POOR DOCUMENT

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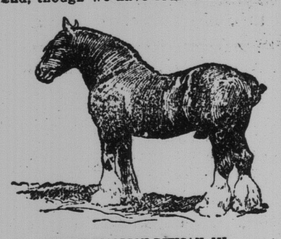
SMALL BREEDERS.

How Combination Might Overcome Some of the Disadvantages Under Which They Labor.

The breeder who is fortunate enough to possess a range of stabling, elaborate riding schools and tan tracks and the services of a skillful breaker is naturally in a better position to insure full justice being done to his young stock than a neighbor whose sole belongings are a couple or so of mares whose interests are looked after by the coachman and groom attached to the establishment.

The young stock raised by the breeder in a small way, says the London Live Stock Journal, are usually sent away from home to be broken by contract and when returned, in a greater or less condition of tractability, are probably very little worked for days at a time, with the result that what they have learned is forgotten by them, and they grow up practically innocent of manners. The fact is that a great proportion of the good horses bred by "little men" are neglected or, at all events, do not get a fair chance of doing justice to their merits, owing to there not being a sufficient number of them on the premises to justify their owner in engaging a regular breaker, whereas those youngsters belonging to a big stud are systematically trained from the first and are never permitted to forget their preliminary education.

This, moreover, is not the only manner in which the breeder in a small way is placed at a disadvantage, for he must always experience a greater difficulty than the big man in disposing of his stock. How rarely does it occur that where there is only one animal to be inspected it succeeds in captivating the visitor, and yet are there not many of us who before now have made a special journey into the country on purpose to see one particular horse which we have not cared for in the end, though we have found another on



SHIRE STALLION DUNCAN III.

the premises which suited us? Such instances must always be occurring, first, because there are very few people who will be found to regard the merits of an individual horse from the same point of view, and, secondly, because it is only natural that the man with a horse to sell will try and describe his animal as resembling the horse which a prospective purchaser wants, in the hope that if the youngster does not exactly tally with the description the visitor will buy him all the same rather than return empty handed. On the contrary, a possible buyer, if he runs down to a stable in the country where he knows there are several young horses, feels that out of so many there is very likely one that will suit him, and so the owner of a big establishment stands a better chance of dealing directly with the amateur than the little man. The latter is unable to form a market of his own, and is therefore in the majority of instances compelled to dispose of his stock to dealers, or their agents, which is the same thing, the inevitable result being diminished profits; or else he has to take his risk with them under the hammer, and most of us with any experience of sales know what that means unless the vender is at the head of a very fashionable stud.

It seems surprising, therefore, that the horse breeders in a small way have never yet made a serious attempt to form themselves into groups and endeavor thereby to compete on something like equal terms with the owners of extensive studs. The public cannot be blamed for declining to waste time and money in visits to establishments where there are only one or two horses for sale, but the agents of the dealers can and do do so, and between the prices paid by dealers and those received by them there is a pretty liberal margin, a portion of which might have gone into the pocket of the breeder if he could only have succeeded in persuading people to come down and see his animals.

Cape Angoras.

A bill to impose an export duty of $500 on every Angora goat leaving Cape Colony has passed to a second reading in the colonial parliament and will doubtless become a law. Severe penalties are provided for a violation of the law, which is applicable to both male and female Angoras. It begins to look as if the government of Cape Colony was determined to put an end to the further exportation of Angoras. Are the Angora breeders afraid of the growing importance of the mohair industry in the United States? If not, why the necessity of a doubly prohibitive duty on the exportation of Angoras?—Sheep Breeder.

Largest Steer.

Advices from Fort Collins claim that on a ranch in that vicinity is to be seen the world's biggest steer. It is stated that "this animal stands more than 7 feet high, is 18 feet from tip to tip and 5 feet from the brisket to the top of the withers. It weighs between 4,500 and 5,000 pounds. It will be put in good flesh and, it is said, will be used for exhibition purposes, having been purchased by show people."

SHEEP PROSPECTS.

A Good Thing Rather Than a Big Thing.

