

UN SOUND SIRES GET WORTHLESS COLTS

Growing Interest in Horse Breeding Demands Good Breeding Stock

HEREDITARY FAULTS BARS

Horse Raisers and Users Told how to Detect some Important Defections in Judging Horses.

By Carl N. Kennedy, Horse Specialist at O. A. C.

(Concluded from Last Week.)

Having finished the examination of the fore limbs, the trunk should be examined for any abnormal develop-



Unusually large and prominent sidebone.

ments, such as umbilical or scrotal hernia. The horse should have one front foot held up in order to compel him to stand firmly on both hind feet. The hips should be closely observed for any unusual development and the hind limbs should next be examined in the same manner as the fore limbs. The hock has already been noticed from a slight distance, but it should be again examined very carefully, the two hocks carefully compared, and if spavin is suspected the foot should be lifted and the leg well flexed, then lowered and the horse started sharply. Spavin in which inflammatory action exists will be revealed by lameness;



Skeletons of foot showing location of sidebone (A), and ringbone (B).

but if inflammation has ceased the lameness will not be apparent.

After finishing with the hock the rest of the hind leg should be examined in the same way, and for the same unsoundness as the fore limbs. Disease or unsoundness are much less common here, however, but one trouble which sometimes occurs is cocked ankle, which is partial dislocation of the fetlock joint. If very marked it must be considered an unsoundness, and is always objectionable.

Having further proceeded this far with examination, and having determined the unsoundness, if any exists, the horse should be tested for wind, and here again it is absolutely necessary to know the normal sounds made by a horse when breathing. A boy or



Bone spavin on left hock—note bony deposit.

man should be placed on the horse or he should be hitched in a light wagon and given a hard run of three or four hundred yards. Have him pull up sharply as he reaches you and listen for any unusual sounds. A horse sound in wind should draw three or four long breaths and then breathe as usual. One that roars, whistles, rattles in the throat or heaves at the flanks in breathing should be condemned.

The importance of the examination for soundness cannot be overestimated and no stallion should be used for breeding purposes that possesses any of the hereditary unsoundness previously mentioned. The presence of so many worthless horses on our markets today is due largely to the use of unsound sires and dams. Along with the present increased interest in horse breeding we should have an increased interest in the soundness of the breeding stock.

BETTER FEEDING MAKES HEALTHIER CHILDREN

Oregon Agricultural College, Corvallis, Ore., August 2. "We do not have to go east of the Cascade mountains to see American children that are suffering from lack of nutrition due to improper feeding," said Dean Henrietta W. Calvin in a popular lecture on dietetics at the O. A. C. Short Course. "Quite recently I saw in a Willamette Valley town a little anemic child that in size and development was not more than three years old, although in years it was past five. This child had no meat, eggs or milk in its diet, and strange to say its mother was proud of its idiosyncrasies. She will have sad cause to change her mind when study, work and play make demands on the little stunted body, that cannot be met. The child will almost certainly be ineffective in its school and home work and fall behind the better nourished children.

"While the tendency of old age is to over-eat, that of the young is to under-eat. In children the substance of growth must be provided in the food in addition to that for the repair of waste, greatly increased by greater activity. In general this substance should be supplied in what carbohydrates the child will take in wholesome forms, one-fifth the amount of proteins and one-tenth the amount of fats. This ratio will vary with individuals and seasons, but forms an approximate guide to selection and preparation of food to meet the demands of nutrition.

"And these demands should be met, since nutrition is an important factor in national vitality. An efficient nation calls for good brains; good brains demand good blood; good blood demands good food, and good food demands the most careful and intelligent consideration."

REINVIGORATING THE OLD ORCHARD

Fading Leaves, Splotched Bark and Small Fruit Show Lost Vigor

SOILS REQUIRE TREATMENT

Cover Crops of Legumes and Rye Recommended to Restore Both Land and Trees.

(By W. S. Brown, Extension Horticulturist at O. A. C.)

Not long ago the writer spent a day with a company of growers in going about among the prune and apple orchards of a little valley that has been raising considerable fruit for some time. Last year he spent three days tramping about the orchards of this district, noting the troubles of the growers and giving them such advice as, in his judgment, seemed best to fit the needs of the community.

One of the most serious conditions seen last year was the lack of vigor in many of the older orchards, prunes especially, as indicated by the light colored foliage and lifeless-looking bark of many of the trees. Leaves were often wilted, showing a lack of moisture, also. The crop of prunes on the sick trees was noticeably smaller on an average than the crop on trees still vigorous, and the size of the fruit was smaller.

One orchard in particular was neglected by its owner last year because it had little fruit. The result was that by mid-summer the trees were yellowing badly and the leaves were rolling up with droop.

