

State's Bumper Wheat Crop and New Dry Farming Era

PROSPERITY in wheat is always a property that forebodes good winters ahead, and the full dinner pail. This year Utah broke all records in all other lines from mining to football victories.

The yield for 1906 is a million and a quarter bushels better than the yield for 1905. The total runs up this fall to 6,700,000 bushels for last year. Enough dry farms this year to give a promise of a vast increase in another season.

The era of Utah as a great wheat producing state is at hand. Of the five and three quarter million bushels raised this year only half came from irrigated lands. The marvel of the situation is that the wheat from the land that a season ago was the home of the hard and jack rabbit, is this year the hardest, best, and most demanded article.

To the general reader it is good news that the price of wheat is falling. Utah shared her greater wheat crop with all parts of America and Canada, so that the price is down to a lower standard than it has held for several seasons.

The fact that the export demand has been limited has also added to this glutting of the home market. At loading stations good wheat has been sold at from 45 to 55 cents per bushel, net to the producer. Wheat damaged by the rain to such an extent as to be unfit for milling purposes brought 30 to 40 cents a bushel.

Of spoiled wheat there was a good deal this year. This was because of the unexpected and unprecedented rains that broke in extensive areas over the state right in the heart of the harvest season. In this country no provision has been made for heavy storms during harvest and a great deal of wheat was soaked in the shock. A following period of warm weather sprouted a good deal of this wheat, making it unfit for milling. Probably between 20 and 30 per cent of the total crop was damaged in this way.

The problem of marketing the damaged wheat, fit only for feed, was made difficult by the absence of hogs in any number. Had the stock yards been in full operation, and a demand thus created for Utah hogs, the problem of disposing of the damaged wheat would have been solved in the local market. As it was a good deal was lost to cattle

and sheep, but this did not bring the results that feeding it to hogs would have brought.

The year has been a wet one. Up to the middle of July the prospect was for not only the largest yield, but the best in quality. At that time the fields were in splendid condition the season well along, and the wheat as green and pretty as any that ever waved over a country. It hardened down splendidly after it began to head out, and it was not until the harvest rains came that the first cloud appeared on the horizon.

The fall weather this year was ideal for plowing and seeding and the largest crop ever planted in the state is now under the winter snows waiting the coming springtime to show Utah still further what her possibilities as a grain state can be made.

The contribution of the season to knowledge of dry farming has been enormous. Its extent will never be known until it is reaped into dollars in the years to come, and among those who have followed the science there are big plans maturing for next year and the years after. The Widtsoe farm, operated now by an incorporated company, reaped a harvest on 700 acres

of land this year, all plowed by the modern steam appliances that are going to revolutionize the west. The fall planting covered an area of 900 acres of new land, and next summer the sagebrush fires will consume the crop of acres from 1,600 acres of more virgin sagebrush soil, all of it to go into wheat next season. The 700 acres plowed last year lies fallow with a fall plowing this year, and it will be planted again next fall, following the rule of planting only in alternate years, so that the land may save up the moisture of two seasons, under the plowing and harrowing system that makes it a reservoir. Instead of just a dish to hold its water till evaporation robs the soil of all that it drank up.

Besides the Widtsoe farm in Dog Valley, near Nephi, there are the big Paxman and Grace Bros. farms at Nephi and Levan, and the farms of the old veteran George L. Farrell at Smithfield. It is one of the wonders of Utah history that Mr. Farrell will not now tread his dry acres for the best irrigated land in Cache county, with a good cash bounty "to boot." He is the original Utah dry farmer, and he can talk by the hour on the trick of making grain grow where only sagebrush ever fought

it out with nature before.

This year sees the organization of many dry farm companies. Some of them had better beware. They are organized by men ignorant of any kind of farming. One perhaps is a band of street car company conductors, another a corporation formed among printers in the printing shops. They have signed their notes for expensive plowing machinery, and may prove to be good farmers or very bad ones, and the chances to go wrong are as numerous as in any other occupation requiring special knowledge. Every company locating land should have a land expert go over it, before trying to dry farm it. Witness the case of the company that located where even sagebrush is runty and unable to grow. The land looks good, but 19 inches down there is hardpan, which drains the water off from below while the sun drinks it up from above. No fruit will ever bless the efforts of the men who sunk their little all in it. Witness also the band of men who forgot that every weed pulls its tons of water out of the reservoir created by deep plowing and harrowing, and tried for a crop of grain after harvesting a crop of sunflowers that exhausted the land's strength. Witness

also the farm where the plow discs were set deeper than the fertile soil, and turned up to receive the grain an understrata with no life in it, while the fertile soil was thrown down deep where it could do no good. Witness also the ambitious farmers who sowed too thickly, and started so much wheat that none could grow to maturity and count up into bushels of yellow prosperity.