The man at present without sheep who is not getting hold of a few or the man with sheep who is not extending his operations, intensifying his management or reducing it to a scientific basis is not living up to his privileges, says J. McCraig in The American Sheep Breeder. Prospects never were better for sheep business. The general tendency of public choice in favor of sweet, juicy, palatable meats is putting the sheep business on a lasting and solid basis. Sheep raising is thought by many to be a kind of primitive industry suited to poor lands and undeveloped agricultural conditions. Many who raise sheep on good lands look on them as a sort of corner product or adventitious gain that demands no skill in management and little expenditure of labor at any time of the year. It is true that sheep will do better than any other kind of stock on the minimum of care. They will yield a profit on ordinary or even poor pasture alone, but they are, on the other hand, most susceptible to generous treatment. Three hundred sheep to the square mile on the expensive and highly cultivated lands of England does not look as though sheep were to be relegated to poor countries or poor pastures. Neither does it look as though the taste for mutton belongs to countries in a primitive state of industrialism or of progress.

There is every encouragement for a prospective shepherd to start now. Wool and mutton are both good and are both short of the requirements of the country. There is a strong commercial impetus which will affect labor, the demand for labor; hence population and foodstuffs for that population. Present prices are not boom prices, but are such as will enable the beginner to get a stand of stock at a price that will make it impossible for it to die in his debt.

Sheepmen do not stand much chance for a boom, as their stock multiplies so rapidly that there cannot be any long continued failure of supply. There is not much room for the boomster or speculator in the sheep business, but there is always plenty of room for the steady, consistent and confident manager who is looking for an adequate and satisfactory return for a moderate investment of capital and care. The sheep business offers a good thing rather than a big thing, and a good thing that is safe.

If you haven't been in the business before, take a part of your available capital and begin now. If you have not bred sheep before, start easy and buy ordinary ewes, but figure on improving your ewe flock in the future by getting a good ram. The grand principle of success is to raise each year youngsters that are better than their ancestors of the ewe flock, and this is most economically done through the use of superior males. If it were not possible to vary your flock according to the character of the coupling, there would be no such thing as skill in breeding. Bank on a good sire, whether your flock is common or select.

If you have been breeding before, you are acquainted with the individuals of your flock. You know the attentive mothers, the good milkers, the heavy shearers. You know the ones that breed singles and those that bring twins. Finally you know which ones answer to the accepted type and to your ideal. You know the coarse head, the heavy ear, the cloudy wool and dark skin. Hold on to the ones of tried breeding qualities and that conform to your ideal and let the others go to some less ambitious shepherd who has yet to learn the expensive lessons of old experience. A hard old mistress she is.

Cholera and Brood Sows.

James Riley of Indiana, the veteran breeder of Berkshires, says:

"I have had hog cholera in my herd eight times in 20 years, have made a practical study of the disease and have tried a great many different remedies. I have slaughtered animals after they had recovered, but could find no trace of the disease. I have bred sows after recovering from the disease. I think sows should not be bred for at least two months after fully recovering. At least 75 per cent of the sows proved to be breeders that had the disease. It affected mature sows less than it did younger ones. I regard any hog that has had cholera and fully recovered as immune from further attacks. I believe one of the best measures for breeders and farmers to adopt to stamp out the disease is to breed it out with the proper sanitary management. When cholera strikes a herd, it weeds out the weak ones first. Those that have great constitutional vigor are able to resist the disease. Sows that have resisted and recovered will breed stronger and more vigorous pigs. We have 22 sows in our herd that have had the cholera and fully recovered, and they have been good breeders. Most of them have raised two litters a year for two years.

"We have one sow 7 years old. She had the cholera badly six years ago, when 1 year old. She fully recovered and farrowed four litters of ten pigs each and raised them in two years, and she has raised two litters each year since and never had less than nine pigs in a litter until this spring, when she had only six. She has gone through the cholera twice since and did not take it. Her pigs have been very strong and vigorous. We have had several other sows that did nearly as well. I regard a sow that has had the disease and fully recovered, if it has left her a breeder, as very valuable. I never knew a hog that had the genuine cholera and fully recovered ever to take it the second time."

