Soils and Crops

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TO PREVENT SORE SHOULDERS ON WORK HORSES.

One of the most important problems on a farm where horses are used for a large part of the heavy work is that of preventing and treating sore sheulders.

Sore shoulders greatly lessen the efficiency of a horse in the field besides being very painful to the animal. Sore shoulders are much more common on young horses unused to the work than on old hardened animals. A young draft horse often gets sore shoulders when first broken to work because of tender skin, but the most common cause is poorly fitting collars.

In all cases, when providing a collar for a horse the collar should be fitted to the horse and not the horse to the collar—that is, a collar that is too large should not be used on a horse with the hope that he will finally get large enough to make it fit properly. This is a mistake that is often made on colts at breaking time. A common cause for sore shoulders in older horses is improper care of collars.

When trying the collar on the horse to see if it will fit, the animal should be in a natural standing position on level floor or ground with his head held at a height which seems to resemble his carriage when at work. The collar, when fastened, should fit snugly to the side of the neck, and the face of the collar should correspond closely and be in even contact with the surface of the shoulder from the top of the withers to the region of the throat. At the throat there should be enough room for a man's hand to be inserted inside the collar.

The collar selected should have ample hame space so that any likelihood of hames pulling off and bruising the horse's shoulder during heavy draft will be eliminated. The hames should fit tightly in to the collar groove made for them.

The horse collar should be examined carefully every time it is going to be used. All dirt and sweat found on the face of the collar should be cleaned off and the surface which comes into actual contact with the shoulder and neck of the horse should always be smooth and hard. A corncob or currycomb may be used in scraping off the sweat and dirt from the surface.

In order to prevent galls and more serious conditions is it not enough to give close attention to the selection and care of the collar. The shoulder of the horse should always be watched and given special care regularly when the animal is at steady work. If the selection of the collar has been properly made and all other things in regard to this piece of the harness looked after, the care of the animal's shoulder is a simple process. Under normal conditions washing the shoulder with soap and pure water at the end of a day's work, when the harness has been removed, and thoroughly drying the part by rubbing it with clean cloths, is all that is necessary. The colt that is being broken to work in the spring should be started in on light draft while the weather is still cool so his shoulders as well as the rest of his body may be toughened.

Other common causes for diseased neck and shoulders on a horse where preventive measures should be applied are; Implements with excessive tongue weight or excessive movement of the tongue when the implement is being drawn; side draft, a free-going animal hitched with a slow or lazy one where the head of the fast one may be drawn to one side while working; walking on a ridge or in a furrow that is too narrow, which may cause the animal to slip constantly or sidestep and in this way injure his shoulders. Besides these we have these parts of the body, the neck and shoulders, exposed to accidental injuries.

The most common diseases found in the neck-and-shoulder region of the work horse are galls, hot abscesses, cold abscesses, local dry gangrene, shoulder sweeny and fistula of the withers. In practically all cases the causes are an ill-fitting collar or neglect of some of the preventive measures mentioned. And while most of these diseases yield quite readily to treatment, in all cases they are a loss to the owner and painful to the horse.

It's Easy to Save Girdled Trees

By Gilbert W. Peck

Bridge grafting may seem like the job for an expert, but it is not a difficult operation and the amateur who will follow a few simple instructions should be as successful in the work as a man with experience.

Many instances might be cited where growers, inexperienced in bridge grafting, have saved for themselves many dollars' worth of fruit trees. Nevertheless, thousands of trees are allowed to die because the growers lack confidence in their ability to do the work. Some men, too, have the idea that a bridge-grafted tree always lags behind, is unproductive and sickly. This is not the experience of the vast majority of growers who have done bridge grafting. Now and then a girdled tree which has been saved may become sickly and worthless, but this may be due entirely to some other cause.

There are a few essentials in connection with the operation of bridge grafting that must be adhered to in order to insure success. The underlying principle in all forms of grafting is the same—that is, the cambium, or growing tissues of stock, and scion must come in contact with each other or growth cannot result. The cambium is a single layer of cells between the bark and the wood, and it is this tissue of a scion that must come in contact with the same tissue on the trunk of a girdled tree before the graft can possibly unite and grow.

HERE'S THE SURE-FIRE METHOD.

Here is the simple method which has proved entirely successful. The scions are made three or four inches longer than the girdle and large portions of growing tissues are exposed by cuts at each end of the injured section. Usually it is advisable to cut the lower end of the scion first, and place it in position on the trunk just below the girdle, where it is outlined on the bark. The scion is then removed and, following the outline, the bark is cut through into the wood. If the grafting is being done at the proper time the little piece of bark corresponding in size with the end of the scion will slip out readily, exposing a considerable portion of cambium tissue. The scion is then put in place and held while the other end is bent over against the bark at the upper side of the girdle. This should be done to get a better idea of the correct plane on which the top cut should be made. The cut surface of the scion should fit flat on the exposed stock.

