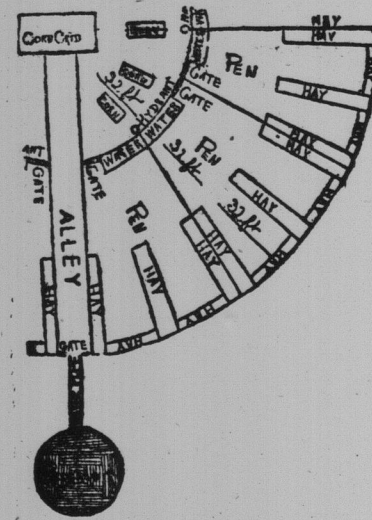


FARM & GARDEN

SHEEP PENS.

A Circular Corral Which Minimizes Time and Labor in Feeding. Sheep men are divided somewhat in opinion as to the best manner of handling sheep when preparing them for market. Some prefer square or oblong pens, but a number of Colorado feeders build their pens on the general plan of a circular inclosure. The Daily Drovers' Telegram gives an account, which bears upon this point, of the farm and feeding pens of one of the



most successful sheep men of the Rocky Ford region, who buys southwestern lambs and prepares them for market. It is stated that of the farm of 320 acres 200 are seeded to alfalfa and the remainder is used for pens, barns and residence. The manner in which the corral and feed lots are arranged is an admirable one for caring for sheep, and it would be a hard matter to devise a more practical arrangement.

The corral is circular in shape and has a smaller pen in the center. Radiating from this center pen to the outside are fences, as shown in the cut, which divide the outer portion of the corral into 12 different pens. These outside pens are called hay pens, where the sheep remain when not in the corral pen, two smaller pens in the center. At the immediate center of the corral is located the corn bin or crib. Water is furnished by means of a reservoir and pipes, which are connected with each pen, necessitating the use of six hydrants, one for each two pens. The feeding pens are connected with gates to the hay or outer pens.

Feed is given twice a day, and it usually takes three hours each time to handle the 12 pens. Two pens are fed at the same time, one pen on each side of the dividing fence, thus minimizing both labor and time. All the corn used is carefully weighed each day as it is fed. This is a point that a good many feeders overlook. A pair of hand scales is kept at the pens, and not a grain of corn more than the determined weight is given.

The accompanying diagram shows a little more than a quarter section of the whole arrangement.

Improvement of Tobacco.

Little is known of the chemical proportions of the tobacco leaf, particularly those which contribute to the flavor and aroma. It is certain that the excellence of the leaf and its adaptation to market demands are not dependent, except in a very general way, upon the amount of nicotine. It has long been known that certain of the potassium salts cannot be used at all for the production of high types of cigar tobacco, as they give the leaf a poor burn. It is furthermore an old experience of tobacco growers that excessive nitrogenous manuring tends to produce a large leaf of inferior quality, containing an increased amount of nicotine. Dr. Loew of the agricultural department is said to have found that there exist on the Florida leaf two kinds of oxidizing enzymes, distinguished as to action as the peroxidase and the peroxidase. Comparison with the Connecticut leaf has demonstrated to his satisfaction that it is on the difference in these enzymes and on their presence or absence that the difference in flavor and aroma depends. Having demonstrated to his satisfaction the presence of these enzymes and their effect on tobacco, Dr. Loew is now engaged in the attempt to employ them as to produce the flavor of Florida leaf in Connecticut tobacco.

Waste Lime From Sugar Factories.

The value of refuse lime from beet sugar factories varies widely, depending chiefly upon the amount of water which it contains, says Professor H. J. Wheeler, who also tells in Rural New Yorker how to use this material as fertilizer. This lime waste should never be spread upon the surface of the ground while it is in a wet condition, or it will cake and interfere with its proper incorporation with the soil. It should not be put in heaps upon grass where it is desired that the grass should not be destroyed. It is best to apply it in small piles in the late autumn and allow it to freeze and melt until spring. It then crumbles and is spread and worked into the soil as thoroughly as possible. If preferred, it may be placed in some convenient place in long piles and worked over at intervals of a few weeks, by which process it becomes fit to apply after a few months. Aside from the difficulty of applying it and the small amount of the actually present, the use of this material is objectionable.

