

SPLENDID DESIGN FOR HORSE BARN

Scientifically Planned and Contains Modern Equipment.

IMPORTANT ASSET FOR FARM

Gothic Roof Is of Plank Frame Construction and Gives Ample Space for Hay Mow—Hay Twelves Stalls and Two Box Stalls.

By WILLIAM A. RADFORD.
Mr. William A. Radford will answer questions and give advice FREE OF CHARGE on all subjects pertaining to the subject of building work on the farm. For the readers of this paper. On account of his wide experience as Editor, Author and Manufacturer, he is, without doubt, the highest authority on all those subjects. Address all inquiries to William A. Radford, No. 1527 Prairie avenue, Chicago, Ill., and only include two-cent stamp for reply.

People in the cities are inclined to think that there is no "such animal as a horse" because of the thousands of automobiles and motor trucks. But they overlook the fact that there are still many animals in the country. On the farms the horse is still

of providing effective protection against this tremendous loss should not be minimized. A ventilator provides a supplemental source of fresh air for the stalls below.

The barn is of frame construction set on a concrete foundation. It is 36 feet wide and 55 feet long, not a very large building. The stall floor is well lighted and ventilated by plenty of windows and doors, and contains 12 individual stalls and two large box stalls. The stalls are built in two rows facing in, with a feed alley running between, and litter alleys at the rear of each row. These alleys are equipped with special carrier track for hauling feed, and litter carriers. The feed-carrier track runs from the feed room at one end of the barn to each stall, thus eliminating much of the heavy work which has been customary in horse barns. It is an added asset because it makes the work easier for the help and tends to keep them satisfied.

While many farms do not require a special horse barn, they all need a dairy barn and this structure can be used for this purpose just as well. Instead of the present lower floor arrangement the horse stalls can be replaced by cow stalls and stanchions. This barn will hold a substantial herd of cattle. The box stalls can be converted into bull pens and cow pens, and the feed room can serve a similar purpose.

This building typifies the tendency of the modern and progressive farm-

GOOD ROADS

REVENUE FOR ROAD BUILDING

Registration and License Fees in 1920 Amounted to \$102,034,106—Increase in Cars.

(Prepared by the United States Department of Agriculture.)

A total of 9,211,255 motorcycles, including commercial vehicles, were registered last year in the 48 states and District of Columbia, according to figures compiled by the bureau of public roads of the United States Department of Agriculture in a study of revenue available for road-building purposes. There were also registered a total of 238,116 motorcycles. The registration and license fees, including those for chauffeurs, operators and dealers, amounted to \$102,034,106.33. As compared with 1919, the data for 1920 represent an increase of 22 per cent, or 1,045,549 motorcycles. This increase alone lacks but 4 per cent of being equal to the total expenditures of the United States six years ago.

In 1920 in the state of New York alone the number of motorcycles registered, including commercial vehicles,



Improved Roads Facilitate the Delivery of Mail to the Farmer.

exceeded the total cars registered in the whole of the United States in 1910. Furthermore, the revenues derived from registration in the state of New York in 1920 were about equal to the entire registration revenues of the United States for 1915.

The use of revenues has changed with the passing of years. In 1900 the total registrations were approximately 45,000 cars, paying a gross revenue of about \$155,000. (Approximate 1920 paid approximately this amount.) In 1900 the gross registration revenues were equal to less than three-tenths of 1 per cent of the total rural road and bridge expenditures for that year.

The registration revenues in 1920 were equal to about 25 per cent of the total rural road and bridge expenditures for the calendar year 1919. In 1900 practically none of the motor vehicle revenues was applied to road maintenance or construction, while in 1920 55 per cent, or a total of \$57,007,100.00, was used for this purpose. The remaining 44 per cent not applied to road work was expended very largely for motor plates and in carrying out the provisions of the motor vehicle registration laws in the several states. Of the total amount applied to road work 20 per cent, or \$11,401,420.00, was expended under the control or supervision of the several state highway departments.

FARMER AND GOOD HIGHWAYS

Improved Roads Make Farm Only a Suburb and Land Has Increased Greatly in Value.

The biggest booster for good roads in the country today is the farmer. A few years ago he felt that the portion of his taxes used in the construction of permanent highways represented a benefit only to the motoring tourist and the city automobile owner. The farmer argued that he was paying for their pleasures, and the result was a superstation against the good roads movement, which, unfortunately, has not as yet been entirely overcome in some sections of the country.