When the scion is ready for insertion it should be nailed at the bottom first. In order to hold the middle portion of the scion from coming close against the girdle, it may be necessary to use a wedge, between it and the trunk, when nailing in the top. It is very important that the scions of a bridge be bowed out half or three-quarters of an inch. If this is not done the pressure of the growing scion against the stock, late in the season, may force it to give way at the top or bottom. This bow also permits the tree to rock to and fro in heavy winds without danger of breaking the unions. The scions of a girdle should be placed about an inch and a half apart. If this is done it takes only three or four years for them to grow together and gives a much larger carrying capacity for quick recovery of the tree.

DORMANT WOOD ESSENTIAL.

If a tree has been girdled on one side only it is advisable to put in the necessary number of bridges to take care of the wound. Fine wire brads about an inch and a quarter, with large flat heads, are satisfactory for nailing in the scions.

It is essential to success in bridge grafting that scion wood be dormant at the time it is usel. This may be accomplished by cutting the scions any time during late fall or winter and by keeping them in a cool cellar, buried in moist sand or sawdust. One should be careful not to keep them too wet or allow them to dry out. Scion wood may be allowed to remain in the trees with safety until a month or three weeks before the grafting is to be done. Vigorous one-year-old water sprouts or sucker growths from hardy varieties such as McIntosh, Duchess, Wealthy, Snow, Spy, or the like, make the very best scion wood. During early spring young orchards should be looked over carefully for mice injury so that if damage has been done there will be ample time to collect a supply of scion wood. If some of the trees have been girdled down to the roots it will be necessary in cutting the scion wood to secure a supply curved to fit the girdled portion on these particular trees.

For best results grafting should be delayed until a very little green shows in the tree about the time the first leaves are from a quarter to half an inch in length. At this time the bark peels readily.

As soon as the bridges on a girdled tree are in place it is necessary that all cut surfaces be carefully and immediately waxed to prevent drying out.

Melt together five pounds of crushed rosin and either one pound of beeswax or a pound of paraffin. To this add half a pint of raw linseed oil, and when the mixture has cooled somewhat stir in half a pound of powdered charcoal until smooth and free from lumps.

A concrete hog-wallow beats the old-fashioned kind, and also permits the hog owner to ward off disease.

A hog may not be thoroughly posted in arithmetic, but when you come to square root he is there.

POULTRY

Birds require more air than other animals and a poultry house must have dryness, light and ventilation. The ideal equipment for the small farm flock would be one laying-house and one brooder house. The brooder house can be ten feet wide and ten feet deep, built on skids and this is a large enough load for a team when the house is moved to clean soil for the growing of the chicks.

The dirt floor in laying-house is a carrier of disease, unless five or six inches of the soil are removed and replaced each year. Board floors are all right, but expensive. Concrete floors are the most economical in the end. Fill in with field stone about six inches, to break the rise of capillary moisture. An asphalt top on the floor helps to keep it dry. All of the floors in the contest houses are covered with a thin layer of asphalt over the cement. The asphalt paint is put on cold and allowed to harden for about three days and this keeps down the capillary water.

A poultry house which is giving good satisfaction, has a height of nine feet. The back wall is four feet six inches, and the front wall three feet six inches. The roof lights are of green sash to give an even distribution of light throughout the house. There are back windows to prevent the litter from stacking up near the back of the house and help in summer ventilation. Hens face the light when they scratch and the litter must continually be forked toward the front if the house has no back windows.

The ventilator for the house can be of galvanized pipe or wood about twelve or fourteen inches wide, and it is found that the wood ventilator is best. This type of ventilation helps to take the moisture from the straw and should extend to eighteen inches from the floor. Summer ventilators can be placed in the roof or near the top of the ventilator shaft to reduce the heat in summer. This proves quite necessary, due to the increase of heat in the house, which results from the windows in the roof.

Enough roosts should be provided in a poultry house to allow eight inches per bird. The roosts should be nine inches from the front of the dropping boards and nine inches from the back and they should be fourteen inches apart. Old sheds or sheep barns can sometimes be used for poultry houses by using a straw loft for ventilation. The waste oil from a crank case is fine to kill mites. The nests should be a foot square and hinged to the wall, and about one nest to six birds is a satisfactory ratio.