LARGE LOADS.

One of the Details That Mean Good Business to the Farmer.

Much time is lost by drawing small loads. Many times have I seen farmers going to town with a load of wheat of only 30 or 40 bushels. I can remember when a boy we had to draw out wheat and oats to market a distance of 16 miles. Even on good roads we considered 30 bushels of wheat and 60 bushels of oats a good load. Now we draw 80 bushels of wheat and don't consider it any too much. Where there is a large quantity of stuff to market a third horse pays well. You can then put on 100 bushels of wheat and 200 bushels of oats. One man can do the work, an extra trip is saved, and the third horse does nothing but draw grain. It will take one horse to draw the wagon and the other two horses to draw grain.

A great many loads of logs and bolts are drawn on horse power every day in the winter time. It is interesting to notice the difference in the size of loads. Some, with a good team and a long distance to haul, will have on a couple of small logs, while a neighbor with no better team will pile on 10 or 12 logs as large. What a lot of time is wasted here! Frequently large loading is overdone, but more frequently small loading is omitted things we have on our farm is a large flat rack, 7½ feet wide and 16 feet long, with a tight, smooth floor laid over it. We use this on our low wheel, wide tire wagon. It stays on all the time, and we use it for nearly everything. It has a 2 by 3 strip nailed around the outer edge to keep loads from slipping off. It is the best thing for drawing in hay or grain that I ever saw.

We can put on some monstrous loads of hay, and it is no trouble to put on 60 dozen of wheat, or all that a large team can handle. It looks like a flat car while empty, and the old fashioned rack looks like a toy beside it. Large loads of hay pay well. They save several extra drives to and from the field. Besides, it does not take any longer to clean up the bottom of the load from a large one than it does from a small one. So time is saved in two ways here. Saving time means lots of money sometimes in drawing hay. It may mean the saving of large quantities from being spoiled by getting wet. I have often wished for an extra day to finish up the hay. Had I used large loads I might have saved a good deal from getting a mean business to every farmer. The time is here when the farmer must use more business in his business, writes I. N. Cowdrey in The Country Gentleman.

Forcing Rhubarb in the Cellar.

Horticulturist Fred W. Card of the Rhode Island station, in summing up his experience in forcing rhubarb, expresses a desire to impress upon every one who has a garden with rhubarb in it the fact that he and his family may be enjoying in February and March of next year a more beautiful product than ever grown in the open ground. To do it he will need to transfer a few roots to a dark corner of the cellar after they have frozen in the fall, packing a little fine mellow earth about them, and then simply see that the plants are kept moist. Whoever owns a garden with no rhubarb in it should see that some is planted there forthwith.

A warm cellar will hasten the crop, but a moderately cool one will give a finer product and probably a better yield. The length of time between planting and harvesting varies from less than three weeks to more than two months, depending chiefly upon the temperature. Allowing the roots to freeze in the field will greatly facilitate forcing. Large roots should yield five to ten pounds per plant, and every ten ounces of that yield will make a delicious pie. The color of the cooked product will be much brighter if it is placed upon the stove in cold water, and it will be sweeter if the sugar is added just before it is eaten.

Agricultural Brevities.

The results from the continued experiments of the Rhode Island station appear to indicate that many farmers might find the use of lime on their land a paying financial operation, even though the first cost of the investment seems to them forbiddingly great.

J. H. Hale of fruit growing fame says there is less danger from injury to the trees by freezing in winter when the soil is given frequent cultivation during the growing season and then a cover crop grown to cover the soil in the winter and to plow under to add humus to the soil the next year.

Thorough fall cultivation seems to be the only practical means yet known of destroying wireworms in the soil.

Sweet corn, if allowed to remain on the stalk and cut and put in a shock before being injured by frost, will keep fresh for a considerable time, says John Hobson in American Gardening.

Smudge fires can be used to advantage, according to the department of agriculture, for orchards, vineyards and ground plants, and even for the smaller grain fields, and were particularly efficacious in protecting crops from plants in low or bottom lands over which on still nights the smoke from smudge fires would settle.

FRUIT & FLOWERS

JAPANESE MAPLES.

All Are Very Popular, the Blood Leaved the Favorite.

