AGRICULTURAL HINTS.

POULTRY HOUSE PLAN.

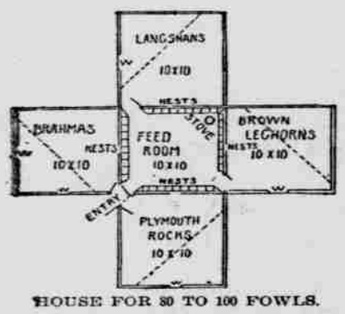
Building Calculated to Accommodate from Eighty to One Hundred Fowls.

Several readers have asked for a plan for a good hen-house that will accommodate from 75 to 100 fowls, the same to be constructed in a manner that will keep the hens warm during severe winter weather, and enable the builder to keep several varieties or small lots of 20 to 25 in one room of it. Nothing said about cost.

We always presume that those contemplating going into the chicken business are not seeking merely a place to spend ready cash, but for the purpose of making pay out of the employment. We always endeavor to aid such persons by suggesting economy in the construction of buildings to the degree that will encompass the possibilities of making them strong, durable and comfortable.

It is generally conceded that fowls kept in small flocks do best, and in making up a plan for keeping the number mentioned we have followed up that idea closely, and present a five-room house with each room ten feet square, four of which are intended to provide accommodation for at least 20 to 25 hens.

To economize time, labor and expense, we suggest that this house be framed from posts set in the ground two and one-half feet, and seven and one-half feet above, with two by four studding spiked on top, running all the way



HOUSE FOR 80 TO 100 FOWLS.

around and across inside partitions, and the same six inches above ground. I would side with inch boards up and down, batten cracks, and make four gables, running the roof together to one point at center of feed room.

It is not essential that the building shall be over seven feet from floor to square; less will do. I prefer that a hen-house be roofed with either boards or shingles, as metal or slate get too hot for the best welfare of the fowls. The lights should be placed in so that they will point to south or east and should be from two and one-half feet to three feet wide and five to six feet high and well protected with strong wire netting.

The partitions that separate the four rooms from the feed room are intended to be made mostly of wire netting or lattice work. The nests are arranged with the entire construction made in feed room, with loop-hole from each room leading into the alley that fronts the nests, which allows the fowls of each room to pass secretly into the nests in the dark and still be in no way connected with another set of nests.

The idea of making these nests in the feed room is so that the eggs can be taken out without going into the adjoining room; also hens setting can be let into center room, fed, and replaced in their nests without disturbing any of the laying fowls.

The dotted lines are to locate how the roosts can be put in diagonally, about three or three and a half feet high, and a slanting floor placed underneath so that the droppings will not get onto the floor, and can be easily gathered by pushing them with a scraper down to the corner where they will drop into a portable box prepared for that purpose. This can be done every morning if absolute cleanliness is desired. The reader will observe that this arrangement affords the fowls full range on the floor of each room without the necessity of having the droppings to annoy them through the day.

For heating and keeping warm, the sides lined with wind-proof paper will add much comfort, and I suggest the placing of a cheap coal stove in the center room, which will aid materially in extreme weather in keeping the temperature up, which will add great comfort to the fowls and insure their laying right along without interruption, regardless of the extreme cold.

The ranges outside can be arranged in size to suit the owner of the fowls, either large or small, according to the room he may have to expand in. By all means do not make such inclosures too small. The entrance door, two and one-half feet wide, opens into a short entry which opens with a door to the room on the right and left and also into the center room.

This house will cost in the neighborhood of $40, labor included. I think an amateur who thinks of taking on three or four breeds of fowls will find a poultry house of this plan quite suited to the requirements of fitting out several breeding pens.—George E. Scott, in Ohio Farmer.

THE POULTRY YARD.

Sand should not be made a substitute for gravel.

Mixing breeds promiscuously does not work well.

If fowls do not moult well look for lice; put a little flour of sulphur in their food and a little iron in the drinking water.

The chickens need a run on green pasture just as much as do the cows, hogs and horses. Don't shut them up in dry yards.

When taking eggs to market carefully wipe each one, and, if they are mixed in color, sort them, placing the brown and white ones by themselves. They will look better by having each color in separate lots, and will in consequence bring better prices. — Rural World.

DRAINING PASTURES.

In Many Cases It Can Be Made to Pay Handsomely.

