

three months old, add a little ground oats, and after three months gradually introduce the heavier grains, such as barley, peas or bran.

Pigs seem to prefer carrots, mangels or potatoes to turnips, besides they are all much easier boiled than turnips. If possible, have the roots boiled for young growing pigs; if not, have them pulped and the meal mixed through them. The brood sows after the pigs are weaned will do well on raw roots. As to what kind of roots are best, I would select whatever the land is best adapted for and which the individual farmer can grow to best advantage.

The clover should be from four to six inches high when the pigs are turned on. As to the number of pigs to one acre, that would depend on the size of the pigs, the condition of the crop, and what extra feed was given. I would consider from six to ten or twelve, depending on conditions. It is advisable to have the pigs all ringed before turning on the grass to prevent turning up the sod. Clover is preferred to vetches, as the latter might become very troublesome if any were allowed to go to seed and spread over the farm.

I prefer to feed shorts largely till the pigs are two to three months old; after that, oats, barley and peas will give the best results. I think it will always pay to grind the grain for hogs. If fed whole, it should be fed dry, for if boiled or soaked a considerable quantity will pass through the pigs undigested, as they will swallow it without proper mastication. Where only one litter is wanted in the year, the spring is the best time, as the pigs soon get outside and do better where the sow has the run of a small grass plot. To obtain the best results, it is better to have two litters in the year—say one in March or April, and again in September. The first litter would be marketed about September, and the fall litter could easily be made ready for April or May, at which time pork generally brings the highest price.

R. R. ELLIOTT, Herdsman.
Central Experimental Farm.

Mr. John Morrison's Stock Barn.

Owing to destruction by lightning of a barn on the farm of Mr. John Morrison, near Brooklin, Ont., during the summer of 1897, an excellent new structure was put in its place before winter set in. The new barn—86 x 50 feet—has a stone basement under the entire size, having walls 9 feet above ground. The arrangement of the upper structure is plainly indicated by the accompanying plan, Fig. 1. Its corner posts are 18 feet, and purline posts 28 feet. The roof is hipped, or broken, allowing a great holding capacity. The siding is of 3 1/2 inch pine, planed, tongued and grooved. The driveway is of tongued and grooved, planed hemlock. The mow floors are of double pine boards. The granaries are of planed, tongued and grooved double hemlock. The timbers are also of hemlock. It will be noticed that chutes for putting down hay, straw, etc., are arranged with a view to convenience in the basement. The trapdoors to root house are also placed so as to do away with re-handling roots in the cellar.

The basement plan, Fig. 2, is also clearly shown in cut. The 9 foot walls are 22 inches thick, and studded with plenty of large windows. There are also windows over each of the doors. The floor of the horse stable is of brick, and of the cattle portion cement. Ventilation is secured by 10-inch pipes through the end walls at the ground and the numerous chutes into the barn above. The passages are all of nice width, without any waste of space. The stalls are of good size and conveniently arranged. A horse can be driven through the 4-foot doors for cleaning out the stables.

On his 200 acres Mr. Morrison has another barn, of much the same dimensions, with stone basement, so that his large and excellent herd of high-grade and pure-bred Shorthorns, as well as his extensive Clydesdale stud and flock of Cotswolds, will always be comfortably and healthfully stabled in the housing season.

Water Trough for Cattle Stall.

To the Editor FARMER'S ADVOCATE:

SIR,—We notice in last issue a cut of stall for keeping cows clean. Our experience is to have bottom of manger from two to three inches higher than floor of stall, instead of lower, as shown in plan. The other parts of stall are good, except pipes for water. We prefer an open wood trough to any system of piping, as they will freeze in almost any stable when the thermometer goes down to 20° or 30° below zero, and thus are liable to burst. A great many of our neighbors are troubled with abortion in their cows from no apparent cause, ranging from three to seven months after service. Is there any remedy or preventive for this? Is it infectious? Northumberland Co., Ont. ALEX. HUME & Co.

H. R. KEYES, Midway, Man.:—"I think your paper should be in every farm home, and I wish you every success."

FARM.

SEEDING OPERATIONS.