The Japanese maples are becoming exceedingly popular lawn trees. The habit of growth of the Japanese blood leaved maple and its adaptability to small city yards and gardens are indicated by the illustration from Meehan's Monthly. All the Japanese maples are so shrubby in growth and of such beautiful colors as to form a separate class among maples which is much used for composing permanent beds of color in summer.

But the blood leaved variety (Palmatum atropurpureum) is the favorite of all with its blood red foliage.



BLOOD LEAVED JAPANESE MAPLE.

ite of all with its blood red foliage. Meehan says it remains pretty all through the season, but is particularly so when the foliage becomes fully expanded in the spring. It can be used to obtain a mass of crimson color or equally well as a single specimen.

A southern horticulturist, however, finds these handsome small trees undesirable for the north because their foliage retain the exquisite colors of their foliage after May, and, unless planted in rich, moist and partly shaded situations, they soon change to a dull green tint. In the mountains of North Carolina they give better results.

Indoor Culture of Lilacs.

There has always been a demand for lilacs at unseasonable times, and the florists have made this an important branch of their business and reaped the dollars accordingly. A correspondent of The Ladies' World has found the indoor culture a very simple proceeding which will repay any one who wants winter blooming lilacs to adorn the house and make it a bower of beauty. She says, "The Persian varieties are beautiful and have been grown in Europe in pots with a single stem like a standard rose with a crown of any desired size, drooping with the wealth of floral beauty. It is a charming decoration for the window, corner of a room or conservatory. 'Take up a plant with a ball of earth around it and with as little loss of roots as possible; plant in a tub of suitable size in rich earth. Keep the earth covered by leaves, which should be moistened and the temperature at 60 or 65 degrees. Under such conditions a fine harvest of lilacs may be gathered at any time during the winter months. A lot of stocky shrubs must be taken up before the ground freezes solid and heeled in in some shed or cool cellar, so that they may keep dormant until wanted."

Flowers at American Institute Fair.

A curious and rare plant exhibited at the recent show of the American Institute in New York was the anacardium, or jewel plant, so called from the extraordinary markings of its leaves, in which lies its beauty. The plant is less than a foot tall, the leaves of a velvet green surface traced with innumerable fine lines of brown, reddish brown, silvery or golden hue.

A new hybrid orchid, Selenipedium geraldii, valued at \$200 or \$300, and growing in this one old fashioned flower, is its singularity without eliciting much admiration.

The extraordinary exhibit of dahlias testified to the "boom" which is on and growing in this one old fashioned flower. Among the newer types the "cactus" dahlias are proving exceedingly popular.

Protecting Young Fruit Trees.

Much protection against mice and borers can be given young fruit trees by wrapping the lower part of the trunk with tarred paper, if this is done in the following fashion, suggested by New England Homestead: Dig away the earth about the tree so the paper can be put down below the surface. Then fold the paper about the trunk, making the edges join as do the edges of a stovepipe. This prevents the entrance of insects to lay eggs under the bark. When the paper is in place, put back the earth about it and tie the top of the paper closely to the tree.

Timely Notes From Vick's.

Thousands of spring planted cut leaved birches die every year because these trees are poorly adapted to spring planting. Set them in the fall, and 90 per cent of them will live.

Many persons never have fine beds of Dutch bulbs simply because they do not bring themselves to the easy but necessary task of fall planting. Such neglect is inexcusable.

Prune blackberries closely. You will notice that the best fruiting is on the young, not the old, branches.

One advantage of autumn tree planting is that there is more time at this season.

A pot of mignonette comes in nicely in the spring. She is a very desirable plant.

Chrysanthemum buds should be thinned.

No compromise with the late weeds. High feeding for panicle.

Repair the walls.

WINTER PREPARATIONS.

Making Everything snug and Comfortable Against Cold Weather.

Beds of asparagus, rhubarb and the small fruits should have manure put on them this fall. They are all unwilling to yield good crops unless they are liberally fed, and the manure applied now will cause them to be making root growth, which will produce much better results in next year's crops than they would give if the manuring was deferred until spring. We also like to top dress grasslands in the fall as early as we can if we have well rotted barnyard manure that we can use for that purpose, or even coarse manure if we have time later on to harrow or brush it over to break the lumps and spread it evenly.