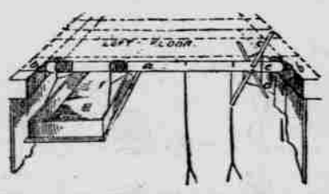
The impression is quite common that it will not pay to underdrain pasture land, says Drainage Journal. There are pasture lands that it will not pay to drain, but it is also true that in many instances it will pay to underdrain, in part, at least, lands used for grazing purposes. In passing through the country we see many acres of pasture land which, if sufficiently underdrained, would be very valuable. As they are now they are practically worthless, affording only wild and unnutritious grasses, worth but little for grazing purposes; in fact, such lands are disease breeders of the live stock which have the run of them. Pastures which need underdrainage may be cared for so as to present a good appearance to the casual observer, but when carefully examined are found to grow grasses of little value. If they have been seeded to tame grass there is such a mixture of water grasses with the tame that the pasture is poor.

If a landowner is doubtful as to the benefits of underdraining such land, let him put in one or more tile drains with good outlets and observe the result. The wild sour grasses will disappear and the tame grass sod will thicken and grow luxuriantly. The live stock are good judges. In grazing they will keep the grass near the drains cropped closely because it is more palatable to the taste and more nutritious. We are confident that the value of thousands of acres of pasture lands could be greatly enhanced if underdrained, which are, in their present condition, practically worthless. Those who have given little attention to the real condition of their grazing lands will be surprised in a careful examination of their condition. It will soon become apparent to them that where there is one blade of good, nutritious grass, four or five may be made to grow by a well directed effort in the underdrainage of the land.

STORING FARM WAGONS.

A Device Which Makes the Shifting of Wagon Bodies Easy.

The illustration below is of a home-made appliance placed in a barn the past winter and found to be a great convenience, especially in shifting from wagon body to hay rigging, and vice versa. This device consists of a round shaft, a, 9½ inches in diameter, reaching from one main side beam to the other, bb. In one end of the shaft are two spokes, c c, seven feet long, making four handles 3½ feet in length. From one handle to the next is a bolt e, about two feet long. The shaft runs in wooden boxes with bearings five inches in diameter. On one side of the shaft two small chains, f f, drop down within



SHIFTING WAGON BODIES MADE EASY.

two feet from stake holes in wagon body, or hay rack, or other implement, as at g. From these ends of chain two pieces about four feet each, with hooks on the ends, run to the stake holes or hooking parts. Similar chains are arranged on the other end of the shaft. After the first rigging is rolled up, it is very easy to raise afterwards, as the weight of one body going down assists in raising the other.—F. C. Hubbard, in Orange Judd Farmer.

CHEAP FARM PAINT.

It Gives a Satisfactory Finish on Either Wood or Stone.

A method of painting farm buildings and country houses, while by no means new, is yet so little known and so deserving of wider application as to warrant a description. The paint has but two parts, both cheap materials, being water lime or hydraulic cement and skimmilk. The cement is placed in a bucket, and the skimmilk, sweet, is gradually added, stirring constantly until just about the consistency of good cream. The stirring must be thoroughly done to have an even flow, and if too thin the mixture will run on the building and look streaked. The proportions cannot be exactly stated, but a gallon of milk requires a full quart of cement, and sometimes a little more. This is a convenient quantity to mix at a time for one person to use. If too much is prepared, the cement will settle and harden before all is used.

A flat paint brush about four inches wide is the best implement to use with this mixture. Lay it on exactly as with oil paint. It can be applied to wood work, old or new, and to brick and stone. When dry, the color is a light creamy brown, or what some would call a yellowish stone color. The skimmilk cement paint, well mixed, without adding color has a good body, gives smooth satisfactory finish on either wood or stone and wears admirably.—American Mechanic.

Plenty of Swindlers Abroad.

The number of people who live or try to live by their wits seems to have increased rapidly of late. Never have swindlers of all kinds been more in evidence both in city and in country. In a single week no less than four schemes to defraud farmers have come to our notice. They are all variations of the venerable swindles which have been exposed so often in the press. One correspondent intimates that hypnotism is being used to bunko farmers in his locality. This is probably only the hypnotism of a smooth tongue on the part of the "agent" and careless business methods on the part of the victim. There is a heap of this kind of "hypnotism" all over the country at present. —National Stockman.

THE FARMING WORLD.

IDEAL ROAD HORSE.

The Kind of Animal That Will Always Bring a Good Price.