FARM AND FIELD AND GARDEN

CONCERNING ALFALFA.

Soils That Suit—Preparing the Land. Time to Sow.

Professor Thomas Shaw, the well known authority on forage crops, treats the subject of alfalfa very thoroughly in Orange Judd Farmer, where, among many practical items, occur the following:

The soil best suited to alfalfa will be measurably dependent on the moisture that can be furnished to it in the form of rain through surface irrigation or from a subterranean source. Loose, sandy loam soils rich in certain elements of plant food, particularly lime, phosphoric acid and potash, are usually regarded as the most suitable for alfalfa. These soils should be deep in character and should lie on sandy or gravelly subsoils—that is to say, subsoils which consist of fine gravel intermixed with sand. Such soils are eminently adapted for growing alfalfa when water is plentifully supplied from the clouds, from irrigating ditches or from the water table in the subsoil. This water table must not be too near the surface, or the root growth will be hindered, to the great injury of the plants, nor must it be too far from the surface, or it will fail to reach the plants in sufficient quantity. When water cannot be supplied from ditches or from a subterranean source and when the summer climate is dry in character, it will be found that alfalfa will grow best in soils that are underlaid with mild, porous clay subsoils, which the roots can easily penetrate. If grown under those conditions, if the subsoil were sand or gravel, the plants would not obtain sufficient moisture.

The best soils probably in the United States for growing alfalfa when amply supplied with water are the volcanic ash soils, alluvial in character, that are found in the valleys west and southwest of the Missouri river. The sandy soils of the states south and southeast of the Ohio are not usually rich enough to produce maximum crops without being fertilized. The soils of the upper Mississippi basin, with exceptions somewhat numerous, do not seem to have the proper food elements. In other localities, particularly in states north and east of the Ohio, are stretches of hardpan subsoil which forbids the growth of alfalfa. In all soils where the water table comes near the surface at any time in the year alfalfa cannot be successfully grown.

When alfalfa is to be laid down for a term of years, it is important that the land on which it is sown shall first be well cleaned, either by summer fallowing it or, what would be better, by growing some crop on it that is given clean cultivation. It is also important that the ground shall be plowed deeply in preparing it for the alfalfa or, what would be better perhaps, in preparing it for the cultivated crop that is to precede the alfalfa.

Subsoiling the land will usually be found a good investment. But this should never be done by running the ordinary plow twice in the same furrow, except in soils that are as rich in available plant food in the under furrow slice as in the upper one. Otherwise the plants from the new sown alfalfa may not be able to get food enough to produce a vigorous growth when they are young. But when alfalfa is sown along with other plants to provide pasture it is not so necessary to have the land in such a perfect condition of preparation, owing to the limited period during which it will be grown.

The time for sowing alfalfa varies much with the locality. It should not be sown in the winter or in the summer. In the northern half of the republic it is usually sown in the early spring, as soon as the ground has become warm and the danger from severe frosts is past. In the southern half thereof it is sown in the autumn and also in the spring. When sown in the autumn, sufficient time should be given to the young plants to make enough growth to enable them to pass the winter safely, with its frequent periods of trying temperatures.

From the Ohio Station.

In view of the great difficulty in securing a good stand of beets in 1897 and 1898 by the late planting that late seed distribution made necessary, it has been suggested to try planting the beets much earlier. It is hoped in this manner to get the beets started before the dashing rains and hot sun of May and June. It seems to be advisable to try planting late in March and in April, just as soon as the ground can be well worked after fall or winter plowing and subsoiling. With the sugar beet it is advised to follow the custom of onion growers and aim to secure germination before the crusting of the soil by the rain and sun which is so liable later. It is not believed that frost danger is greater with due care than the danger just stated for late planting. The Ohio experiment station is now ready to receive applications for sugar beet seed intended for planting in 1900. It is the purpose to send out the beet seed in March, 1900. The amount sent any person will be limited to 12 pounds. Address "Experiment Station, Wooster, O."

