HISTORY OF AGRICULTURE IN DANE COUNTY.

CHAPTER I.

INTRODUCTORY.

It is the purpose of this work to give a view of the agriculture of Wisconsin both past and present. As it is, however, impracticable to deal with the state as a whole, the choice of a part of the state which shall at once be suitable in size and representative in character is a matter of no small consequence; and fortunately the county of Dane seems to contain within its borders a very generous share of the agricultural activities and possibilities of the entire state. More especially is it representative of the southern portion of Wisconsin, that is to say, of the agricultural portion. The name Dane was given to the county in honor of Nathan Dane of Massachusetts, the reputed author of the Ordinance of 1787 for the Northwest Territory, and not because of the presence of Danes as is frequently supposed. The county was set off from the west part of Milwaukee, and the east part of Iowa counties in 1836 but was not organized as a separate county until 1839.[1]

The county is a large one, being more than twice the size of the common checker-board county, and contains thirty-five townships, or towns, as they are for the most part called.[2] Its position is midway between Lake Michigan and the Mississippi river and twenty-four miles north of the Illinois line. "The forty-third parallel of latitude passes within a minute fraction of the center

[1] Lapham's *Wisconsin*, p. 218.

[2] Townships will hereafter be referred to as *towns*, while towns, as usually known in the west will be called villages, since this usage seems to be a permanent evidence of the early New England and New York settlers.

at longitude 89° 20′ west from Greenwich. Its altitude above sea level is 788 feet at the level of Lake Mendota, and is 210 feet above Lake Michigan at the same point.[3] The area is about 1,235 square miles, or 790,400 acres. In shape it is an oblong with one corner lacking, the Wisconsin river forming the boundary at the northwest for some ten or twelve miles. About thirty-five square miles are covered with lakes, leaving the land area approximately 1,200 square miles. Were it not for this water area, and the small triangle which would naturally belong to the county but for the Wisconsin river, Dane county would be almost exactly the size of the state of Rhode Island, yet it constitutes less than one forty-fifth of the state of Wisconsin. By number the towns are designated as townships 5 to 9 inclusive north (that is north of the Wisconsin–Illinois state line taken as the base, and ranges 6 to 12 east of the fifth principal meridian. Thus it is thirty by forty-two miles, the long dimension lying east and west. On the north are the counties of Sauk and Columbia; on the east Dodge and Jefferson; on the south Rock and Green; on the west the county of Iowa. The jog which occurs in the east and west lines between ranges 9 and 10 is the result of two separate surveys which for some reason or other failed to match, this north and south line having been previously fixed as the division between the Milwaukee and the Mineral Point land districts.

DRAINAGE AND TOPOGRAPHY.

About 120 square miles drain toward the Wisconsin river, the rest of the country shedding its waters to the southeast where by various channels they reach the Rock. The dividing ridge between these two river systems is the long, irregular, limestone ridge of prairie land which extends well across Columbia county to the north. This ridge is cut by a deep valley which runs from Lake Mendota to the Wisconsin river and is only about eighty feet above the lake at the highest point. It is said that the Indians used this as a "portage" between the two river systems, there being but a short interval between the head waters of the

[3] *Statistics of Dane County.*

[4] This is condensed from the *History of Dane County*, and supplemented by observation.

two little streams which run in opposite directions through the valley.[5]

The surface of the county is for the most part rolling, though considerable areas are flat, while it is not unusual to find several square miles of country that is rugged to the extent of being nearly worthless. The most important of these hills are the Blue Mounds in the western part of the county which rise about a thousand feet above the surrounding country, while radiating from them are long high ridges of hills with narrow valleys between. At the northwest corner is a tract of broken country, the hills being little cone-shaped knobs, rising 200 or 300 feet above the river, and showing on their rough sides the various geological strata of which they are remnants. The southwestern part is hilly, the streams having cut valleys a hundred or two hundred feet below the general level. This is a "driftless" district (see Map III. in appendix) and here the drainage is perfect, for there are no lakes and hardly a swamp.

Within the glacial area there is a marked difference in the general appearance. Here we find the lakes and the swamps, the latter often having no outlet on account of the irregular moraines. The well-known "four lakes" lie in a northwest and southeast direction almost parallel to the line marking the limit of glacial action, and the Yahara, or Catfish, which drains them and is the main river within the county, has had to wear its way across many of these small hills. The other lakes, though numerous, are comparatively unimportant, while the streams are neither so numerous nor so regular in their courses as in the driftless area.

"The Dane County list of geological formations includes nearly the whole Wisconsin series." Map II. (see appendix) which is enlarged from the atlas of maps made by the Wisconsin Geological Survey, 1882, gives a good general idea of the formations. Since we are here interested in geology only as it helps us to understand soils and vegetation we will turn our attention at once to these matters. The soil map is far from being satisfactory. It could not be expected that a map made for a whole state could be accurate in minute details, but it seems hardly pardonable to have the town of Roxbury represented as sandy loam, when as a matter of fact the soil is a stiff clay with the exception of

[5]Governor Doty's first message to the assembly.

a narrow strip along the Wisconsin river, and a few unimportant creek bottoms extending back among the hills. And yet if not taken too seriously, the map is worth something; it probably gives a fair idea of the relative amount of prairie, clay, and swamp soils, and in the main, their distribution is shown with tolerable accuracy, the above mentioned error being much the worst.