Dr. G. M. Twitchell before the Maine board of agriculture said: The 15½ to 16-hand horse of solid color, with broad forehead, ears of good size and well-proportioned, good length from base of ear to eye, eyes full and expressive, with lids free from meatiness, face straight, nostrils well rounded, full, large and thin lips, not thick, well closed, neck of good length, shapely, clean cut at jowl, and fitting well at shoulders, which can hardly be too sloping, the point of the wethers being well back of the saddle, chest of good width, forearm long and heavily muscled, knees firm, broad, straight and strong, cannons short, flat, broad and flinty, pasterns good length, muscular and nervy, free from meatiness, the ankles from toe to ankle joint being about 35 degrees, feet round, of size proportionate to the animal, free from contracted heels, of good material and with elastic frog, barrel-shaped like an inverted egg, deep at girth as well as waist, allowing full use of lungs without infringing upon other organs, back short, the point of the coupling on a line with that of hip, thus allowing for the extension of the muscles of attachment well forward over the kidneys, giving greater strength to the weakest spot in the animal's anatomy, as well as in man, quarters of good length, not too sloping, thus affording room for that free stifle action so necessary in the ideal driver. Stifles and gaskins long, of good width, abounding in muscular attachments, hocks free from meatiness, sound, strong, neither straight nor having a decided angle, and not cut under too sharply at base.

Such a horse, going smooth and true, neither paddling nor toeing in forward, nor, as we say, straddling behind, will always command a top price in the market, provided he has ben educated, and abounds in nervous energy. Form, size, color, symmetry and substance are essentials, but these do not insure the road horse. To these must be added individuality, the result of breeding. It manifests itself in what we term nervous energy, the up and get there power. It is the power of heredity, so desirable, so necessary. To secure this, there must be a high ideal and a fixed determination in breeding.

SHEEP ON THE FARM.

No Stock So Well Adapted to Hillsides and Rough Pastures.

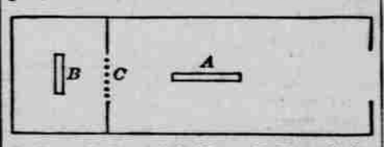
It does not require a large farm to keep a small flock of sheep, which everything considered is the best, says the Missouri Farmer. It should be well fenced so that they can be kept where wanted. Many a rough, worn-out farm might be brought up and made valuable by raising sheep. There is no stock so well adapted to rugged hillsides or rough pastures, or to prevent the growth of weeds and bushes. Where sheep have the range of a field very few weeds will go to seed, and bushes will be so thoroughly cropped that they will either die or be kept back When a farmer can thus easily turn the weeds and bushes of a farm into excellent manure, and at the same time have them converted into mutton and wool, it is certainly a good thing. Sheep will thrive in a pasture and get fat where cattle would almost starve. They also scatter their droppings over the field and never fail to enrich lands, where kept. Feed them extra, for this additional food works to the profit of the raiser in two ways—it not only insures a good growth of flesh and wool, but it makes the manure richer and more valuable.

To make the most profit out of sheep they should be well fed and cared for. A sheep must be fed to make the best mutton, but few conceive that a well-fed sheep produces more wool than one poorly cared for. Wool is a product from feeding, the same as fat, and many farmers lose half the profit from neglect to feed properly. Sheep should have, besides good feed, dry, clean quarters, sheltered from rain and storms.

PROTECTING THE PIGS.

It Can Be Done by Placing Two Troughs in the Feeding Pen.

To give the little pigs a show at the slop trough is out of the question if they have to scramble for it among the other swine. But it is easily managed by having two troughs in the feeding pen, with stakes driven down between



A, Trough for Adult Hogs; B, Trough for Little Pigs; C, Stakes Five or Six Inches Apart.

them at such distances apart as will let the pigs through, but keep the big fellows out. The accompanying diagram makes everything plain at a glance.

It is often desirable to leave a gate open, so that cattle or a team and wagon can pass through, but without allowing hogs to get out. My plan is to drive down a row of stakes across the gateway, six inches apart, 16 inches high, and slanting at about 45 degrees towards the hogs. Try it, and you will find it a success.

Never let a growing pig creep through a crack, least of all one under a gate or board fence. It will kill him, or make him crooked in the back.—C. A. Coy, in Journal of Agriculture.

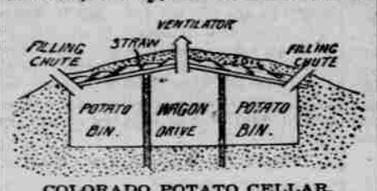
Fall Plowing Kills Insects.

