

THE MARE AND FOAL

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Michigan farmers should make every effort possible to increase horse production by breeding more good mares and by giving them proper feed and care, which will enable them to raise as large a percentage of foals as possible.

The horse population of the United States has decreased from 19,800,000 head in 1920 to 12,677,000 head in 1932. In Michigan the figures are approximately 605,000 in 1920 and 370,000 head in 1932, making a percentage decrease of 37 per cent in 12 years. Approximately 55 per cent of the horses on farms are over 10 years old, making replacement very necessary. Michigan farmers spent \$1,300,000.00 for over 10,500 horses imported into the State in 1932.

Michigan has been raising less than 7,000 colts per year while the mortality of the Michigan horses is now about 25,000 head per year, showing that horses must be bought or raised in greater numbers during the years to come. No better market can be provided for low-priced feeds than to use them on the farm for replacing and renewing the horse population. As a means to this end, this bulletin has been published as an encouragement to horse production.

Breeding the Mare

In selecting animals to be mated for the production of the draft foal, it is best to choose individuals which have the conformation desired in the colts. The more

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Printed and distributed in furtherance of the purposes of the cooperative agricultural extension work provided for in the Act of Congress May 8, 1914, Michigan State College of Agriculture and Applied Science and U. S. Department of Agriculture, cooperating.

drafty, thick, shorter-backed, heavily-boned animals with good feet and legs and pleasing dispositions mated, the more desirable will be the offspring. Good breeding in the mare as well as in the stallion should be demanded.

Although it is not always advisable, mares may be bred when they are two years old if they are large, well developed, and not needed for work as a late two or three-year-old. Mares bred when they are three or four years old may be worked while they are in foal without harmful results. The mares should not be allowed to become too far along in years before breeding, as difficulties in breeding increase with age.

Mares come in heat nine days after foaling and generally every 18 to 21 days thereafter. The mare should be returned to the stallion for retrieval once every three weeks for at least four times after the last service, in order to be sure that she is in foal. The mare may be bred to foal in either the spring or fall. Both times have advantages but it is generally a more desirable practice to have them foal in the spring previous to the spring rush of work. This will allow the mare time to recover and be ready to do a share of the spring work. If the mare is to foal after the spring work is over, her work should be slow and light in order that possibility of injury may be reduced to a minimum.

Caring for the Bred Mare

A little additional care must be given the mare if she is to do her best in raising the foal. She may be worked as usual providing care is taken not to cause over exertion on heavy hauls, backing, and jerking. When not working, the mare should be given exercise in the pasture or in a small lot.

The mare should be fed a little more grain than usual in order that nourishment be provided for herself as well as for the development of the fetus. The ration should contain a little more protein, lime, and phosphorus than would otherwise be necessary, and the proportions of these should be increased as the mare approaches parturition. These elements are present in legumes and may be increased by using a greater portion of good quality alfalfa or clover hay.

One part corn and two parts oats, by weight, is a good grain feed for the mare. A pound of bran should be added to the feed as a laxative and conditioner. Roots, such as carrots, beets, and potatoes, at the rate of six to eight pounds per day are good and will take the place of the bran. Beginning three or four months after the mare is settled, she should be given one ounce (three tablespoonsful) of a solution made up of one-half ounce of potassium iodide in one pint of water, on the feed once every week. This is equivalent to 15 grains of iodine per week. This mixture supplies iodine which is often lacking in the feed and it is thought by some to prevent many common ailments in the foal. The most common of these and probably the most fatal is the disease commonly known as joint ill, naval infection, or leakage of the naval.

The roughage fed the mare may consist of alfalfa, clover, timothy, corn stalks, soy beans, or oat straw. A combination of alfalfa and corn stalks or straw is the most economical and fully as good as any of the others.

Care should be taken at all times to prevent feeding moldy and dusty feeds to the pregnant mare, as they are often the cause of abortion.

The amount of feed will depend upon the condition, work, and individuality of the mare and should be decided by one who is handling and feeding her daily. Whatever these conditions may be, the mare should not be overly fat or exceedingly poor. As a guide to the quantity of feed, feed one pound of grain per day per 100 pounds of live weight, increasing to 1½ pounds per 100 pounds live weight as the mare's work increases. Pregnant mares on good pasture and doing no work will do well without grain.

Approaching Parturition

The average period of gestation for the mare is eleven months or 340 days, although it may vary from 319 to 373 days after the day of breeding. If the mare has been at work, she should be continued at light, slow work right up to the time of foaling. When there is a noticeable sinking of the croup muscles, a falling in of the abdomen, and a fullness of the udder, the mare may be expected to foal within a week and preparations for giving the young foal every possible chance should begin. The mare should become accustomed to the stall in which she is to foal. A large, light, clean box stall which has been disinfected and the floor

covered with lime and well bedded is preferable. The mare should be given daily exercise and, if she is not accustomed to pasture, it should not be allowed at this time more than perhaps one hour per day to accustom her to it gradually. A knowledge of the mare's previous success, coupled with good judgment, should decide the amount of feed and exercise she should receive.