It is of interest to note the variety of soils as seen in the different geological areas, but the very fact that such a number of formations appear within so small a compass complicates rather than facilitates such a comparison. In the first place the greater part of the county is modified by glacial drift, and within the driftless area several distinctive soils are evident. It must be remembered that the elevations of this area are entirely the result of erosion, and thus the level of Blue Mounds a thousand feet above the Wisconsin river is a point in an ancient plain. The three upper strata of this mound are limestone, the little plain of some sixty acres at the very summit has a rich black calcareous soil, and the blue-grass carpet which covers every nook is as luxuriant as on any lawn. Farther down, at about the level of the Galena limestone, though no doubt mixed with debris from the strata above, is another little plain somewhat larger than the first and with identical characteristics. Throughout the driftless area these limestone soils are to be found along the ridges of hills that separate the streams, but for the most part the finer and better part of the soil has made its way to a lower level, thus leaving a representative limestone soil on comparatively small spots only. The St. Peters sandstone is quite soft in most places and hence seldom remains as the permanent bed of a stream, and on this account there is no considerable extent of sandy soil resulting from this formation; the sand appears merely as a narrow fringe around the borders of the Trenton limestone districts or is mingled with the stiffer clays of the Magnesian limestone below, and, for the most part is a valuable addition. Along the Wisconsin and around the lakes the Potsdam sandstone comes to the surface and here we find a soil which may very properly be termed sandy and is the poorest in quality with which we have to deal. In wet years these sandy lands produce excellent crops, indicating that it is owing fully as much

to the very porous character of the sub-soil as to a lack of vegetable food, that they are of less value. The prairie soil is nearly everywhere black with no great amount of sand and usually with a clay sub-soil containing considerable gravel, while within the glacial area boulders are everywhere numerous. This black soil is not deep, as one who is used to the great stretches of prairie beyond the Mississippi understands it, but is from six inches to a foot on an average with a thicker layer in the valleys. This prairie soil is decidedly stiffer than that in Iowa or Nebraska because of a larger percentage of clay, and no doubt the fact of the more rolling surface has resulted in a smaller deposit of humus. It is a common sight in almost any part of this county to see brown spots in the plowed fields where the plow has reached below the black soil and turned up some that is largely clay. It will be noticed from the maps that the clay soils and the oak districts are for the most part identical areas. When this land is first plowed there is a brown or black layer of rich leaf, or other vegetable mold, which has been accumulating for ages, and it is to this that the phenomenal fertility of the virgin soil was largely due. This, however, gradually disappears with cultivation, leaving a yellow clay which, though rich, is a soil not easily worked and which must be handled with no little skill to prevent it from "baking" and becoming almost unmanageable for the year. Plowing must be done when the ground is comparatively dry; even the trampling by horses or cattle is counted a serious matter when the soil is full of water.

In the marshes or dry lake beds is a rich black soil termed muck. This is rich in humus, and even partially decayed vegetable matter appears in large quantities. For the most part this land is used for meadow or pasture though occasionally a piece is cultivated, and, especially where there happens to be a liberal admixture of sand, rendering it sufficiently porous, it makes the most productive of fields. Such land yields large quantities of tobacco[6] or corn, but is not a success for small grain, being too rich in nitrogen, thus making a great weight of straw and leaf with too little mineral substance to afford the required stiffness of stalk, and the result is a tangled mess of straw with very little

[6]It is very rarely that it will do for tobacco, but when it happens to be mixed with sand it yields an excellent crop.

grain. The texture of the soil in general resembles that of Illinois much more nearly than that of Iowa or Minnesota, yet it is "heavier" than that of either of these states, that is to say, it has more clay and less sand.

Along the north line of the county, covering parts of sections 3, 4, and 5 of the town of Roxbury, is a little stretch of soil worthy of special mention. This is on the border of Fish lake. At some time when the lake must have been several times its present size, there was deposited a layer of blue clay not far from a foot in thickness. The early settlers avoided the spot until all other land which seemed capable of being made into a farm was gone, and then reluctantly took this. However, it has turned out better than they thought. It seems to be fairly rich in plant food, so the only difficulties are those arising from its mechanical nature. By all means it must not be worked when wet, and even with the utmost care in this respect, it is inclined to remain in a comparatively hard state, thus giving off moisture readily and rendering it unable to withstand a drouth. Clover improves this soil and at the same time makes a very good crop, hence there is a tendency to raise clover and corn rather than small grain. Coarse manure is beneficial, as it helps to keep the ground porous.

