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will be required to keep the machine going, which will depend upon the distance to draw. Lengthen out the reach as far as possible, and put two or three planks in the bottom. Care in loading will be a time-saver, as sheaves thrown crosswise make it hard work unloading.

Many different outfits are in use for filling some farmers have their own, but more frequently they are hired. A blower, as a rule, gives much the best results, and a machine that will smash everything to a pulp, cobs and all, will give better fceding results, with no waste whatever. To do this requires large machines and great power, but I am sure it will pay. By all means, have enough teams and men to keep the machine going. rather have the teams waiting on the machine, than have the machine waiting on the teams.

A great difference of opinion exists as to the benefit of tramping in the silo. Over and above keeping the corn well tramped around the side and level, I fail to see much good in tramping. Corn will not settle to any great extent until fermentation begins. About the third day it will have settled quite a lot. If the silo is a large one, it will then hold almost half a day's cut-When finally filled, it should be tramped ting. thoroughly every day for a week. A good plan is to sow oats or barley over surface. This will form a thick mat, which will prevent any great waste.

If you have a cement silo, the walls should be thoroughly wet as it is filled. The wall is dry, and will absorb a lot of moisture if this is not supplied it will draw it from the corn. If the corn is very dry, it might be well to apply considerable water. The expense of filling the silo may be greatly reduced by a change of work with neighbors; in fact, some own the whole outfit, and, where eight or ten farmers co-operate this way, the saving is great. W. E. Waterloo Co., Ont.

### Preparing the Seed-Bed for Wheat.

The Kansas Experiment Station has issued a timely bulletin on growing winter wheat. We quote the printed summary

" The method and the time of preparation for seeding both exert an important influence upon the yield.

" Eleven methods of preparing the land were compared, and the following are the results for this year

" Land disked, but not plowed, cost \$1.95 per acre for preparation, and produced four and onefourth bushels of wheat per acre. The crop, when sold, returned \$1.47 per acre over the cost of preparation of ground.

" Land plowed three inches deep (too shallow) September 15th (too late for best results) gave a yield of fourteen and one-half bushels, a return of \$8.52 per acre after paying for the labor required to prepare the ground.

"Land plowed to a proper depth, seven inches, September 15th (too late), produced fifteen and three-fourths bushels per acre, and gave a return of \$9.08 per acre, after deducting the cost of preparation.

'Land double disked July 15th, to stop the

# THE FARMER'S ADVOCATE

# Experiments with Autumn-Sown Crops.

Four hundred and forty farmers throughout Ontario conducted experiments with autumn-sown crops during the past year. Reports have been received from thirty-three of the counties of the timothy sown in the fall.-Editor.] Province. The average results of the carefully conducted co-operative experiments with autumnsown crops are here presented in a very concise form.

Winter Wheat .- Five varieties of winter wheat were distributed last autumn to those farmers who wished to test some of the leading varieties on their own farms. The average yields per acre of straw and of grain are as follows : Imperial Amber, 1.5 tons, 26.1 bushels; Crimean Red, 1.4 tons, 24.7 bushels; No. 5 Red, 1.3 tons, 23.9 bushels; American Banner, 1.2 tons, 22.8 bushels; Tasmania Red, 1.2 tons, 21.8 bushels.

It will be seen that the Imperial Amber has given good results throughout Ontario, as well as at the Ontario Agricultural College. The Crimean Red, which stands second in the co-operative experiments, has been grown at the College for nine years, and is one of the highest yielders. It possesses wheat of excellent quality, but the straw is somewhat weak. The American Banner is a wheat which resembles very closely the Dawson's Golden Chaff variety in method of growth and in quality of grain.

Winter Rye .- Two varieties of winter rye were distributed in the autumn of 1910. The results show that the Mammoth White variety came at the head of the list in yield of grain with an average of 24.8 bushels per acre. In experiments throughout Ontario for the last five years, the Mammoth White has surpassed the Common rye by an annual average of about four bushels per acre

Fertilizers with Winter Wheat.-In the cooperative experiments with different fertilizers applied in the autumn to winter wheat, the average yields of grain per acre for seven years are as follows : Mixed fertilizer, 23.7 bushels; nitrate of soda, 23.3 bushels; muriate of potash, 21.9 bushels; and superphosphate, 21.4 bushels. On similar land, cow manure, at the rate of twenty tons per acre, gave an average yield of 25.9 bushels per acre, and the land which received neither fertilizers nor manure gave an average of 18.6 bushels per acre. The superphosphate was applied at the rate of 320 pounds, and the muriate of potash and nitrate of soda each 160 pounds The mixed fertilizer consisted of oneper acre. third of the quantity of each of the other three fertilizers here mentioned. The usual cost of the fertilizers, as used in this experiment, is between four and five dollars per acre.

Winter Emmer and Winter Barley. A comparative test of winter emmer and winter barley was made throughout Ontario during the past year. The winter emmer gave a yield of 3,440 pounds, and the winter barley of 3,040 pounds, per acre. Neither of these grains has as yet become extensively grown as a farm crop in Ontario.

Distribution of Material for Experiments in be distributed free of charge, in the order in which the applications are received from Ontario farmers wishing to experiment and to report the results of any one of the following tests: (1) Three varieties of winter wheat, (2) two varieties of winter rye; (3) five fertilizers with winter wheat, (4) autumn and spring applications of nitrate of soda and common salt with winter wheat, (5) winter emmer and winter barley, (6) hairy vetches and winter rye as fodder crops. The size of each plot is to be one rod wide by two rods long. Material for numbers 3 and 4 will be sent by express, and that for the others by mail.

let us know what results they obtained, it might help others in the same position as myself.