This grower was advised to drill in a cover crop of oats and vetch during the latter part of August and to plow this cover crop under as soon as his growth was in good shape for plowing in the spring and to follow with good cultivation. This advice was followed with the result that the trees are fresh and vigorous in appearance this year and are carrying one of the best crops in this valley.

While it is unwarranted to say that the cover crop and good cultivation were alone responsible for this quick recovery—because the owner had taken good care of his place up to last year—still a large part of the benefit was due to the treatment it received the past season.

This orchard and this valley are fairly typical of many old orchards in different sections of the state. These old orchards are fast getting to the point where they are unprofitable. They need re-invigorating, more food, more drink, better pruning.

The question is often asked, "What fertilizers shall I buy for my orchard? It is running down." While chemical fertilizers may be needed in some cases, a large majority of the orchards may be rejuvenated in a cheaper and simpler way, by the use of cover crops.

What is a cover crop? It is a crop sown late in summer, allowed to grow through fall and winter and plowed under in the spring.

What will a cover crop do? It will add fiber or "humus" to the soil and loosen up the soils which have become compact and lumpy because the fiber has been "burned" or oxidized out of them by cultivation or because the soil has suffered from wet plowing or other poor handling. By breaking the soil up into smaller particles, the cover crop adds to the amount of film moisture around the soil particles available for plant growth and also increases the feeding surface for the roots of plants. The roots of plants must have air or, in other words, they must not have the soil puddled or packed about them so closely that a quantity of oxygen sufficient for growing purposes cannot get to the roots. Cover crops make the soil more porous and admit more air.

Some plants like rape, mustard, cowhorn turnips, and the like feed heavily on potash and, upon decaying, leave a large amount of this plant food ready for the roots of the trees. Another family of plants, called the pea family, make excellent cover crop

plants because there are usually present on their roots bacteria that have the power of fixing the free nitrogen found in the air into nodules or swellings on the roots. When these nodules decay the nitrogen becomes available for other plants. Nitrogen is the chemical which, taken in by the plant through the roots, causes the dark green of the foliage and re-invigorates the tree. It is the most expensive element we have to buy in commercial fertilizers, hence it is much better to add it to the soil in this inexpensive way. Some of the nitrogen gatherers or legumes, as they are called, that are grown most commonly for cover crops are spring and hairy vetch, crimson clover, soy beans, cow peas, etc.

The cover crops for run down orchards in western and southern Oregon should consist of some one of the legumes planted with a strong upright-growing plant like rye, or oats to keep the legume from lodging. Some of the most popular combinations for the regions named are either oats and spring vetch, (*Vicia sativa*) at the rate of 20 to 30 lbs. of oats to 40 lbs. of vetch or rye and spring vetch, using 10 to 20 lbs. of rye with 40 lbs. of vetch.

In eastern Oregon, where, in many places, winters are colder than in the western part of the state, the hairy vetch, (*Vicia villosa*) will make more growth than the spring vetch and not kill out so quickly. Twenty pounds of hairy vetch if carefully drilled in will make a good stand.

Two things must be observed carefully if the crop is to be successful. It should be drilled in later in summer or early in the autumn so as to get a good start before cold weather sets in. This practice insures a good stand to plow under in the spring. In the second place, the plowing should not be put off until the cover crop has become tough and woody. When in this condition the fiber of the cover crop does not decay readily, consequently may cause a drying out of the soil, doing more harm than good.

WESTERN TRAINING BEST FOR WESTERN TEACHERS

Oregon Agricultural College, Corvallis, August 2. Western trained teachers for vocational teaching in western schools are said to be best by Dr. Wm. T. Bawden, vocation specialist of the United States Bureau of Education, who recently addressed the Oregon Agricultural College faculty in connection with the vocation survey that he is making for the Bureau. He said that he used to think that any well trained teacher of vocational subjects would be a good teacher of them anywhere, but that the wide difference in eastern and western industrial conditions requires a local view, which can be gained only by local training. Industrial demands being the basis of vocational instruction, the instruction should be best suited to the demands.

In this way vocational training was said to be the first factor in logical educational reform. Instead of enacting compulsory attendance laws the reformers should have found out what the trouble was and remedied that first. The real cause was a desire to practice a vocation for purposes of gain or training, and by supplying the opportunity for the training sought in leaving school, the schools would offer the best possible incentive to girls and boys to finish the school course.

Dr. Bawden also called attention to the fact that the Federal Government thinks the vocational work of so much importance that it has appointed four specialists to travel over the country and make a survey of the subject with a view to further improvement. One of these four specialists surveys agricultural conditions, two of them survey home economics and Dr. Bawden surveys industrial arts. One of the home economics specialists is Henrietta W. Calvin, former Dean of Home Economics at O. A. C.

Self-feeders can be built so as to feed from only one or from both sides and can be built to hold any amount desired, but too large ones are hard to move if it is ever desired to do so and also take up an undue amount of room in the feeding pens.