Then finally witness the failure of those who try to "get rich quick" and expect returns in one season. Four years of profit taking, with the profits turned back into the soil each year will put a farm on a paying basis, if well managed, but the chances to poorly manage are infinite, and companies organized among those who know but little of farming should have a care who is made foreman and placed in charge.

Reports from the Widtsoe farm are at hand on this year's yield and expenses. The average production was 15 bushels to the acre. Rabbits ate up a solid 20 acres of sprouting grain. Some was on sterile soil and fell to a low average. The best went up to 30 bushels. Eight cars were shipped to Los Angeles. It brought 60 cents a

bushel, and the first car load brought a telegram to ship all the wheat of that quality that could be obtained, as it was the best that ever came out of the intermountain region. It was harder, stronger, and more nutritious they said, than the irrigated products. The first car had brought only 55 cents, but the next seven cars were taken at once at 60 cents, which was well over the general market average. It cost to clear and burn an acre of sagebrush an average of \$140. With water four miles away and coal five miles away, it costs \$2.50 to plow. To harrow, cost 60 cents more an acre, to drill in the wheat 40 cents, and to buy seed 30. This would make a total cost of a seeded acre \$5.50, with a value of the yield about \$11. In estimating profits of course of the cost of the harvest and of the land must be figured in to cut down the margin of clear profit.

Next year there are plans for dry farms in Cedar Valley, in Parowan, in Cedar City, in Millard county and city, in Mant, and in many other valleys, while there are at present flourishing dry farms in Tooele as well as in the north and south.

HOW TO KEEP SUGAR BEET LAND FERTILE.

The soils of Utah and the surrounding states are naturally very fertile. The plant food in them is usually sufficient to produce crops for hundreds of years. In some cases even thousands of years. Soils may, however, possess a great store of fertility, and yet be incapable of producing large crops, because plant foods may exist in soils in various forms. A part of the fertility, soluble in water and weak acids can be used by the plant. When the plant roots are readily taken up by the plants. Another form is somewhat insoluble and therefore unfitted for immediate use by the plant. When the soil fertility is large, the crop yield is correspondingly large; in fact, the yield of any one year depends upon the amount of soluble plant food available during the season of growth. The insoluble fertility, however, may be made available by proper methods of culture, and is really of greatest importance, because it determines the number of crops that a soil may last, without the artificial application of plant foods.

Any sugar beet farmers have made a mistake of taking very little account of the maintenance of the fertility of their soils, consequently the soluble portion of the soil has been exhausted, and the remaining fertility because of its insolubility is largely inaccessible to the plant. It should be the aim of the man who desires to keep his soil in the greatest state of fertility to maintain in it the largest amount of water soluble plant food. This may be done by permitting the elements to act freely upon the fine rock particles of which soils are made.

It has been amply and repeatedly demonstrated that moisture, air, sunshine and frost, acting upon the soil, will set free fertility and make it soluble or directly available to plants. In short, weathering makes an infertile soil fertile by converting the insoluble and therefore available fertility. Keeping this in mind, the wise sugar beet farmer will leave the largest possible portion of his soil exposed to the elements during the season of the year when the climate is most severe. In other words, as soon as the sugar beet is out of the ground, the land should be deeply and thoroughly plowed and allowed to lie in a rough condition exposed to the action of the atmosphere and other climatic forces, until it is necessary to prepare the ground in the spring for the conservation of moisture and the planting of seed. The repeated hoeing which is necessary in successful beet growing, has the same effect of exposing the upper layers of soil to the atmosphere, and thus rendering the plant food soluble. Likewise, the pulling of the beets in the fall exposes the lower depths of soil to the weathering forces. Fall plowing carefully practised, together with the thorough cultivation necessary in good sugar beet growing, will maintain the fertility of ordinary western soils much longer than is the case at the present time. It may be laid down as a law which has very few exceptions, that in the west, the only time to plow is in the fall.

Sugar beets are very exhausting crops. They feed heavily on lime, potash and nitrogen. Even under the best conditions, much more fertility is car-

ried off by the best crop than is added annually by the action of weathering upon the insoluble constituents of the soil. Usually, also, the land on which sugar beets are grown is so valuable that it does not pay to allow it to lie fallow every other year. If this could be done and beets be planted on the soil only every other year, there would be a very much larger amount of soluble plant food available for the crop. Since this is not feasible, it becomes necessary to return to the soil the equivalent of some of the fertility which the crop has removed.

Plant food may be returned to the soil by adding barn-yard manure, which is especially rich in nitrogen, the substance in which our soils are most deficient. The proper amount of manure added to the soil every year would enable the farmer to grow the usual crop of sugar beets year after year, indefinitely. The plant food in manure, however, is also partly in a locked up or insoluble condition. It is only as the manure rots, that the plant food is liberated and made available for plants. For that reason, well rotted manure is generally preferable to green manure. The best time to apply the manure ordinarily found on our Utah farms, is in the fall. It should be scattered on the soil just before plowing, and then turned under. During the winter it will gradually decompose and in the spring and early summer will be in prime condition for the use of plants. New manure especially, must be applied to the soil in the fall; when well rotted it may be equally effective if applied in the spring.