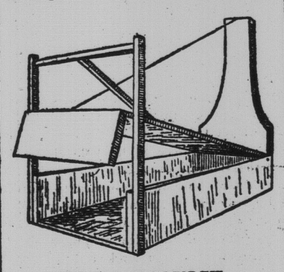
To Tan Coon and Cat Skins.

Soak the skin thoroughly and spread alum and salt thickly on flesh side and roll up and lay away for a week and then clean off and rub dry with corn bran or wheat bran; then dress with carbolized vaseline. If you want the hair off, soak in lime water until it slips; rub and treat as before, says Farm and Ranch.

A BOX TRAP.

Simple Manner In Which One Woman Got Rid of a Great Pest.

Perhaps not all the "sisters" are fortunate enough to possess a henhouse which secures the poultry from the invasions of skunks, weasels, etc. Last winter we were annoyed much by skunks, and finally my husband planned and made a skunk trap and caught six skunks successively, the last being so large that we concluded he must



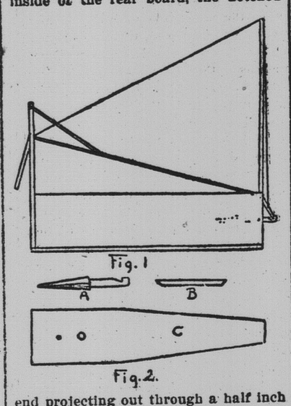
THE TRAP READY FOR USE.

have been the "chief of the band." There is an advantage over shooting or using the steel traps, as when caught in the box trap they may be carried off and box and all put under water until the animal is dead, thus preventing an "odoriferous exhalation." The trap is so easily made that any boy or girl who can drive a nail and saw a board should be able to make one.

The plan from which ours was made may be of use to some one else.

The accompanying cut, Fig. 1, represents the trap when set. The bait is to be fastened on the inner end of the spindle. A good size for the trap is 7 by 8 by 24 inches, outside measure, but may be larger if desired. For a trap of this size cut two boards 6 by 23 inches for the sides, one 8 by 24 inches for the bottom, one 6 by 24 inches for the rear, to be cut as C in Fig. 2. The lid must be about 5¾ by 22¾ inches, the front the same width and five inches long. The lock for holding the lid down is made by nailing two slats one inch square and 18 inches long on the front of each of the side boards (as shown in Fig. 1) with a piece of board which has previously been fitted with a slat about one inch square and 20 inches long nailed on at right angles in the center. The hinges for the lid are made by driving a wire nail through the sides into the lid at each side near the rear.

The lock should work easily, so that it will fall into place when the lid drops. The spindle, A in Fig. 2, is cut with a shoulder which fits against the inside of the rear board, the notched



end projecting out through a half inch auger hole. The upper end of the trigger, B in Fig. 2, fits into a notch cut about three inches above the hole for the trigger, while the lower end is hooked lightly in the notch cut in the outer end of the spindle. The string which holds the lid up when the trap is set is fastened near the center of the trigger, passed up over the top of the rear board and down to the front of the lid.—Mrs. Olive Chamberlain in Housekeeper.

Who Speaks First?

In your visits to the poultry coops at the shows this year look sharp for the man who advertises a guaranteed yearly egg record per hen. These are breeders who will soon be in demand, for to this standard must the industry be brought. Size, form, feathers, comb, wattle and leg featherings are all right and can easily be measured from the outside, but something more than this is demanded today, and the time is coming when the fair officials will require the record with the hen, as with other classes of stock. Looking for increased production, feeling the necessity for more eggs per hen, the demand will grow for the evidence upon which wiser and better selections may be made. Every man who breeds must have his eye on the 200 egg hen and seek diligently to find her. That she is far above the flocks of today there is no question, but no man dare say that diligent searching, coupled with skillful breeding, will not reveal her. The individual production of the flocks must be raised, and the man who speaks first and with authority, proving that he has reached a higher level than others, will find his surplus in active demand.—Maine Farmer.

Dry Earth.