Light, comfort, sanitation, and room should never be overlooked in stabling the mare before or after foaling. If weather permits and the ground is warm and dry, allow the mare to foal in the pasture. Here it is much cleaner and the conditions are much more natural.

Parturition

When the mare shows uneasiness, lies down and gets up, bites her sides and flanks, sweats on her flanks, or switches her tail, immediate parturition may be expected. If possible be near but not in view when the foal arrives. Parturition usually extends from 10 to 15 minutes with normal presentation. If presentations other than the fore legs extended with the head resting on them are encountered, the condition is considered abnormal and a veterinarian should be summoned as trouble will undoubtedly result. If the feet are presented with bottoms up, it is an indication that they are the rear ones, and that assistance must be given to deliver the foal at once, otherwise it will smother. As soon as the foal is dropped, see that he begins to breathe. Remove the film from his mouth and nostrils, and if he fails to breathe blow into his mouth and rub or shake his ribs. If this does not start him at once, breathe into his nostrils normally, pressing on his ribs as you inhale your breath and release the pressure as you exhale.

Paint the naval cord with tincture of iodine as soon after birth as possible. An antiseptic powder should be dusted on the cord daily to prevent infection and to dry it up. This should be continued until the cord drops off and the scar is healed.

Tie the afterbirth to the tail so that the foal or mare will not step on it and increase the danger of inflammation of the uterus in the mare. This results in stiffness of the legs and a disease known as foal founder. If the afterbirth is not discharged within six hours or if lameness is evident, the animal should be blanketed and a veterinarian called at once. The mare and foal should be left lying as long as they are quiet. This gives them a chance to gain strength.

Remove the afterbirth from the stall and burn or bury it, this is often the source of disease if left uncared for. The stall should be cleaned and the floor sprinkled with lime and covered with new bedding.

If the foal fails to nurse after two or three hours, he should be assisted. Attempts to force him are useless. He must be coaxed. The best method is to back the mare's rear quarters into a pile of straw in one corner of the stall and coax the foal to the teat with a nipple and bottle in which has been placed a small amount of the mare's milk. Work from the side of the dam opposite to the foal. Let the foal have the first milk to come from the mare's udder. It is nature's laxative which cleans the intestinal tract of the fecal discharges. If the bowels fail to discharge within four hours and the foal fails to take much nourishment, give an injection of luke warm water with a little glycerine or raw linseed oil in it, using a syringe with about a four-inch nipple. If constipation continues, give an ounce of castor oil in a small amount of the mare's milk. To do this, lay the colt on its side and pour the mixture into the corner of its mouth on top of its tongue, a swallow at a time.

Care After Foaling

The mare should be given frequent drinks of luke warm water in small quantities. Her first meal should be about one-half the regular feed and should be a mash made of two-thirds oats and one-third bran. After this, she should be put back on her regular feed, limiting the quantity to one-half the usual amount for at least nine or 10 days. If the udder seems full and caked or if the colt is inclined to scour, milk the mare out by hand a number of times until the conditions are corrected. Watch the bowels of both mare and foal and see that they are kept in a normal condition, neither too laxative nor constipated.

If the mare was on pasture before foaling, get her and the foal out as much as possible when weather permits. If they cannot be on pasture, they should be given a place to exercise in a small lot near the barn. If both the mare and foal progress all right, the mare may be rebred on the ninth day and then be returned to work. It is better to wait until at least two weeks after foaling. If there has been

trouble at the time of foaling, it is a good policy to defer breeding until 30 days after foaling. The work at first should be slow and easy. The foal should be left in the stall and given a small amount of water and grain to work over and amuse himself with. The mare should be taken to the barn to allow the foal to nurse once during the forenoon and again during the afternoon for the first 10 days after she is put to work. The warm mare should be partially milked out and the udder washed off before the foal is allowed to suckle her. Allowing the foal to suckle the warm mare without milking may cause him to become shaggy and rough coated.

At night, the mare and foal may be turned on pasture, preferably separate from the work stock, which are sometimes rather rough with the little foal, or are quarrelsome with the mare.

By placing the feed box on or near the floor, the foal will soon learn to eat with his mother and may be given grain separate from her. At the end of five or six months when he may be weaned, he should be taken away from the dam and not allowed to return. At this time, some trouble may be experienced with swelling of the mares udder. It should be milked out partially and a mixture of lard and spirits of camphor applied. This tends to stop the flow of milk and keeps the udder from caking.

Weaning is the most trying time in the foal's life and it is at this time that every effort should be used to give him the proper start in life. Keep him growing and developing as much as possible during his first two years. Give equal parts of oats and corn by weight, feeding $1\frac{1}{4}$ pounds per day for each 100 pounds he weighs. One pound of alfalfa hay per day per 100 pounds of live weight and good oat straw to work at between meals completes the ration. The colt should get plenty of outdoor exercise. (See Experimental Report, "Limited Rations for Draft Colts," Michigan State College Experiment Station.)