of 5500 to 6500 feet above the sea, whose supply of water could be greatly increased by deep artesian wells.

#### WASATCH COUNTY.

This lies east of the Wasatch, and the inhabited portion is west of the coal range, being south of the Summit and east of Utah County. The settled part is a triangular valley, at the eastern base of the Wasatch, called Provo Valley, since it lies along the Provo River. This is some 6000 feet above the sea, has 18,000 acres of cultivated land and 32,000 acres that could be reclaimed by more water. The water supply

is not given but one-half the crops were lost this year by lack of water. There are 14.5 miles of canals reported. 5 reservoir sites are reported capable of irrigating 14,000 acres. This valley raises small grain and hay chiefly. Water storage is a necessity if the present acreage is to be preserved, to say nothing of extending it. The greater portion of this county of 1,344,000 acres lies east of the coal range on the reservation. There are hundreds of acres there that produce abundant crops of hay when stock is kept off from them.

#### UINTAH COUNTY.

This county is situated east of Wasatch, Summit and Emery counties. It is mostly an Indian reservation; but just south of the Uintahs is a small cultivated area not on the reservation. The area of the whole county is 4,000,000 acres. The cultivated area is 8932 acres. The soil is partly sand and partly clay. The elevation of Ashley runs from 4400 to 5000 feet. The irrigation season is from 178 to 198 days long, and the duty of water is given as 20,000 to 50,000 cubic feet per acre, but this is doubtless far too small. It takes a trifle more water for clayey than for sandy soil. It takes the same amount of water for small grain as for lucern, a trifle more for root crops and one half as much for orchards. There were 970 acres of crops lost this year from lack of water. The average depth of snow in the mountains is six feet. Several good reservoir sites are mentioned. The supply of water in Green River is unlimited, and much land could be reclaimed by proper dams in this river. The supply of water in Ashley and Brush creeks is quite limited, but could be greatly increased by reservoirs.

#### SANPETE COUNTY.

This county occupies an elevated valley between the Wasatch and coal range, and south of Utah County. It is the valley of the San Pitch River and a part of Thistle Valley. The former runs southward from the head of Thistle Creek for 45 miles till it joins the Sevier Valley. The elevation is perhaps a thousand feet or more higher than Salt Lake Valley, and the rainfall is less. The water supply comes from both sides of the valley in numerous small streams, but the greater number come from the east.

This has been called the granary of Utah. The chief product is small grain. The irrigating season lasts 107 to 183 days. The duty of water is about one cubic foot per second to ninety acres. Each acre is irrigated 120 hours. Many acres of crops were lost this year through lack of water. The average depth of snow in the mountains is reported as six feet. Several reservoir sites are mentioned. The area of this county is 1,164,800 acres. The amount under cultivation is not reported.

#### SEVIER COUNTY.

This county occupies the southern part of the great valley which lies east of the Wasatch and west of the coal range running from Thistle on the north to Panguitch on the south.