FOURTH ANNUAL CONVENTION

Madison, February 4, 5 and 6, 1918

The convention was held in conjunction with the annual Farmers’ Course of the College. It was the chief attraction of the course for Monday afternoon, February 4. The program of the Soil Improvement Association was the center of interest on Tuesday afternoon. Agronomy and Animal Husbandry held the center of the stage for the remaining afternoons of the week but the Association continued its drainage program at forenoon meetings, and late afternoon meetings until Thursday, when the convention adjourned. Some of the members remained at the Farmers’ Course until the end of the week.

The report of the secretary and treasurer as audited by the auditing committee showed a balance of $23.80 in the treasury.

Extracts and summaries of the addresses follow:

DRAINAGE AND NATIONAL DEFENSE

Professor J. A. Jeffrey, Duluth, Minn.
Agricultural Commissioner, D. S. S. & A. Ry.

We are living in days of pithful expressions. “Save the waste and win the war” is one of them. To me that means “Save your crops from drowning, and you’ll save civilization from perishing.” Save the crop on the wet spots in your wheat field and you’ll put yourself and the world “Over the Top.”

The average American farm is probably not more than 50 per cent efficient. Part of the loss is chargeable to mismanagement, and part of it to the soil and its condition, including poor
drainage. There is no better way of proving what we are losing by poor drainage than to give specific cases where men have gained by good drainage.

Some years ago a large area of clay lands in northern Indiana was said to have become practically worthless for agricultural purposes. A Scotchman, knowing the value of tile, purchased a tract of this land. He purchased a tile machine, made tiles from the clay, tiled the land and became rich from what the land produced. The soil had become difficult to manage, and unproductive because nature had provided no way for the quick removal of excess water, and because of improper tillage. The installation of a successful tile system removed the excess water rapidly and nature and good management did the rest.

Large areas of low land which may function well in normal seasons, producing large crops, may fail partly or wholly in abnormally wet seasons and sometimes when subjected to but a few weeks of excessive rainfall. On portions of the Saginaw Valley, in Michigan, in 1916, thousands of acres, set apart for sugar beets, remained unplanted because excessive rains made it an impossibility for horses to be driven over them during what should have been the planting season.

On portions of the same valley that year lands originally wetter, but provided with drainage systems yielded excellent sugar beets.

In 1897, in the Red River Valley, thousands of acres of wheat and other grains were destroyed during a period of excessively rainy weather, beginning the last week in June. Since then reasonable surface drainage has been developed and these lands have produced excellent yields of grains on years wetter than 1897 was.

On fields of fairly heavy soil a few low spots or an occasional low area will prevent the complete preparation of the field for the sowing of the crop. In some cases the farmer will delay the preparation of the higher ground until the lower areas are in condition to work. This delay in the early tillage of the upper areas results in excessive drying which in turn renders these upper areas impossible of proper preparation. In this case lack of drainage on the low spots must be charged with reduced yields and loss of labor on the entire field.

A single wet spot may occur in a field well up on the slope
or it may occur at the highest point in the field, which, in an unusually wet season may not become sufficiently dry to plant and is therefore, not only unproductive for the season but may have had a considerable amount of work previously bestowed upon it which is also lost.

Low spots and higher springy spots, both permanently wet, are also permanently non-productive and yet, around these, or over these, teams and machines must pass in the operations upon the rest of the field, with the resulting loss of time and of crop. These wet spots are not neutral. They are enemies.

Large, low areas, permanently wet, and small shallow ponds frequently exist which, if drained, would furnish at least good pasture, and thus release other lands for crops.

Mr. Jamies N. McBride, Head of the Department of Markets of the Michigan Agricultural College, and himself a practical farmer says, "The effort to increase the food supply is nullified to probably 25 per cent by lack of adequate drainage. Unoccupied land involves no large, if any, outlay, while seed and labor are applied unprofitably on land subject to wet weather losses. As a rule, these wet areas are exceedingly fertile in plant food, and are so near the profit point that an occasional favorable season lures to their continued cultivation without drainage. An accounting of gains and losses would probably leave the balance on the side of actual losses."

Professor E. O. Fippin, in a recent article in the Country Gentleman, says, "Thousands of acres of beans in New York state, planted with seed that in some cases cost twelve to fifteen dollars a bushel, will be good only for green manure. Late planted corn is frosted. Could it have been planted early, on well drained, warm land, it might have reached maturity before the frost came. . . . The public has thought only of the reclamation of the almost totally waste swamp lands and has overlooked the great need for drainage of land already in farms and under cultivation in a half profitable way."

In 1914, R. D. Marsden, of the office of Drainage Investigations, in an article, "The Economy of Farm Drainage," says, among other things, "In Iowa a field of 40 acres too wet for planting was tile drained at a cost of $24.00 per acre, after which it produced 60 bushels of corn per acre. Another field was drained at $23.00 per acre, thereby increasing the yield from 15
bushels to 40 bushels of corn per acre. Owners have found that tile drainage has reduced the cost of farm operations 20 to 50 per cent. So the increased production of land cultivated previous to drainage is clear profit."

Ten years ago the Secretary of Agriculture, in his annual report said, "It is estimated that there are one hundred fifty million acres of occupied land whose production would be increased 20 per cent without additional labor in management or cultivation, were it judiciously drained." This would mean, very roughly speaking, an increase of from six hundred million to one billion bushels of food stuffs annually, assuming that these lands would be used in the production of food.

We cannot drain all of this in one year, or two years. But we can yet increase the crop yields for 1918 by better drainage. That increase will help to win the war.

---

TILING MACHINES

A. W. Dibble, Madison, Wis.

Since I have had experience with but one make of tiling machine, I shall confine my remarks to its construction and operation rather than to a comparison of different makes of machines.

The tiling machine is mounted on a set of apron or caterpillar wheels which enable it to work on ground too soft for teams to travel. The power for propelling the machine and digging the ditch is furnished by a gas engine. The digging is done by buckets fitted to a wheel which revolves as the machine moves forward. The dirt is discharged on a conveyer which deposits it along one side of the ditch. The bottom of the ditch is left smooth by a shoe. The tile are laid with a hook just back of this shoe and inside of a shield, which prevents the sides from caving until the tile are laid.

The digging is done according to grades established by survey. The engineer figures the height to set the targets above hubs set every 100 feet above the line. These targets are set by an assistant while the operator is moving the machine back.

A machine operator should be something of a mechanic. He must also have a good eye, and the power to concentrate his mind on the work all the time. He must not be afraid of dirt, grease, wet feet or an occasional mud bath. Tiling marshes in