VEGETATION.[7]

It is by no means necessary to go into detail in describing the great variety of plants found in this part of Wisconsin. The list of trees, shrubs, flowering plants, and grasses, is a long one, and the picturesque and pleasing aspect thus presented to the early travelers was frequently the source of extravagant and poetic effusions which are still preserved in the old newspaper columns. The nature and extent of woods and prairies, with the means they afforded for homes and agricultural undertakings are the main questions that concern us in this connection. There are to be found numerous accounts of travelers who "passed through dense forests in the region of the 'Four Lakes' and Blue Mounds," but by all that can be gathered from men who still remember the woods as they appeared at the time of settlement it seems that

[7]For an extended treatise on Wisconsin flora see an article by J. A. Lapham in *Proceedings of Amer. Assn. for Advancement of Science.*

the "dense forests" were by no means entitled to so dignified a term. The principal trees found within the county were white oak, burr oak, red oak, hard and soft maple, box elder, elm, ash, walnut, hickory, cottonwood, birch, tamarack, willow, and plum, together with a few unimportant varieties. There was also a considerable number of shrubs and vines, which at times formed such a tangled thicket that passage through them was difficult and slow. But, with all this variety of forest elements there was very little area given over wholly to its influence, and as a matter of fact the surveyor's or prospector's progress was seldom seriously impeded by dense woods. Map I. (appendix) showing the soil and general vegetation of the county, it will be seen, gives the "oak lands" as the largest in extent. By that we understand merely that the oaks predominate and it is within this area that all the other trees are found, a single exception being the tamaracks, not shown on the map at all; these were to be found in a few swamps in the northeastern part of the county. And even this does not give an adequate idea of the original condition of the woods. We have here an excellent demonstration of the constant struggle going on between woods and prairie, in a region favorable to either; that is, aside from soil considerations, a region moist enough for the former, and at the same time dry enough for frequent and extensive fires. Along the ravines and on the steep hillsides the woods triumphed, and the grasses are few and unimportant; on the level, or rolling surface of a much larger area, fires ran from time to time destroying the trees entirely, thus forming prairies, or, as was oftener the case, killing out all trees except the burr and the white oak which seem able to stand considerable punishment of this nature. In this way the famous "oak openings" so common in Wisconsin and Illinois were made. These "openings" have been aptly described as immense "orchards" of stately oaks—usually the burr oak—standing well apart, their superb tops spreading over a radius of forty or fifty feet, yet with plenty of room for wind and sunshine between, favoring the presence of prairie grasses or hazel brush.[8] If we could go back over the natural history of the region we should

[8] In the towns of Rutland and Albion are still to be seen a few acres of these trees much as they were fifty years ago except that blue-grass replaces the brush and wild grass among them.

without doubt find these oak openings and the prairies alternately advancing and receding over the same spots. This is shown conclusively in the changes that have taken place within the past half century: in places where the scattered woods have succumbed to ax and fire the prairie grass has come in and flourished; while,—and this more frequently,—the oaks have sprung up like magic and made fine groves where not a tree was to be seen until the settlers stopped the annual course of the fires.[9] A great many fields are to be seen which have the appearance of having been wrested from veritable forests, if one is to judge by the trees around the border. Usually this ground was broken by the powerful ox teams hitched to plows of immense proportions, and only occasionally was it necessary to turn aside for some oak, or to use grub-hoe and ax to remove roots too large or too hard to be cut by the share.

For the most part the prairies were featureless; the principal grasses were short and thin on the ground, but the sod was tough. This grass was of great value to the settler, providing pasture for his teams and cows in summer and hay in winter. In quality it compares favorably with cultivated grasses but when mowed for a number of years, decreases very much in yield, and if pastured, soon disappears altogether. To one familiar with the broad prairies[10] of the West these little patches of grass seem hardly worthy to be called by the same name, and there is in fact a wide difference between them, other than in size. Here the prairie soil is shallow, the grass rather scant, it being almost altogether on high dry land with the intervening depressions appropriated by woods, and any considerable area of wet land being invariably a swamp or marsh. In the West, for example in north-

[9] From the home of Mr. Amos Chase of Dane, there are now extensive stretches of woods to be seen; these groves are largely of black oak and are of fair size, often measuring from eight to eighteen inches in diameter, yet Mr. Chase tells me that when he moved to his farm in 1853 he could count every tree in sight without any difficulty. A few miles from here Mr. Robert Steele, in about 1849 or '50, plowed through a half mile or more of hazel brush and grubs (oak roots grown to great size, but with almost no tops because of repeated burning) for the purpose of making a permanent wagon road. The road is still in use, and of the usual width, yet the oaks, in places, almost meet over the traveler's head.

[10] *Prairie* in a prairie region is used to denote wild, uncultivated land, and not merely land which at one time was covered with grass instead of woods, as it is made to mean in Wisconsin.

western Iowa, many parts of Minnesota, or in eastern Nebraska, the prairies reached mile after mile across a gently undulating plain with but few ridges so high as to bear thin crops of grass, while the long gradual slopes and sloughs, with their deep black soil, often produced "blue joint" and other grasses in quantities equaling the yields of clover and timothy of the present day. The marsh grasses in Dane county make a ranker growth and were the main reliance for hay until the cultivated grasses became common; even yet marsh hay is of great importance, though clover and timothy form the bulk of the product, and the marshes are now much used for pasture. This coarse wiry grass was utilized by the early settlers for covering cattle-sheds, horse-stables, and granaries, and occasionally a foreigner who understood the art of thatching made of it a very serviceable roof for his dwelling.