The fall rains have improved the pasture in many sections, and while the new grass is growing there may be some good feed, but do not feed too closely or too long. The frost bitten grass has but little nutrition in it, and the cows will do better upon hay and corn stover than upon the greenings of the pastures after a heavy frost.

Any animals that are to go to the slaughter this fall or winter should be in warm quarters at night and in cold, feed by the bucket, sheep or swine. They can easily digest much more hearty food now than they could have done in August, while later on, in colder weather, it will take more feed to make a pound of flesh and enough more to make considerable difference in the cost of feeding.

In view of the reports we are having from the vast cornfields of the west, it seems as though our little crop in New England was scarcely worth mentioning, yet with our larger yield per acre, the higher prices here and the usefulness of the stover as a forage crop it is as it is to those whose fields are measured by square miles instead of acres. Those who have silos may find it the better way to run silage and ears through the cutter and make silage of the whole, but we have a liking for good cornmeal for the fattening stock and sound corn for the chickens and turkeys, and we think we should husk the silo of the larger part of the best ears. Without a silo we would husk the good ears and bind the stover in bundles after husking to be run through the feed cutter this winter and, after moistening and mixing with a little grain, to be used as feed for the milk cows.

During the summer it often happens that windows get broken, doors and gates off the hinges and other things generally a little out of repair, and it is scarcely worth while to leave the pressing work of the season to fix them up at once, but November winds may do greater damage, and the winter's snow must be kept out of the buildings, and this is the time to begin to make everything snug. When it grows cold or snows will be a bad time to do this work. The henhouse especially will need looking after, for a cold wind blowing upon the fowl the roof or the ground in the house wet with drifting rain or snow means a check to egg production and possibly a lot of fowl sick and dying with cold. Do not neglect this, says The American Cultivator. The soft northern winds are given first, and the pig's stomach, unused to such heavy food, is unable to digest it, with the result that it ferments in the stomach, and this causes acid to rise in the mouth, making it sore as soon as the corn is hard for the pig to chew. It is often said that allowing pigs to run in orchards and pick up sour apples is what makes their teeth sore. It is true that a pig which used to be, is to feed heavily when cornhusking begins, says the Boston Cultivator. The soft northern winds are given first, and the pig's stomach, unused to such heavy food, is unable to digest it, with the result that it ferments in the stomach, and this causes acid to rise in the mouth, making it sore as soon as the corn is hard for the pig to chew.

The Wheat Crop of 1899.

The total wheat crop of 1899 is estimated at 565,350,000 bushels grown on 45,251,000 acres as compared with 452,000,000 bushels in 1898, and the production last year which, in the light of the season's movement, cannot have been less than 715,000,000 bushels. As compared, then, with last year there is a shortage this season of at least 150,000,000 bushels. Last year, with the largest wheat crop the world ever raised, we were called upon to export 225,000,000 bushels. This year, with a world's crop smaller by several hundred millions, we may reasonably expect to be called upon for as much, and to meet such a requisition it will be necessary to reduce our old reserves to a point at least 60,000,000 bushels below what they were when new wheat became available this year—Orange Judd Farmer.

Money Makers in the Hills.

Sheep—this is my hobby. Sheep are the farmers' friends. They will make the most money from the smallest investment of any stock a farmer can raise on these hills. I do not charge the sheep for their keep, as I think the bushes and weeds they kill in the pasture season and their droppings the year round will pay for the feed and time spent feeding, and the wool and lambs are all, or nearly all, profit. The better your sheep the larger your profits. So use pure bred sires, and your flock will increase in value at every breeding. Sheep and blue grass are the money makers here in the West Virginia hills, writes an Ohio Farmer correspondent.

A Claim Farm.

An acre of good "claim ground" should yield annually 500 bushels of marketable birches. A claim farm should consist of several divisions. First is the preserve, or ground for breeders, where mature claims are kept in numbers sufficient to seed the rest of the farm without further attention. Patches of seaweed should be left to furnish points of attachment for the young claims. The balance of the farm should be divided in sections, to be dug in successive years, allowing three or four years between digging of the same area, thus preventing the destruction of the young claims—Rhode Island Station.