Every season the admonition to lay in a supply of dry earth has been given, and it is one of the most important points to observe. A supply of dry earth, stored under shelter for winter use, will be found very valuable during the winter when the ground is frozen, and it will serve many purposes. As it costs nothing but the labor of storing it away, it should be attended to before the wet season begins.

FARM AND FIELD AND GARDEN

THE OXEYE DAISY.

How to Kill It on the Farm—Its Nutritive Value as Hay.

The oxeye daisy is at the same time a beautiful flower and a pernicious weed. Like most weeds, it thrives on neglect and if left unchecked rapidly establishes itself in fields to the exclusion of more useful though less attractive plants.

The New Hampshire experiment station is authority for the statement that "it can be kept from farms if precaution is exercised." A method commonly employed for this purpose is to cut the hay early and thus prevent the maturing of seeds. Experiments by the New Hampshire station indicate that it requires at least 12 days after the daisy blossom for its seeds to mature so that they will germinate. Therefore, if the plant is out within this period, reseeding is effectually prevented.

The oxeye daisy frequently occurs in hayfields and often forms an important component of the hay. Analysis of this plant and analyses of timothy hay made by the Massachusetts station show that as far as chemical composition is concerned, the oxeye daisy is fully the equal of timothy hay in nutritive constituents. In judging of the feeding value of a substance, however, other things besides chemical composition must be taken into consideration, such as digestion, palatability, etc., and these have not been studied in the case of the daisy as in that of timothy hay.

The foregoing items in regard to the daisy occur in farmers' bulletin No. 103, the editor of which thinks it will also be of interest in this connection to know what draft the daisy makes upon the fertility of the soil. According to an analysis made by the Massachusetts station, one ton (2,000 pounds) of oxeye daisy hay withdraws from the soil about 25 pounds of potash, 8.7 pounds of phosphoric acid, 22 pounds of nitrogen and 26 pounds of lime. To restore the stated amounts of the first three constituents to the soil it would be necessary to apply about 50 pounds of muriate of potash, 65 pounds of superphosphate and 140 pounds of nitrate of soda.

Digging and Resetting Trees.

A large proportion of the trees that are lost in resetting die because they have been injured when they were taken up. Without a good root or stem a tree can make but little progress in growth, says the Kansas experiment station. In digging up trees the surface soil should be removed to the root system and then a trench dug around the tree outside the mass of roots. Then by cutting under the roots with a sharp spade on each side the tree may be loosened from the soil with a good supply of young growing roots. If the tree is large, the trench must be made around the roots to the depth of the lowest and the roots gradually loosened and freed from the soil.

No matter how carefully a tree is dug, many of the young feeding roots will be injured or destroyed. Thus only a small amount of sap can be supplied to the branches and buds, which nevertheless continue to evaporate a large amount of water. Therefore the tree often starts very slowly and sometimes fails entirely. By removing the branches and buds in proportion to the injury of the roots a balance is maintained. All injured roots should be cut off clean with a knife, and the wounds of large roots should be painted over with some waterproof covering.

When trees are planted, the roots should have a fine mellow bed of soil, which should be pressed firmly in contact with every fiber, leaving no air space around them, and all should be spread out in natural position. The soil should be pressed very firmly around all the roots, so that the new roots will be encouraged to make a rapid growth. If the soil in which the tree is planted is the same as the one from which it was taken, the tree should be set the same depth as it was before it was removed. If the soil is heavier, the tree should be shallower; if lighter, it should be placed deeper. The surface of the soil which is over the roots should be fine and light, because the capillarity is then broken up, and the moisture cannot escape.

One Way to Keep Squash.

Squashes and sweet potatoes are of a similar nature and require the same care in storing away. For keeping purposes the round squashes with deep scallops are as good a variety as I have found. Leave the squashes on the vines until cool weather, but do not let them freeze. After taking them from the vines keep them in a dry, airy place for about a month so that they will thoroughly dry out. Then select only those in perfect condition and wrap each separately in paper, place in barrels or boxes and keep in a dry, sunny room where they will not freeze. An up stairs room over a room where a fire is kept is an ideal place, says an Ohio Farmer correspondent.