Before the time for seeding arrives every farmer must make a choice as to the varieties of the various grains he will sow for the coming crop. Whether the decision is based on one's own experience or that of others in whom he has confidence, the subject is worthy of careful consideration, because the difference between the returns from different sorts, under the same conditions, often run into hundreds of bushels on the average farm. Not only is it necessary to grow the best obtainable sorts to get the largest returns, but the system of managing the land has even a greater influence upon the returns received. In order to assist our readers as far as possible to decide wisely the different questions that face every

most popular and paying varieties, although the coming season we are trying a new bean called the Bayou, said to be in the highest favor with the miners, and thus bring a slice of the Klondyke our way.

Our favorite hay is produced by seeding with six pounds red clover, two pounds Alsike and two pounds timothy. About half the quantity of timothy is put on when sowing the wheat in the fall. The balance of the mixture is applied in the spring with a patent seeder, and the land rolled when it becomes sufficiently firm. This produces a fine hay and a heavy crop. Our lucerne (alfalfa) mixture is twelve pounds lucerne, two pounds red and one of Alsike. We sow this on spring grains, barley preferred, usually broadcasting it behind the tubes with the seeding attachment on the grain drill, and roll at once, which presses the seed in the required depth. From nine acres seeded in this way in 1896 we cut one and a half tons of hay per acre the same fall, and last year it pastured over 100 head of hogs until they were marketed, besides furnishing night pasture for two work teams and ten head of milch cows. Lucerne may not do well with everyone, and everywhere, but it's a bonanza to the farmer that can grow it!

Were we asked what were our main sources of fertility we would answer the three C's, cows, corn and clover, and of the three we think the latter the most important. As before stated, we clover everything we possibly can, and either pasture, plow under, or feed every pound of it in conjunction with our coarse grains and millfeed. Another point, we endeavor to place the manure on the land as soon as made, finishing up with a complete barnyard cleaning in the spring, consequently we get the full benefit, and have no loss from the manure leaching and bleaching in the yard six or eight months. That our farm is responding liberally to this treatment will be seen by the fact that the past year our corn yield was in the neighborhood of 125 bushels per acre, and wheat and beans turned

out 30 and 33 bushels per acre respectively.

The cultivation necessary to the best results in the hoed crops will draw the required moisture, and with the addition of plenty of clover will go a long way toward banishing the weed nuisance on any farm.

I have no experience in treating peas, oats, etc., but have successfully treated potatoes for scab with corrosive sublimate for the past two years, and can highly recommend it to those having scabby potatoes.

A Heavy Feeding Crop Once in Six Years.

BY JOHN BURNS, PERTH CO., ONT.

In regard to rotation of crops no hard and fast rule can be successfully carried out, owing to the many changing conditions of the market for farm produce and the fact that farmers are adding new and reclaimed portions to their farms which for a certain time require special treatment. As a rule, in my own practice I try to carry out a six-year rotation. By that I mean that only once in six years the land will be carrying a heavy feeding crop, such as wheat. Four years of this period is devoted to roots and corn and leguminous crops, pasture, meadow and peas. It will also get two applications of farmyard manure during this time—one heavy coating before the roots and corn, the other for wheat, usually not so heavy as for the root crop. In following out this method with thorough cultivation there is very little trouble from weed seeds, and as far as I can see there is no perceptible diminution in the fertility of the soil. In varieties of grains, I am still growing the old standards, Banner oats, Mandscheuri barley, and Golden Vine peas. I have never grown any spring wheat whatever.

In preparing the land for these crops I aim to have the work well done the fall before, usually plowing twice, the last time thorough and deep; then cultivate in the spring. Sow and harrow until the land is in fine tilth, then after allowing a few days for the surface soil to settle, sow grass seed on what is to be seeded down, with a wheelbarrow seeder, then roll. And this is the only method used to conserve moisture in the soil. However, in preparing sod land for fall wheat too much importance cannot be attached to early plowing, thorough working on the top to compact the sod and mellow the soil. I usually sow from eight to ten pecks per acre of seed. In grasses I like a mixture of about five pounds red clover, five pounds timothy, two pounds Alsike and two pounds orchard grass per acre. I have had better success with fall wheat as a nurse crop than with any other kind of crop. It is quite safe to sow as early as you like—say after the first of March. I think it quite necessary to sow perfectly clean peas for seed, and if you cannot get them free from bugs the best way to do is to keep them over to the second year, when all the bugs that they contained will have deserted them. Have treated wheat for smut with the copper sulphate solution, and had most satisfactory results.