ZEBROIDS.

Hybrids Which May Supplant Mules—Cross Between Zebras and Horses.

The Brazilian minister at Washington has furnished to the bureau of animal industry some interesting facts about what he calls "zebroids"—i. e., crosses between the zebra and the horse—which are being bred by Baron de Parana on his plantation in the state of Rio Janeiro. It appears that the object of these experiments is to produce a larger and handsomer hybrid than the mule, and one which, as proved by results already obtained, is a more valuable animal. The baron declares that the zebroid will prove of great economic importance, and that it will be, in fact, the mule of the twentieth century, supplanting the humble but cantankerous offspring of the ass and the mare.

The baron imported his zebras from Africa expressly for this purpose, and he says of the hybrids produced that they are very sprightly, though at the same time gentle and docile, and have extraordinary muscular strength. Their



ZEBROID THREE MONTHS OLD.

size, shape, pace and disposition depend upon the dam, and so they may be bred at will for the saddle or for heavy or light draft. It is only necessary to select mares possessing the qualities desired. Thus crossing with mares of the heavy Percherons or Suffolks gives zebroids that are large and very strong, while mating with Arabs and Normans produces small and slender zebroids, tractable and suitable for work that requires quickness. The hybrids are softer mouthed than mules, they never kick, and, though when first handled they have an inclination to bite, they give this up when they find that there is no intention to hurt them.

The baron's stud of zebras is derived from the Fransvaal, where at the present time these striped relatives of the horse are being employed to a considerable extent as beasts of burden, and especially for coach teams. Frequently they are driven four-in-hand in the wheeled Cape carts. They may be purchased in Pretoria or Johannesburg for \$50 to \$150 each.

Fattening Hogs Early.

The most common mistake of farmers in feeding hogs, though much less frequently made than it used to be, is to starve or half starve the animals through the early summer and only begin to feed heavily when cornhusking begins, says the Boston Cultivator. The soft northern winds are given first, and the pig's stomach, unused to such heavy food, is unable to digest it, with the result that it ferments in the stomach, and this causes acid to rise in the mouth, making it sore as soon as the corn is hard for the pig to chew. It is often said that allowing pigs to run in orchards and pick up sour apples is what makes their teeth sore. It is true that a pig which used to be, is to feed heavily when cornhusking begins, says the Boston Cultivator. The soft northern winds are given first, and the pig's stomach, unused to such heavy food, is unable to digest it, with the result that it ferments in the stomach, and this causes acid to rise in the mouth, making it sore as soon as the corn is hard for the pig to chew.

Texas Cattle Estimates.

As against 250,000 head of cattle fed for the market in Texas last year, says the St. Louis Globe-Democrat, not more than 85,000 will be fed this season. This is the top notch estimate of the railroads' live stock agents, stock raisers and feeders. Some estimates rule as low as 25,000, but these are generally from feeders. The live stock agents are perhaps the best posted, and they calculate that the number of steers will be between 60,000 and 75,000. Probably, with small bunches fed on corn and sorghum by farmers, the figures given will be reached.

The principal trouble is the scarcity and high price of cotton seed. This sent the price of meal, cake and hulls above the point of profit to the feeder. The Texas corn crop now being gathered in is a large one, but most of it will go into hogs and not cattle.

The Texans who usually feed in the Indian Territory are in and plight. The drought there has prevented the steers from getting fat, and the feed being short, many of them will have to be carried over to another season. About 15,000 head of heavy, rough bred stock have been sent back to the Indian Territory. The Indian Territory has a big corn crop, but the plight of the stockman has sent the price up nearly 50 per cent, and it will hardly fall in time to save the feeders.

"RAZORBACK" HAM.

A Great American Product and How It Was Named.

"One of the best and apparently not the least appreciated of the many important food products which America sends to England and France is the celebrated 'Smithfield' or 'razorback' ham, for about 35,000 of such hams are annually shipped to those two countries from this city," said a leading exporter of provisions in New York to a writer for the Washington Star. "In England, where the domestic hams have a tendency to be fat and coarse, our Smithfield hams have among connoisseurs a very high reputation for leanness and great delicacy of flavor, both of which qualities are not thought to be excelled by even the famous Westphalian hams of Germany. As the British consumer is willing to pay a fancy price for the product, some of our choicest 'razorbacks' are exported to John Bull's markets."