Meadow lands infested with white grubs should be plowed and thoroughly cultivated in the fall, then planted to some crop that requires thorough cultivation the next season. The fall cultivation will destroy many of the insects which are then in a very tender stage in little earthen cells in the ground, and the thorough and frequent cultivation of the following crop will soon discourage the grubs.—Rural New Yorker.

CELLAR FOR POTATOES.

One Seen in Colorado Answers All Ordinary Requirements.

I have just returned from a trip through the irrigation districts of the west, and while in Colorado, at Greeley, where potato growing is so large an industry, and where they do know how to raise potatoes, my attention was called to their potato cellars of which there are large numbers. The cheaper forms of simplest construction are, usually, holes in the ground, preferably, although not always, on a slope facing south or east. They are long, narrow and, usually, three-fourths or more



COLORADO POTATO CELLAR.

below the general level of the ground, but often they are built so much above ground that a wagon may be backed into them when it is desired to remove the potatoes.

The cut gives a general idea of their construction and interior arrangement, as seen in a simple cross-section. Usually these cellars are without walls of masonry, and are provided with a roof made of poles covered with a layer of hay or straw upon which are six to twelve inches of earth. A row of chutes arranged along each side serves to fill the bins easily from the wagon; these are made of inch lumber, and are about one foot square in cross-section, projecting six to eight inches above the roof. In the crest of the roof there are, usually, two or more ventilators constructed in the manner of the chutes. The entrance to the cellar, especially when constructed so as to be entered with a wagon, is provided with double doors separated by a hallway having a length of six or eight feet, and has for its object the shutting out of the frost from in front. When necessary, potatoes are stored in the driveway as well as in the bins, the rear of the drive being filled first.—F. H. King, in Rural New Yorker.

VALUE IN DIVERSITY.

It Pays to Have Something to Sell All the Year Round.

The farmer that grows a variety of stock has a decided advantage in one respect, in that, with good management, he can have something to sell every month in the year, or nearly so, and having an income in this way he can use it to a better advantage than is possible when all of his income comes from one source. Then he runs less risk of failure and is in a much better condition to take advantage of the market and in many cases the difference in price means that much difference in the profits.

Having something to sell so that a steady increase is had, affords a decided advantage in buying. Under present conditions the farmer buys considerable of what is used in his family and having ready money gives him a great advantage.

Too many farmers that depend upon wheat or hogs or cattle for their money with which to pay running expenses are obliged to go in debt, and the farmer that buys on credit is not only at a disadvantage in buying what he needs, but in selling what he produces, and this is so much the case that it makes a very considerable difference in the farm profits.

Then growing a variety of products affords a better opportunity for lessening the cost of feeding the stock, while keeping a variety of stock gives a better chance to use all of the products to the best advantage.

There are cases where the conditions are such that the specialist is able to realize a handsome profit, but this is the exception rather than the rule. Generally the farmers who plan to have something to sell at all times work not only on the safest, but the most profitable plan.—Farm, Field and Fireside.

SALT AS A MANURE.

Report of C. V. Vanderford, of Tennessee Experiment Station.

Results of a great many experiments both such as have been conducted under control methodically, and those made by practical farmers, do not show that salt is essential to life or development of agricultural plants. Salt may have some indirect effect because of induced chemical changes in the upper stratum of the arable soil, and in some cases by physical changes when applied to stiff clays.

For many crops, as potatoes, tobacco, beets, melons, etc., salt is injurious; in some cases a light application of salt may be beneficial, as for onions, cabbage, celery and possibly tomatoes. Upon stiff clay lands, salt at the rate of 200 to 600 pounds broadcast some weeks before the sowing of small grain, or the planting of corn, has apparently improved the mechanical condition of the soil and has probably added to the yield of grain. Upon land upon which wheat had usually made an overgrowth of straw, with a tendency to straw-fall before ripening grain, the writer has obtained a somewhat shorter but much stiffer growth of straw standing up well till the fully matured crop was harvested, by applying 300 pounds per acre of pork house refuse salt broadcast upon the land in January.

Little or much, it is not advisable to apply salt to annuals at the time of seeding and it should be used cautiously, if at all, during growth and cultivation. A moderate dressing, 200 pounds per acre on meadow or pasture, very early in spring, or better during the last winter month, has upon several occasions given apparently good results; but these were not sufficiently marked to induce further experiments.