As already remarked, the element of nitrogen is the one which is usually deficient in soils on which sugar beets are not doing well. In districts where livestock is not kept to a great extent, stable manure becomes a scarce and expensive article. Nature has provided

us with a method, however, by which nitrogen may be applied very simply to the soil. It so happens that lucern, clover, peas, beans, vetches, and in general the plants that carry their seeds in pods, have the power, through the agency of microscopic living beings that exist on plant roots, of gathering the essential element nitrogen from the atmosphere. The sugar beet itself has no power to do this. If, therefore, the sugar beet field is run down, and deficient in nitrogen, it is well to plant it to lucern or some similar crop which will restore the lost nitrogen. When the lucern is again plowed up the soil will again be in a suitable condition for sugar beet production. It may be noted here, however, that the lucern roots and leaves which contain the precious nitrogen require some time for their decay, and it seldom happens that the best beet yield is obtained the first year lucern is plowed up. It is more generally true that the full benefit of the lucern is not felt until the second third or fourth year.

The use of lucern and other pod bearing plants for the restoration of the fertility of sugar beet fields points, of course, towards a rotation of crops, which in turn points toward a combination of dairying or some other branch of the live stock industry with the sugar beet business. The feeding of animals invariably preserves a large portion of the fertility taken from the soil, in the form of manure, which may be returned to the soil. One great weakness of the sugar beet industry of this state, is that the sugar beet farmers, as a body, are disinclined to maintain live stock on their farms. This prevents the rational rotation of crops, which preserves the fertility of the soil. Ultimately, the failure to combine the live stock and sugar beet lines will lead to the exhaustion of the soil, with a consequent reduction of

profits to the sugar beet farmer. The future of the state cries for reformation in this matter.

While it is folly to believe that our rich western soils will maintain their present fertility forever, unless properly cared for, yet the fertility will continue indefinitely undiminished, if the principles here touched upon be observed. Briefly stated these are: First, a careful system of fall plowing; second, proper application of manure to the soil, preferably in the fall; and third, the rotation of beets with the nitrogen gathering crops like lucern and the clovers.

There is scarcely an excuse in this state for the falling off in the acre yields of beets. If the soil is properly cared for, and a moderate amount of water is at the disposal of the crops, the state average yield ought to be between 15 and 20 tons of beets to the acre. Instead of between 10 and 12 tons as is now reported by the sugar beet companies. To do this requires education of the farmers, and a willingness to obey the directions of the principles of scientific agriculture.

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RACE FAILURE IN GREAT BRITAIN.

In America, says the Scrap Book, we are accustomed to hear so many sermons on race suicide from those who sit

in high places that we are inclined to regard the whole controversy as a huge joke. But in England the problem has assumed a more serious aspect. There it is not so much the death of the race that is feared as its gradual deterioration—physically, mentally, and morally.

In his presidential address before the sanitary inspectors congress at Blackpool, Sir James Crichton Browne outlined the situation and its dangers: "We have a reduced fertility in the more intellectual, the more prosperous, the more thrifty, and cleanly classes, which cannot be accounted for by the variation in the mean age of possibly productive wives."

"Some might be found in the fact that the operative causes of a low birth rate have not yet affected the rural population, from which we might hope to draw invigorating elements. The relative fertility of women living in the country is from 8 to 11 per cent greater than of women living in towns. But urbanization is going on at a rate that must rapidly reduce and before long cut off the supplies from this source of sound, progressive human material."

In the main the decline must be ascribed either to physical degeneration which is affecting reproductive power and diminishing fecundity, or to a wilful, systematic prevention of child-bearing. It is not failure of race suicide we have to deal with—or simply race failure—for the deterioration of the moral standard, which the practise of race suicide implies, in itself is an indication of debility and decay.

"The racial struggle for existence is not over and finally decided in our favor. The strategy of the struggle and the weapons employed in it are changing daily. But it goes on. If a social Hague conference tomorrow were to succeed in abolishing war and securing

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And right here it should be stated that no organized body or association of any description in Salt Lake City has accomplished more in booming and advertising the metropolis of the intermountain region than Mr. Porter. For years he and his son, Sam S. Porter, have traveled extensively between the Pacific coast and Chicago and everywhere they go they never fail to advertise Salt Lake City. Aside from their individual boosting the Porters employ the year round a man who does nothing but travel and distributes beneficial advertising matter in every city and town within a radius of 1,000 miles of Salt Lake City with the end in view to attracting visitors and permanent residents to the city.

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