"The name 'razorback' is derived from a small town on Pagan creek, near Norfolk, Va., where some hundred years ago the hams were first cured by a man named Todd of Smithfield. The animal which produces the Smithfield ham is a semi-wild hog that is found in the mountains of Virginia, Kentucky and Tennessee. The hog peculiar to these regions is long nosed, shagbarked and has unusually long legs. It is not a prepossessing animal, but when properly fed it supplies a ham that is unexcelled anywhere in the world.

"Much of the fine flavor which is characteristic of these hams is largely due to the care that is exercised by the farmers in feeding the hogs. In summer the young 'razorback' is allowed to run wild in the woods, and his meat thereby gains a gamey flavor by fall, when he is turned into a field from which crops have been gathered in order to fatten. In the district which produces the most Smithfield hams there are large quantities of sweet potatoes and peanuts grown.

"Both these foods fatten the animal with astonishing rapidity, but the fat is still soft. So the next step is to peel the hog up and give him corn and plenty of clear water. With this diet the animal's flesh hardens quickly to the desired extent, and he is then ready to kill. The curing is done with Liverpool salt and saltpetre, after which the hams are washed clean and slowly smoked for 40 days over green hickory or red oak wood. Many farmers raise the hogs, but few cure them. They are sold to skillful curers, who supply the market."

Argentine Live Stock.

A very elaborate series of statistics with regard to the number of live stock in the Argentine Republic has just been issued, says the London Live Stock Journal, which it may be of interest to recapitulate. As regards cattle, the latest returns gave the total at 32,702,045, as against 21,961,657 in 1888 (the date of the last census), so that there would appear to have been a decrease in numbers, though against this has to be set the fact that the average weight of the cattle is nearly double what it was ten years ago. Horses are estimated at 4,446,889, as against 4,234,032 in 1888, and of these 4,068,297 were draft horses, 414,895 of native breeds and 15,577 thoroughbreds. With its 4,500,000 horses the Argentine Republic comes next to Russia, and the United States, and has 111 horses to every 100 inhabitants. The total for sheep is 74,379,562, as against 66,706,097 in 1888, and the Argentine is only exceeded by Australia with its 99,600,000, having 1,859 head for 100 inhabitants. The number of animals of other kinds and of poultry is as under:

	1898.	1888.
Donkeys and mules.....	428,390	315,446
Cattle.....	32,702,045	21,961,657
Horses.....	4,446,889	4,234,032
Pigs.....	62,706,097	66,706,097
Other stock.....	1,311,323	5,599,777
Total.....	13,876,516	8,151,660

It may be added that the total head of horses, cattle, sheep, pigs, mules, donkeys and goats is put at 104,419,948 and their value at \$78,000,000.

Thoroughbreds and Grimes.

It is often a mistake of young breeders to suppose that the fine appearing grade stock which they have secured by crossing pure bred animals with native stock will prove as good as it looks when put to the test of breeding. This in the nature of things cannot be the case, says the Boston Cultivator. All the excellencies of the pure bred stock have been fixed in it by more or less close breeding, or, in other words, a breeding to nearly related stock. The progeny of this in and in breeding is quite likely to be somewhat deficient in constitutional vigor, and it requires that there be bred several strains of the same breed so as to perpetuate its excellencies in lines not too closely related. By breeding two animals of the same different strains together, enough new blood is introduced to maintain the stamina of the breed and yet without lessening its special value for the purpose for which it has been bred. Crossing to wholly unrelated stock produces a mongrel that is more than likely to perpetuate the worst qualities of both dam and sire if carried beyond the first cross, which as an individual may be better than either. The grade males should always be emasculated while young. The females may be kept as breeders if they are always bred to pure bred males of the same breed which produced the grade.

Waste in Hog Feeding.

A vast amount of hog feeding is done at a loss every year. Swine have an immense power for the consumption of food and can use up grain remarkably fast without making any commensurate return if the feeding is not done with judgment.

High Prices For Rambouillet.

Rambouillet rams continue to go at big prices. \$100, \$200 and \$300 being frequently paid for good specimens.