

Have half a ton of cane put through each crusher on exhibition and report the number of gallons of juice expressed.

The Madison manufactory, which is the only firm in the state making mills, I believe, has generously given a crusher for use by the department, and we feel that we have as good a mill as is now in the market.

#### EXPERIMENTS IN GROWING AMBER CANE.

At the meeting of State Cane-Growers' Association held at Fond du Lac last January, I was impressed with the conflicting statements which were made as to the soil best adapted to cane-growing, and the influence of manure on the quantity and quality of the syrup. After trying in vain to tabulate the reports and attain something like uniformity, the attempt was given up as useless, and it was agreed that those interested should conduct a series of experiments to settle these doubtful points. The directions for these experiments were to emanate from the Agricultural Department of the State University, and as many persons as possible induced to help perform them. Although the attention of the farmers has not been called to this experiment as it should have been, nevertheless forty-three have informed me, either personally or by letter, that they would aid in this movement. It is urged that others join in this movement and help in settling questions which must wait for answer until just this kind of work is done.

I ask, then, that each farmer who expects to grow cane the coming season, study the directions for the experiments as here given, and if he is willing to follow them, to send me his name at once, so that I may know how many are working in this line, and can record their names for reference in case it is desirable to send additional instructions or modifications of those given below.

Here is an opportunity for our farmers joining with the University Experimental Farm in work for the advancement of Agriculture in Wisconsin, and I urge that our cause fail not through lack of adherents.

#### DIRECTIONS FOR THE EXPERIMENT.

Select in the field where cane is to be planted three plots of ground, each containing not less than ten square rods and lying side by side. The ground should be as uniform as possible in its composition and fertility. Do not select soil where one end of the plot is sand and the other loam or clay. No matter which it is, but have it all of one character. Have the plots if possible long and narrow, say one rod by ten, or two by twenty, etc. The plots should lie

side by side and should not be separated from one another or the rest of the field. One plot, No. 1, plow in well-rotted stable manure at the rate of sixteen large loads per acre — one load for every ten rods. Plot No. 2, which is to be the middle plot, has no manure of any kind upon it. When the cane on plot No. 3, is three or four inches high, apply plaster to the hills or rows to the amount of one hundred and sixty pounds per acre, or ten pounds for every ten rods. The cane is to be planted and cultivated in the same manner as the rest of the field. If possible, weigh the cane of each plot separately when ready for the mill. Boil the juice to a syrup weighing eleven and a half pounds per gallon, and determine accurately the yield of each plot. Save a sample of syrup from each plot for comparison.

Report to the department upon the following points:

1. Amount of ground in each plot.
2. Character of soil—clay, loam, sand, etc.
3. Is soil naturally rich or poor?
4. Number of years the field has been in cultivation.
5. Crops grown on field previous year.
6. Whether or not the field was manured the previous year.
7. Method of planting cane—in drills or hills.
8. Time of planting.
9. Time of ripening.
10. When manufactured.
11. Yield of syrup from each plot.
12. Character of syrup from each plot as to color, clearness, and flavor.

In addition to the above, give any facts of interest in connection with the experiment, making the report as full as possible.

All reports should be sent in by the first of December, and the samples of syrup from each plot should be preserved until some method is devised for collecting and comparing them.

#### CONCLUSION.

In concluding this most hastily written circular, I take occasion to urge upon those interested, to send in any facts they may possess that will help us along in the work. All letters of inquiry will receive attention. I shall send these circulars to every cane grower whose name I now have on my list, but this is *very* incomplete, and I ask those who may receive it to send in the names of neighbors who are interested and help to scatter it over the state. All facts worthy of public attention during the growing and manufacturing season will be announced in the *WISCONSIN FARMER*, published at Fond du Lac.

MADISON, WIS., April 12, 1881.