Clean the poultry house of lice, dust the hens well with Persian insect powder, and give them fine dry earth in which to dust.

FARM AND GARDEN.

THE POULTRY STANDARD.

The Explanation of How the "Judging" of Fowls Is Done.

The "American Standard of Perfection" is a book containing a list of every recognized breed of poultry, and of the varieties of the several breeds. It describes in detail the proper color and shape of an ideal fowl, and gives a certain value to the shape and plumage in every part of the body of this ideal fowl. The body of the fowl is arbitrarily divided into parts, called sections, and each section is given such value that if all of them were perfect in shape and color the total would be 100 points, which is perfection. As no fowl is ideally perfect, the sections are given so high a value that it is altogether improbable that any fowl will ever be perfect in every part, and therefore no fowl will ever reach perfection. Expert judges are employed to examine poultry that is exhibited at poultry shows and a good many of the fairs, and they pick out the defects and mark them against the fowls under examination, section after section, and when this is finished, the value of the defects is added up and the total deducted from perfection (100), and the remainder is the score of the bird. When a bird scores less than 85 it is called disqualified, and cannot be considered in the awarding of prizes.

The description used in the "Standard" are copyrighted, and we cannot use them, but to give you an idea of how the judging of poultry is done, we will imagine that there is a breed called American Beauties, with the following values fixed on the sections:

Symmetry	7
Weight	7
Condition	6
Head—shape 3, color 3	6
Comb	8
Wattles and ear-lobs	6
Neck—shape 4, color 6	10
Back—shape 4, color 4	8
Breast—shape 5, color 5	10
Body and fluff—shape 5 color 3	8
Wings—shape 4, color 4	8
Tail—shape 4, color 4	8
Legs and toes	8
Total	100

A given fowl may be perfect in most sections, but not one has ever been found that was perfect in all of them. The nearest to a perfect fowl that has ever been scored was 99½ points, if I remember correctly, and the fowl was sold for $200.

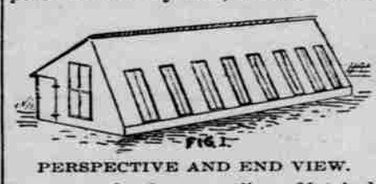
It may be asked what all this has to do with practical qualities. It must be confessed that the "Standard" does not encourage any breeder to breed with a view to anything but color of feather and weight, and that it does not put any premium on egg production. This is the weak point in it, and will be until that is remedied and encouragement is given to the breeders to look to egg production.

As matters now stand, the breeder of pure-bred fowls is compelled to regard shape and color before anything else, and it requires the sacrifice of "Standard" points sometimes in order to keep the best layers. As long as this state of affairs lasts the "fancier" will be handicapped in his work of improving fowls and producing egg-laying strains. The pure breeds come into favor because they are good layers in the first place, and keep in front because they transmit this tendency to their progeny, but improvement will not go on as rapidly under the present system as it would if some inducement was made to produce egg-laying strains first and beauty afterward.—Farm and Fireside.

HOUSE FOR POULTRY.

Description of a Structure That Has Proved Very Satisfactory.

The illustrations show a perspective and end view of a house that has proven very satisfactory—warm, well lighted, convenient and cheap. Sills, plates and posts are four by four, the rest of the



PERSPECTIVE AND END VIEW.

frame two by four scantling. Matched lumber or siding for outside. Line inside with building paper and ceiling, or lath and plaster. The latter is most easily kept free from vermin. In the sectional view, a ceiling is shown overhead. The space above may be used as a means of ventilation. A few apertures through the ceiling will remove foul air into this space, and it can be carried out

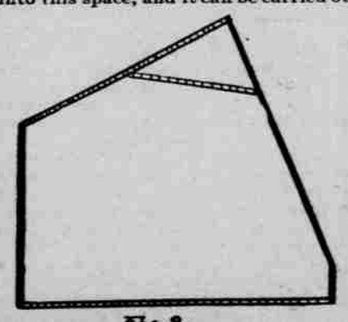


Fig 2.
SECTIONAL VIEW.

through ventilators or gable windows. This avoids all drafts.

The windows are in the south or sloping side. A convenient size for a sash is one containing two rows of eight by ten glass, five in a row, each overlapping the one below in the style of hot-house sashes. One window to five feet in length of building will give good light.