Now, however, when the farmer finds that his land has jumped in value; when the merchandise for which he has telephoned in the morning can be delivered by noon of the same day; when the market for his own produce is brought hours nearer; when the winter and the following spring thaws possess no perils for him—all this because of the improved highway which makes his farm only a suburb, as it were, of the nearest city—he naturally becomes a hard-working and hard-headed enthusiast for good roads.—Lester's.

HIGHWAY COSTS ARE HIGHER

Expense of Road Construction in 1920 Twice as Much as in 1917, According to Experts.

Every kind of road cost about twice as much as it did in 1919 and it did in 1917, according to the chief of the bureau of public roads, United States Department of Agriculture, and highway construction suffered more than any other class of work through raised material prices, labor troubles and other shortages.

DAIRY HINTS

MILK RECORDS AID DAIRYMAN

Both Profitable and Feasible to Know for Certainty the Full Value of Cows.

(Prepared by the United States Department of Agriculture.)

Reports coming to the United States Department of Agriculture often include stories of the surprises which cow owners meet with when they start keeping records of their cows' production. For instance, in a Missouri cow-testing association there was a man who, when he entered the association, did not appear to have a very good



Milk Should Be Cooled Immediately After It Is Drawn.

herd; but among his cows was a crippled, ten-year-old Jersey named Goldie. Old Goldie led the whole association, with an annual production of approximately 3,000 pounds of milk and 250 pounds of fat, an income over cost of feed amounting to \$207.

In spite of the fact that when the test started she had a really good three months since freshening. The amusing part of Goldie's record is that her owner tried to sell her just before she went on test, for \$17. Six months later he refused \$75 for her.

The whole herd of "Rich Goldie" was a part averaged 90, 100 pounds of fat for the year. In contrast with this was another herd of 37 cows in the same association, of which \$30 had been reported to be the best in that part of the state. Yet 14 of these were sold during the year as unprofitable, and it seemed likely that more of them would be.

Similar stories come from other states. The dairy division has been giving a great deal of time to the extension of cow-testing associations throughout the country, and there are now nearly 500 associations in various states.

The man who joins a cow-testing association never runs the risk of selling a \$200 milk producer for \$30 because her appearance is poor, for of wasting his feedstuffs and work on a good-for-nothing cow because she looks like a milk milker.

It is not profitable to keep a cow for a certainty the worth of a cow by weighing her milk. A man in a cow-testing association has the milk of every cow weighed and tested at least once a month, from which it is easy to calculate the total for a year. He saves the trouble of doing it himself by having the cow tested at the station. He also weighs the feed and the tester also weighs the milk; so that at the end of a year the owner of a herd of cows knows exactly what each one has given, what she has eaten, and how much income over cost she has brought him.

HELP DEVELOPE IT OF CALF

To Keep Them Grow Up Rapidly Finish Product of Good Hay—It Aids Digestive System.

The important thing is to keep the calves growing as fast as possible and to see that they are provided with plenty of good hay. This, more than any other one feed, will help develop the calf's digestive system and, therefore, never be overlooked. Even if the calf is an "ature" it should be given a chance to eat what buy it will consume.

SILO INSURES NEEDED FEED

Good Silage Made of Corn Crop Planted Too Late to Reach Most Desirable Maturity.

A silo is an insurance. Very often the season is so late that the corn crop cannot be planted in time to get fully matured. Corn can be planted as late as July 1 and yet make good silage.

Feed Cows a Variety

A dairy cow should have plenty of a combination of feeds, so balanced as to meet the requirements of milk production and body maintenance.

Balanced Ration for Cows

It is not injurious to feed a cow a properly balanced ration in proportion to the milk she is giving. Usually the results from underfeeding are a great deal worse than overfeeding.

POPULAR GRAINS FOR FARM FLOCK

Corn Heads Long List Because of Abundance and Is Most Relished by Fowls.

WHEAT REGARDED AS SAFEST

Most Satisfactory Results Obtained When Meat, Bone, Bran and Other Nitrogenous Feeds Are Also Supplied.

(Prepared by the United States Department of Agriculture.)

Of all grain feeds usually supplied to farm poultry, corn has been, and still is, the most popular. This probably is due to its abundance and relative cheapness, and because it is the most relished of all the grains. Corn is heating and fattening, and when fed to fowls as the only feed, fat rather than eggs is the usual result. It should be balanced with meat, bone, bran, and such feeds as are rich in nitrogenous matter, in which corn is deficient. When corn is fed to laying hens that have opportunity to take plenty of exercise and to obtain insects and green feed, more satisfactory results are likely to be obtained. It may be fed more freely during the winter than during the summer, say poultry specialists of United States Department of Agriculture.

Wheat Is Safest.

