

At Athens, Illinois, near Springfield, the average from 1843 to 1853, ten years, was 41.76 inches. This is the same series as at Fort Scott, and the fall of rain is less.

The average of short series at eight different stations in the State of Texas, 24.80 inches.

Fort Snelling, Minnesota, from 1837 to 1854, 17 years, 25.43 inches. This is nearly the same series as that of Fort Leavenworth, and the average fall is nearly five inches less than at the latter place.

Missouri Jefferson Barracks, from 1841 to 1855, 14 years, 37.83 inches.

Iowa, Fort Atkinson, 1845, 34.83 inches. Same year at Fort Leavenworth, Kansas, 34.56 inches.

Fort Dodge, 1852, 25.85 inches. Same year at Fort Leavenworth, Kansas, 36.53.

The figures given here exhibit the case as fairly and as fully as possible from the Smithsonian records. Yet it would require a much longer series of years than any here produced, to determine what the average would be for all time. For instance, because our figures show a considerably greater average fall in Kansas than in Minnesota, it would not be safe to say that it would always be thus, any more than the fact that we are this year having abundant showers all through the season, while it is said to be very dry in Minnesota, proves that this will be the case next year.

The testimony of old settlers all goes to show that the rains are more *periodic* here than at the East; and if farmers take advantage of this, they always have a good time for plowing and planting. *Early* and *deep* plowing, rolling the soil and thorough tillage will insure as good crops here as the farmer could ask for.

THE SOIL

Of Kansas is peculiar. It seems to have already proved itself one of the best winter wheat States in the Union; while corn and other ordinary crops do well, excepting oats. These

are usually considered a failure. But Rev. J. T. Jones (Ottawa) has raised them successfully for two or five years, by *plowing* them under in *March*. This is always done in Western Missouri. Drilling and rolling would, undoubtedly, be a great improvement in putting in all kinds of small grain. But Kansas farmers are only *creeping* now. They will do some *walking* by and by. Our soil resembles, in appearance, that of Illinois; but the "hard pan" lies considerably deeper from the surface than in Illinois, and the face of the country is much more rolling and diversified; so that in this State we have very little mud to impede traveling. The roads are the finest natural roads in the world. They are hard and dry nearly all the season, (one or two weeks settling them in the spring); and the crossings of our ravines, creeks, and rivers, are gravel or rock bottoms. There isn't a "swamp" in the State, to my knowledge; and "running sloughs" and "round sloughs" are unknown. Persons who have endured the mud in some other States, will appreciate these advantages.

I have already said that lime rock is abundant. It is thought that, like the lime stone region of Kentucky, Kansas will be famous for blue grass. It has run in of itself, and covered acres where the early California emigrants used to camp; and so far as sown, if put in at the right season, and rolled to *pack* the soil, it promises well. The natural grasses are very nutritious and heavy. What tame grasses will flourish best has not yet been determined.

For stock raising, Kansas must be pre-eminent. The natural grasses, the abundant streams, the rolling prairies and hills, the dry, clear atmosphere, make it one of the best sheep countries in the world. Sheep grow large, are very prolific, and yield a heavy growth of wool. Of course the finest grades would deteriorate in quality somewhat; but as wool growers wish to change their stock often, it will be very easy to keep up the grade.