Of course the interior arrangement depends largely upon the fancy of the owner. The floor may be either cement or earth. The former is preferred by the man who cares for the flock, the latter by the hens. A width of 13 feet is recommended. This will admit of an alley three feet wide along the north side, the remainder to be divided into pens of the size desired.—Ohio Farmer.

When a hog has to be driven to his feed he is being overfed.

HUNGARIAN SWINE.

The Mangalicza Breed Has Many Valuable Characteristics.

Hungary in its climate and soil greatly resembles our middle states. The greater part of its 14,000,000 of inhabitants are engaged in agriculture, growing especially wheat and corn, and raising all kind of farm animals, among which the horse and the hog occupy the first place. The stock of the present Hungarian swine was originally brought from the Mongolian desert, when Attila with his hordes left that overpopulated land. Undoubtedly this stock originated from the wild hog, which, during the long warring peregrinations of its owners, was subjected

A MANGALICZA PORKER.

to the most remarkable change of form, without losing its principal good qualities, hardiness in keeping and fine fattening qualities. Among the four principal breeds raised in Hungary none excel the Mangalicza. The extensive oak and beech forests on the mountain slope of Hungary furnish unequaled swine pasture, and have largely aided in giving the Mangalicza swine a leading position in the live-stock markets of north and middle Europe. Many thousands of their hogs are each week disposed of in Berlin and Hamburg, because, as a Berlin butcher told the writer, "the whole hog goes in the sausage tub." The head of the Mangalicza is short and broad, nose cylindrical, depressed at the back; face and cheeks are fleshy, thinly covered with hairs; jowls broad and fleshy; ears large, somewhat rounded and drooping; neck mostly short, fleshy, and full arched; the withers are wide and do not rise above the back; back straight, long and broad; loins full and deep; brisket deep and wide; ribs well sprung; belly wide and straight, nearly touching the ground in well-fattened animals; hams large and full; lower part of legs fine-boned but strong; skin soft, thin and pliable, of a yellowish or black color. During the winter the skin is thickly covered with curled hair; at the neck, withers, and along the back the hair is somewhat coarse, but not long. During the summer the hair grown is thin, some animals being nearly bald. A full-grown Mangalicza hog stands at least three feet high, and measures from tip of the snout to the root of the tail about four feet. Ordinarily fed animals at the age of one year weigh from 150 to 160 pounds, but when well fattened the weight of a full-grown hog increases to from 500 to 600 pounds. They are not very prolific breeders, producing seldom more than from seven to eight pigs in a litter, but they are very careful in treating their young, and therefore the loss of pigs is but inconsiderable. The hardiness of this breed enables it to thrive even under unfavorable conditions, and to winter in the open air without suffering. It takes to the pen, after pasturing in fields and forests is over, and fed with corn and other grain it produces a first-rate lard, which is not surpassed in flavor and keeping quality by that made from any other breed.—Orange Judd Farmer.

LIVE STOCK POINTERS.

Overfeeding causes balky horses.

With the farm horse the walking gait is essential.

You can spirit your horse's temper by losing your own.

Do not allow manure making materials to go to waste.

A patch of rye sown in good season makes good winter pasturage.

Profit depends as much on the cost of production as on the selling price.

If allowed the privilege sheep will always take all of the exercise they need.

It is not a good plan to allow sheep to be exposed to a cold rain at this time.

There are few enterprises in which there is as small risk as in sheep raising.

If early lambs are wanted, the breeding should be done now as soon as possible.

It is a waste of feed with any class of stock to give more than they can digest.

Upon the condition of the stables largely depends the health of the horses.

A diet plentiful and healthy, but not excessive, modifies the size, form and temperament of animals.—Farmers' Union.

Intelligence in the Pigpen.

Breeding animals need the utmost care and attention that can be given them if the owners would realize the profit they expect; and this care and attention must be confined to no one thing, especially to the neglect of all others, but be given heartily, regularly and without stint. Specially would we emphasize this in the case of sows, ewes and cows. Mothering need cost but little; coddling is unnecessary. But the right kind of food at stated intervals, properly adjusted and diversified so as to give variety, and the kinds called for by the very necessities of her condition, are undoubtedly and imperatively called for. But to breed a sow and turn her out to eat this or that, without first asking is it a fit food for her in her condition, is to parley with failure and insure it. Much the same is true of cows and sheep, and, indeed, mares. First of all, determine what is necessary, and then see that it is done. This needs but little labor. Failures enough will come with care on the "best of regulated farms."