Cassava For Feeding Purposes.

Cassava is native to the tropics, but has been recently introduced in some of the gulf states and Florida. On fertile soil it is said to yield as much as ten tons of roots per acre, and the roots are worth fully as much as potatoes for feeding. The plant is propagated by planting short cuttings of the stems and requires only ordinary cultivation. As the roots decay quickly after being taken out of the ground, they should be dug only as wanted for use.

CREAMERY RULES.

How a Belgian Creamery Conducts Its Business.

The following rules are in force at a Belgian co-operative creamery:

Each patron declares twice a year, January and July, how many cows he owns.

The management has the right at any time, without notice, to send a veterinarian, an agricultural engineer or a delegate to inspect the health of the cows, the sanitary condition of stable, utensils, etc.; also to have the cows milked in their presence and take samples for analysis.

The milk must be delivered as it comes from the cows at least once a day.

Milk showing less than 2.4 by the Gerber or Babcock test may be refused.

Milk from sick cows, milk from cows having calved within eight days, from cows due to calve within three weeks, milk with any abnormal odor or taste, is not received. It is also prohibited to deliver milk from other patrons as if coming from the deliverer's farm.

If any patron desires to increase or decrease his delivery by 100 pounds per day, he must give notice two weeks before.

The greatest cleanliness must be observed as follows: "The cows' bags must be washed, the first squirt of milk thrown away, all utensils kept perfectly clean, milk removed from the stable immediately after milking, strained and night and morning milk not mixed."

The receiving hours are fixed by the management, but two days' notice given of any change.

The management determines the manner of taking samples.

Patrons have a right to be present during the testing.

Payments are made twice a month.

Until notice is given the patron must take back the skimmilk.

All milk deliveries must follow instructions of the dairymen.

It is not allowed the patrons to use any of the utensils in the creamery unless necessary, and the user is responsible for damages.

The dogs used in hauling the milk must be provided with muzzles, and owners are responsible for any results for not doing so.

The breaking of any of the rules is followed by a fine of 20 cents. If repeated within six months, 40 cents, and the third time expulsion may follow.

How an English Dairy Woman Does.

In a country village lives the wife of a busy occupier and blessed with good Shorthorn cows and a large, cool dairy into which the sun never shines, says the London Stock Breeder's Magazine. She explains her success as follows: "My butter all goes at home. I have had as much as 60 pounds per week, and it is all sold in and about the village. Some of my customers have had it for 30 years. The butter

CHURNING IN RURAL ENGLAND.

is uniformly good. We always churn in the middle of the day. The secret of making good butter on the old system is in taking any amount of trouble and keeping every utensil perfectly clean. The reason there is so much inferior butter is that folks won't take the trouble. They want to rush the business through and get it out of the way, and their daughters are eager to go out on bicycles and such things. I stick to the old plan of keeping a sharp eye on everything myself and lending a hand when necessary."

Preservation by Pressure.

Preservation of milk by pressure is an idea with which agents of the department of agriculture have been experimenting. Enormous hydraulic pressure has been applied to samples of milk inclosed in collapsible tin tubes, placed in strong hollow steel cylinders, the pressures ranging from 100 pounds to 100 tons per square inch. It was found that at ordinary temperature milk subjected to pressures of 10 to 15 tons for as many days was sweet at the end of the test, while at lower pressures the souring was not delayed. Pressures of 30 tons applied for one hour delayed souring for upward of 24 hours as compared with check samples. Pressures of 70 to 95 tons for several minutes to one hour kept milk sweet from two to seven days. When the temperature of the milk was raised to 140 or 170 degrees F., low pressures gave better results than corresponding pressures at ordinary temperatures. Up to the present time it has been impossible to completely destroy all the bacteria by means of pressure, germ life being particularly tenacious. Germs of typhoid fever, tuberculosis and other diseases added to the milk for experimental purposes were not killed by the application of 10 to 15 tons for eight days and upward. Altogether the idea would appear to be more interesting than practical.