A. M. B. Wellington Co., Ont. [Note.—As previously recorded in this journal, the results of the experiments alluded to were negative. We would prefer to take chances on

#### The Care of a Binder.

In manufacturing grain binders, great care is exercised. The materials are carefully selected, and the various processes through which they pass in the construction of machines are carefully superintended.

If you wish to secure the most beneficial results from this rigid inspection before and during construction, we suggest that you take special care of your machines, not only during the harvest season, but after the harvest is over.

All bearings should be kept well oiled and free from dirt. In this way the durability of the binder can be greatly increased, and at the same time delays and unnecessary expense avoided. Moreover, a well-oiled machine runs more smoothly, and thus materially lightens the work of the team.

All parts of good binders are duplicated with accuracy, and can be easily fitted to the machine for which they are designed. This is made possible by employing only the most improved methods of manufacture, by means of which every piece turned out is an exact duplicate of the original pattern.

When the harvest season is over, it is only necessary that the knotter parts of the binder be coated with tallow to keep them protected and in proper condition for future use.

Wherever possible, the binder should be housed during the period when it is not in the harvest field. A little care in this particular will effect a great saving in expense and annoyance when the machine is again taken into the field.

By giving proper attention to the care of the binder, the amount of work performed may be largely increased, and the profits made proportionately larger .- [I. H. C. Service Bulletin.

# THE DAIRY.

### A New Method of Watering Cows. Editor "The Farmer's Advocate":

Your second article on the dairy-farming industry struck me as being especially interesting. It dwelt at some length on the different systems of watering the cows. Apparently you did not run across the watering system that has been adopted very largely in the better dairy sections of the United States. In some States, like Wisconsin, it is used almost in every stable. The system is to water in the same manger the cows are fed in. In your article you mentioned that 1911.—As long as the supply lasts, material will every stable visited had a cement floor, and many a cement manger. In such stables it would be very easy to adopt this new watering system, as with it a continuous manger is made for each row of stalls. The manger is made about two feet wide, and with a rounding bottom. It has a slight fall of about one inch in forty feet towards one end of the stable. At the lower end a trap has to be put in the bottom of the feed trough or manger to carry away the waste water. A tap is put at the upper end of each row. When it is desired to water the cows, turn the tap and let sufficient water into the manger. First. of course, the manger is flushed out. This system has many splendid advantages :

plowed seven inches deep tember 15th (too late for best results, even when land has been previously disked), produced twentythree and one-half bushels per acre, showing a return of \$14.50 per acre after paying for the cost of preparation.

Land plowed August 15th, worked sufficient to preserve soil mulch thereafter, yielded twentyseven and three-fourths bushels per acre, with a net value of \$18.29 per acre.

Land plowed August 15th, seven inches deep, not worked until September 15th, showed a yield of twenty-three and two-thirds bushels per acre, and a return of \$15.34 after deducting the cost of

preparation. " Land double disked July 15th, to save moisture, plowed August 15th seven inches deep, produced thirty-four and two-third bushels per acre, and gave a net return of \$21.44. "Land plowed July 15th, three inches deep

(plowed at the right time, but too shallow for the best results), produced thirty-three and onehalf bushels per acre, and a net return of \$22.32.

"Land plowed July 15th, five inches deep, ridges split August 15th, gave a return of thirty four and one-half bushels per acre, and \$23.73 over all expenses.

Land listed July 15th, five inches deep, worked down level at once, to avoid waste of moisture, gave thirty-five bushels per acre, from which there was left \$24.35 after paying cost of preparation.

"Land plowed July 15th (the right time), seven inches deep (the right depth), gave a yield of thirty-eight and one-third bushels per acre, the highest yield in the experiment. After paying for the cost of preparation, there was left \$25.74 per acre, the largest net return of any method under trial."

O. A. C., Guelph. C. A. ZAVITZ

## Thickening New Seeding.

I have been greatly interested in reading the different articles in " The Farmer's Advocate " on how to help the new clover seeding. I am no exception to the rule this year, and have a complete failure with twenty-seven acres of new seeding. As the drouth shows no signs of breaking in this part of the country yet, I am afraid there would be little use in trying the method's advised

Some time ago there were several articles in "The Farmer's Advocate " on crimson clover for thickening a poor catch of red clover. I have been wondering if it would not be a good thing 'to sow by itself in the spring, instead of taking a chance on the red clover now. I am trying to start a three-year rotation, so would only want the one crop, any way. Perhaps you or some of your subscribers can give me some particulars about crimson clover, as to the advisability of sowing it, the time of seeding, and the amount of seed per acre. I have never seen it growing, and do not know anyone in this neighborhood who has had any experience with it. If some of your readers who have had experience with it would

1. It costs practically nothing. No water bowls are necessary, and only sufficient piping to connect the different rows with the water supply.

2. It keeps the feed trough always sweet and clean. It is well to note that a continuous feed trough, such as this, is much the easiest kind of manger to keep clean.

3. On fine days the cows may be let out to water, but in rough weather they can be watered in the stable.

4. This system is so simple that there is nothing to get wrong with it. It needs no expert to install it. Some of the agricultural authorities in the States have told me that this system of watering was responsible for a great improvement in the condition of the dairy stables wherever it was adopted. They use this system at the Ste. Anne Agricultural College, and it is also being adopted in a large number of dairy barns in the West. We think that your readers would be very much pleased when they saw the system in operation. It is the best system I have seen, and the best way to solve the watering problem in the stable. M. J. BEATTY. Wellington Co., Ont.