Wheat is generally regarded as the safest grain to be fed alone. It is not quite so fattening as corn, but is too fattening when fed alone. Wheat should be supplemented by the same feeds as advised to use with corn to increase the proportion of protein. Wheat contains a little more protein than corn, about the same amount of carbohydrates, but less fat, and on the whole is considered not so valuable for fattening, but slightly better for growth. Good grades of wheat are relatively too high in price to be used freely in feeds at the present time. Wheat screenings of a good grade can frequently be purchased and fed to advantage. Of course, there is always the danger of introducing weed seeds on the farm. "Burnt wheat" seldom can be fed advantageously, the difference in price between this and good wheat being usually too slight to warrant its use. Oats Needed for Variety.

Oats, while not as good as corn or wheat, are necessary for variety. They contain more indigestible fiber than the other grains. Hulled oats are relished by poultry and are excellent.



Hens on Free Range Are Able to Pick Up Insects and Green Feed.

least for producing eggs, but are usually too expensive. When they can be obtained at a reasonable price in comparison with other grains they may be fed quite freely.

Barley does not seem to be relished by hens, but may be used to give variety to the grain ration. It has a little more protein than corn and a little less than oats.

Buckwheat is quite liked by fowls, but is not widely fed. It may be used to vary the ration, but is usually too high in price to be economical. Buckwheat middlings are rich in protein and make a good mixture with cornmeal.

Ire is not fed largely, and does not seem to be much relished by poultry. It is supposed to cause bowel trouble when fed freely.

ARRANGE PLAN OF ROTATION

As Many Fields Should Be Established as There Are Years for Fairly Constant Supply.

In adopting a plan of rotation as many fields should be established as there are years in the rotation, for this gives a fairly constant supply of each crop. When a crop fails a similar crop should be substituted, for example, oats for wheat, soy beans or corn for clover. There is no other way to maintain a systematic rotation.

RIGHT DEPTH FOR PLANTING

No General Rule Can Be Recommended as Vegetables and Soils Differ Greatly.

There is no general rule regarding the depth of planting, as different kinds of vegetables and different soils necessitate different practices. The smaller the seeds the shallower the covering should be, as a rule, and heavy soils the covering should be lighter than in light soils.

MUCH TIME IS LOST IN FIGHTING WEEDS

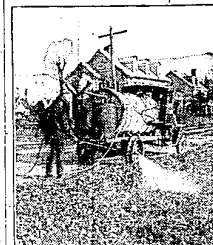
Survey Has Recently Been Conducted by Experts.

Special Attention Given to Best Methods of Conquering Some of Worst Plants—Publications on Eradication or Control.

(Prepared by the United States Department of Agriculture.)

Fighting weeds occupies about 30 per cent of all the time a farmer spends in cultivation of crops, according to experts in the United States Department of Agriculture, who recently have been conducting a weed survey. Special attention has been given to the best methods of conquering some of the worst weeds, and the following publications on their eradication or control may be obtained by writing to the department.

Farmers' bulletins: 610, Wild Oats; 620, Weeds in General; 833, Wild Oats in Hard Spring-Wheat Area; 945,



Killing Roadside Weeds With Spray.

Bermuda Grass; 1161, Dandelion; 1168, Poison Ivy and Poison Sumac; 1202, Canada Thistle.

Department circulars: 108, Chicory; 130 (5 cents a copy), Hawkweeds or Paint Brushes.

Department bulletins: 511 (10 cents), Farm Practice in the Cultivation of Cotton.

In addition to these the following multigraphed leaflets on special weeds may be obtained by writing direct to forage crop investigations, bureau of plant industry, United States Department of Agriculture, Washington, D. C.: Chemical Weed Killers; Eradication of Nut Grass; Wild Carrot; Crabgrass; Killing Dandelions in Lawns; Sheep Sorrel; Chickweed in Lawns; Eradication of Quack Grass; Wild Mignonette; or Bird-Weed; Honey-suckle as a weed; Perennial Sow Thistle.

CULTIVATE POTATOES OFTEN

Hoeing Should Be Done Once a Week for Six Weeks After Plants Appear—Kill Bugs.

Potatoes must be hoed or cultivated at least once a week for about six weeks after the plants appear. While cultivating, the soil should be drawn about the plants, forming hills to protect the potatoes from the sun.