I use old inner tubes for rim liners. Split the tube and cut as wide as the rim. Put around rim and punch holes in tube for valve to go through. This holds tube in place. You will get much longer wear from your good tubes, as they do not get against the rim and rot.—J. W. S.

Hens or pullets forced for heavy egg production during the winter should not be used for breeders in the spring, for the vitality of a flock is reduced by forced feeding.

O.A.C. No. 144 Oat.

The O.A.C. No. 144 oat was obtained from the Siberian variety through nursery plant selection. This oat, which matures about the same time as the Banner, has a spreading head, white grain and less than the average per cent. of hull found in oats. The straw is strong and it has proven to be an excellent yielder of grain.

When tested on thirty-two farms situated in twenty-one different counties in Ontario in 1923, it outyielded the O.A.C. No. 72 by 5.7 bushels, the O.A.C. No. 3 by 10.3, and the Liberty Hulless oat by 17.3 bushels of grain per acre. In triplicate plot tests at the College in the average of the last five years, it surpassed the O.A.C. No. 72 by 4.8 and the Banner by 5.6 bushels of grain per acre. During this five-year period, the straw of this variety lodged less than either the O.A.C. No. 72 or Banner oats.

This new oat, originated by the Department of Field Husbandry of the Ontario Agricultural College, will be one of the varieties of oats distributed this spring for co-operative tests by the Agricultural and Experimental Union. Any farmer who wishes to give this oat a trial will receive seed by making application to the Secretary of the Experimental Union for the Oat Experiment. The supply of seed of this variety is limited and consequently is available only to co-operative experimenters.

Sacrifice of Dairy Calves.

A saving of heifer calves from heavy milking cows kept for producing milk for city trade, was urged at the Dairy Cattle Conference recently held in Ottawa. An enormous sacrifice of good dairy stock is said to result from the present practice whereby dairymen in many cases depend upon buying to replenish their herds instead of rearing the heifers from good cows. Cases were instanced of many carloads a year of the very best cows being bought up and shipped out of certain counties in Ontario to replenish commercial milking herds. Under this system the cows no longer produce the progeny they are capable of producing, which is so much needed. It was urged that means be found for inducing milk producing farmers to use improved bulls only, and to encourage the organization of heifer clubs among the boys and girls for taking over and rearing heifer calves.

Sprouting Potatoes.

Seed potatoes intended for early crop should be set to sprout not later than March 20th for south-western Ontario—northern and eastern districts correspondingly later, up to April 1st. Shallow flats or wooden trays about three inches deep are the most suitable container. The potatoes are set eye end up in the flats and exposed to the light in a room where the temperature does not go above 65 degrees. These will grow a sturdy vigorous sprout in three or four weeks.

I thank heaven that I was born poor.—Sir Ernest Pollock.

Home Education

"The Child's First School is the Family"—Froebel."

Teaching Definite Tasks—By Edith Lochridge Reid

Children learn to love work quite as well as play if the mother uses tact and wisdom in assigning the first little personal tasks. But a child must assumed duties and responsibilities gradually. It will be useless to pick up baby's toys for two or three years and then suddenly some day under stress of conditions, announce to him that he must do it himself. Not only will be rebel at the discipline of the task, but he will be really bothered about how to go about it and just where everything belongs.

A better method is to start as soon as Bobbie can get around well on his feet by himself. Pick up the toy dog and say, "Now let's put Fuzzy-wuzzy in the corner of the box here. That's his home." Bobbie is bound to be interested. The next day when playtime is over suggest that Bobbie take Fuzzy-wuzzy home all alone. He will be as proud as anything to do this little task. So for several weeks let this bit of work grow into a habit. Insist that the dog be put away. Then add one other toy. Bobbie can by this time carry one under each arm, which is a big achievement in his eyes.

The point is, stick to one thing—teach just one task until it is so well learned that it is no trouble for the child to do it. Later he can haul several toys in his little red wagon—a load of blocks is lots of fun.

So from caring for toys he can learn to hang up his coat. Be sure there is a hook low down and in an easily accessible place. He will early learn to put all his clothes away, and thus become a real helper, for as every mother will admit, picking up the children's clothing from places where it has been strewn, demands many hours of time in the course of a year.

There isn't a doubt but that very small children can be trained to do many tasks successfully—often surprising a casual observer who happens to drop in during their performance but who has not been a witness to the gradual development. However, two important points must be remembered in this phase of training, the tasks must be taught one at a time until thoroughly learned, and they must be made a part of the daily routine. It is useless to have baby pick up the toy dog two days a week and mother do it the rest of the time. Any lapse in the program is fatal to success.