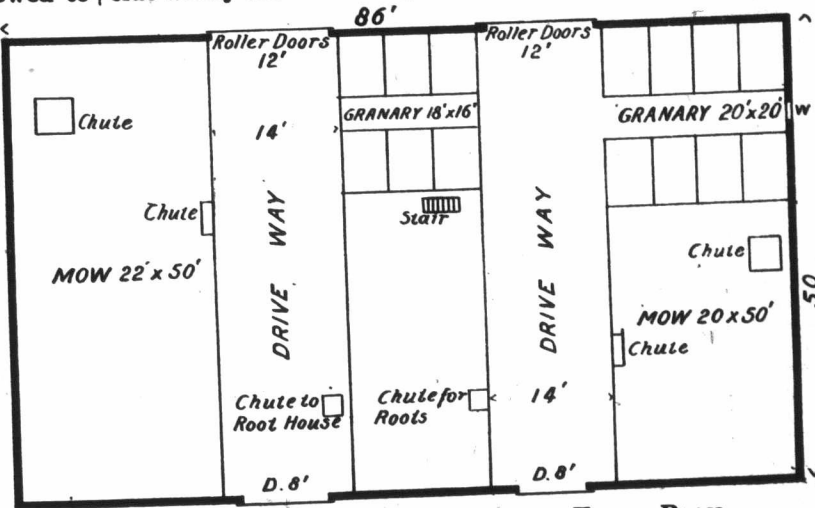


FIG. I.—MR. JOHN MORRISON'S BARN FLOOR PLAN.

thinking, progressive farmer at this season of the year, we publish the following letters, based upon practical and successful experience, which discuss the subject of rotation of crops, varieties of grains and quantities sown, preparation of the land, varieties and methods of sowing grasses, clovers, etc., for hay and pasture, means of maintaining fertility, moisture and cleanliness of land, as well as the treatment of grains and potatoes in order to combat insect and fungous troubles.

Cows, Corn and Clover the Main Sources of Fertility.

BY W. A. M'GRACHY, KENT CO., ONT.

Our rotation is as follows: Clover, beans, wheat, clover, corn, and potatoes; oats and barley. We seed down with all our wheat, oats and barley. As a result we have an abundance of hay, pasture, and material for green manuring, which is rapidly increasing the fertility of our farm.

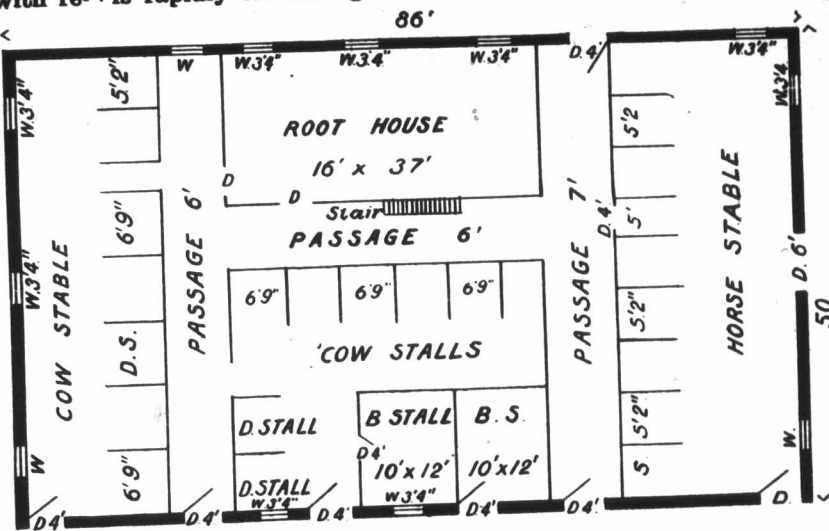


FIG. II.—BASEMENT PLAN.

We fall plow the sod intended for beans and corn, coat it heavily with stable manure during the winter, which gives us a week or ten days additional time in the spring for working the land and destroying foul seed. Spring preparation for oats and barley consists in working the land sufficiently and that the seed will cover when drilled, and then rush them in, as we consider earliness of seeding goes a long way toward a heavy yield of either of these grains. I think the experiments conducted along this line at the Experimental Farm point the same way. The bean and corn ground is thoroughly worked before planting time, as we believe in doing the hoeing by horse power before the seed goes in. We cultivate the ground over every week or ten days with a disk harrow, rolling it after each working to hold the moisture which is so essential to the early growth of these crops. As to varieties, Black Tartarian and Joannette oats, Mandscheuri barley, Ohio Improved and eight-rowed yellow corn, and the pea bean seem the