Potato bugs, old-fashioned "hard shells" and their children, the soft shells or slugs, are sure to eat the foliage of potatoes unless prevented from doing so. The "hard shell" bugs that are first to appear can often be picked off by hand and killed, but about the only way to control the young soft bugs or slugs is to poison them. This can be done by spraying or sprinkling the potato leaves with a mixture consisting of one ounce of arsenate of lead in one gallon of water or the plants may be dusted with powdered lime to which paris green has been added at the rate of one ounce to four quarts of lime, say specialists of the United States Department of Agriculture. The dust should be sifted over, the plants during the early morning while the dew is upon the leaves. It will not be necessary to dust or spray all the plants, but only those where the bugs have started, then go over the potatoes every few days to see that the bugs have not gotten a fresh start.

SWEET CLOVER BUILDS SOIL

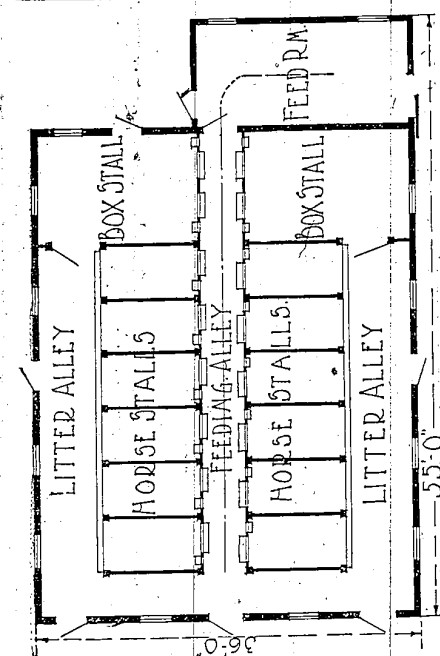
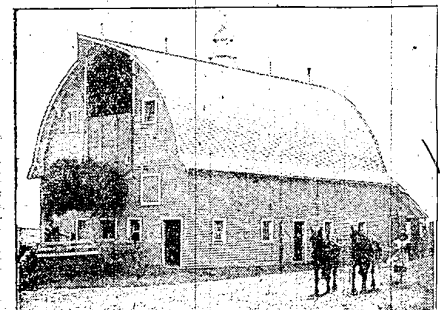
By Vigorous Growth and Decay of Large Roots It Restores Humus in Large Quantities.

As a soil builder sweet clover is in a class by itself. By its vigorous growth and the decay of its large roots it restores humus to the soil in large quantities. If it is allowed to remain and decay where it has grown, large quantities of plant food are made available. Moreover, it is a legume and can therefore take its nitrogen from the air, thus adding an element to the soil that is very beneficial. Its long fleshy roots penetrate the subsoil and bring food to the surface, or other plants to use, and at the same time, improve the soil texture.

PROFITABLE SIZE OF FLOCK

Best to Keep Number Under 500 Unless Breeder Is Man of Considerable Experience.

Until one has had considerable experience it is best not to brood over 500 chickens on the farm, and a smaller number would probably do better, say specialists of the United States Department of Agriculture.



rying many of the burdens and is still considered one of the assets of that institution. In many cases the horses are housed in a combination or general utility barn, that is, a building having accommodations for both horses and cattle. However, where the number of horses is large enough, a separate barn is very often built. There are certain important considerations which should not be overlooked in the construction and planning of a horse barn.

In the first place ample space must be provided for the storage of bulky feed of which horses consume large quantities. By this is meant hay, straw, fodder, etc. The most convenient place for the storage of this feed is a large hay mow, and this is provided for by a high roof built so there are few obstructions in the way of supporting posts.

In the barn shown here plank frame construction has been used in building up this high gothic roof. As can be seen very readily the hay mow is under a great supply of hay. It has been fitted with special hay carrier equipment for the unloading and storing of hay.

Protection against fire has been insured in the form of lightning rods on the roof. When it is considered that 95 per cent of the fires on farms are caused by lightning, the importance

of a barn is trying to make farm life as attractive and as profitable as possible. He realizes that by constructing efficient buildings equipped with all of the latest and most advanced labor-saving devices that he can hold his sons on the farm and not have them leave for the cities just when he is ready to retire and enjoy the fruits of his many years' labor. Farm work does not mean drudgery, endless hours, although many farms have caused this impression to get wide circulation. Better buildings and better equipment, introduced during the last decade, have revolutionized old ideas and old methods. Today the farmer is able to conduct a well-regulated business, if he is alive to the methods and means which will make this result possible. Six to two hours are more instrumental in making the work of the farmer wholesome, cheerful and worth while than up-to-date buildings, barns, houses, sheds and equipment. The buildings, because they are scientifically planned and built, eliminate unnecessary tasks.

Well-housed horses will work harder during the day and easily earn the money that is invested in a barn, more milk and thus increase the income of the man who has forethought enough to build a real dairy barn. And so it goes all the way down the line.