In employing such a method in child training we are only making use of a psychological principle as old as the human race, and one which applies to adults as well as children; we all like to do things that we can do well, and we learn to do things easily and properly by doing them often.

A Gorgeous Flower for Shady Spots.

The shady part of the garden that will not grow even decent grass can be made beautiful by the use of the tuberous begonia. So long as a bit of the ground can get either the early morning or late afternoon sun, or for an hour's duration during the middle of the day, a bed of tuberous begonias planted there will bring charming results. This plant does for the shady spot what the geranium does for the sunny location, but it does more because of the variety of colors secured and the greater beauty of the foliage. The tuberous begonia cannot be used in an open location facing the sun during the hot part of the day because the leaves are apt to curl up and wither.

The tuberous begonia has been greatly developed in recent years. The best varieties produce flowers from four to six inches across and bloom from July until frost takes them off. They require rich soil. When the space is reached by the roots of trees, they need plenty of moisture. If started in light soil in pots or flats set in a warm place at the first of April, they will be almost ready to bud by the first of June, but some growers prefer to plant the tubers direct in the soil early in May or as soon as the ground would be ready for potatoes.

The plants should be set 12 to 15 inches apart, about 2½ to 3 inches deep, with the hollow side of the tuber uppermost. Tuberous begonia plants as well as dormant tubers are frequently offered as premiums for membership in the horticultural societies. By this means the tuberous begonia has become well known in many parts of the province that they might not otherwise have reached. The surface of the soil should be kept stirred during the summer and a dressing of bonemeal or other manure, preferrably from the poultry yard, applied from time to time.—Ontario Horticultural Association.

Treating Concrete for the Stable Floors.

Regarding the treating of concrete floors for dairy barns and stalls, I know of no special way except by different methods of laying. There are two quite different ways of placing concrete for this purpose and in doing either it is necessary to avoid two evils.

One evil is to get the floor so smooth that the animals slip badly on it; the other, to get it so rough that it is difficult to clear and has a wearing effect.

A very satisfactory floor can be made of concrete by what is known as the one-course method of construction. By this method the concrete is laid of the desired thickness, wet enough so that it will quake when struck with a shovel. It is then screeded, with a two-by-four sawed back and forth across the surface, and settled by striking gently and rapidly on the top of this two-by-four. It may then be floated with a wooden trowel which gives an even surface and one which can be cleaned reasonably well.

A more expensive method of floor construction is laying the concrete in two floors somewhat in the same manner as sidewalks are usually constructed. A thickness of floor is put in and a surface coat of richer material, usually one of cement to two of sand, mixed wet, is placed on top. It is then leveled by means of the two-by-four used as a screed, and a wooden float for leveling.

It is generally advisable to use the steel trowel very sparingly on the surface as it has a tendency to pull toward the surface and to produce a very smooth surface which is also likely to crack if too much cement is drawn to the surface. Where concrete floors are used in the stalls for animals, it is advisable to keep plenty of bedding in the stalls.

Cork floors or creosoted wood block floors are someimes used for stalls. Perhaps the principal advantage is that these floors conduct less heat so that the animals are kept somewhat warmer. hese floors, are, however, more expensive than concrete.—H. H. M.

Common Clay for a Forge.

I have noticed small cast-iron forges in farm workshops about the country, and have observed that very few of the hearths are provided with the clay coating that should be maintained for the preservation of the forge and insurance against fire.

Fire clay is, of course, recommended by the manufacturers for this purpose, but common clay, if it is free from other substances, will serve the purpose. The clay should be moistened with water enough to make it plastic or puttylike in consistency, and a smooth coating applied over the surface of the hearth to the thickness of one inch at the least. Care should be observed that none of the clay is allowed to drop into the air-blast opening.

After applying, the clay should be allowed to dry naturally for a day or two, according to weather conditions, after which a fire should be built in the forge to harden the coating. A slow, steady heat for two hours will usually suffice to give the clay a brick-hard finish.—G. E. H.

Sugar is found in the sap of nearly two hundred plants and trees.

PACIFIC COAST FISHERIES TRADE WITH ORIENT

Number 1—Unloading fish by elevator at Port Alberni. Number 2—Captain R. B. Benett, skipper of the steamer Princess Ena, which has carried 12,000 tons of salt herring this season from Barclay Sound to Vancouver for trans-shipment to the Orient. Number 3—Canadian Pacific S.S. Princess Ena. Number 4—System of harvesting the herring. Number 5—Slinging fish from scow to dock. Number 6—Product in barrels ready for export.