THE COMING HORSE

THREE CLASSES WHICH FARMERS WILL FIND IT PROFITABLE TO BREED.

The coming horse for the market should be large and smooth, writes George Cockran in The Prairie Farmer. The farmer should breed for three classes—the draft, coach and roadster. The draft mare should be bred to a large, smooth, heavy built horse of some one of the draft breeds, but if you have a good, large coach mare breed to a smooth, stylish coach horse of good size and breed a road mare that has good size to a large coach or road horse. The mare should be bred so as to foal about the 1st of February or March or the last of September or 1st of October. When going into

STALL FOR KICKERS.

the business of raising colts, it is necessary to have two or more large box stalls. The mare when near foaling time should run out during the day when the weather is pleasant and be kept in the stall day and night when it is stormy. Keep the stall well bedded.

After the colt comes, as soon as you can get hold of it do so and hold it until it quits struggling; then stroke it with the hand until it finds out you do not intend to hurt it. Have a snug fitting little halter to put on it and afterward, when you go in the stable, call it by names and caress it so as to make it feel that you are its friend. When you take the mare out of the stable to water, leave the colt in the stall, and it will soon learn that it cannot follow and will give you no more trouble in that way. After the colt is a few days old, if the mother's trough is too high for the colt to feed out of, nail up a little box for it. Feed the mare oats and bran before and after foaling unless the bowels seem too loose. If so, discontinue the bran. When feeding timothy hay, you will be likely to need the bran, but if clover hay is fed oats alone will be sufficient. When using the mare, always leave the colt at home, if possible; but, if not, take two hitching straps and fasten one to the colt's halter and tie the end of the strap to the mother's harness, giving the colt about three feet of strap; then take the other strap and fasten one end in the colt's halter and the other to the mare's singletree. Have a light buggy whip and touch it up when it will not go. The mare and colt should be fed regularly until the colt is 6 or 8 months old; then the colt should be left in its stall and fed the same as the work teams until it is 1 year old; then put on good pasture, and it will take care of itself. The second and third winter it can run to the straw and hay stacks and can take care of itself provided it has a good, dry shed to lie down in.

A correspondent of the Michigan Farmer submits a diagram of a stall that he used for ten years. "Fasten the chain about 3½ feet above floor and 8 feet back from manger," says he. "Have a hook at one end so you can open easily. Wire the other fast that you may always have chain at hand. I never have had carpenter work to do behind horse tied in this stall."

THE IRRIGATED FARM.

Irrigation Means Diversified Farming and Independent Farmers.

The climate of the western half of the United States takes its chief characteristic from its aridity or dryness. The heat of its southern summers and the cold of its northern winters are alike tempered and mitigated by lack of humidity. Neither the humid heat which prostrates nor the humid cold which penetrates to the marrow is known in the arid region. The western mountains and valleys are a recognized natural sanitarium where thousands of invalids are sent each year by physicians to regain their health.

The hundreds of streams which fall from the 10,000 foot level of the Rocky mountain range to the 4,000 foot to 5,000 foot level of the plain at their base are destined to turn more wheels of industry than have yet been harnessed west of the Mississippi river. Back of the irrigated lands are the grazing lands, of which there are probably not less than 400,000,000 acres. These lands have been the dominant factor of the pioneer life of many of the arid commonwealths, and they are destined, under proper management, to always constitute the great nursery of cattle, sheep and horses.

The irrigated farm has back of it the mine, the furnace and factory, and the civilization of western America cannot fail to have a prosperous and varied industrial life. Here there can be no one sided development, no community exclusively devoted to the production of corn, wheat or cotton, to manufactures or to commerce. The farm, the stock ranch, the lumber camp, the mine, the factory and the store are destined to grow up and flourish side by side, each drawing support from and furnishing sustenance to the others.

Where land can only be cultivated by means of the artificial application of water, and where that water is not under speculative control, it is owned in small holdings. This is so because irrigation intensifies the product of the land and so demands much labor. It is a kind of labor which can not profitably be left to hired hands. The result is a multitude of small proprietors working for themselves. This fact is strikingly illustrated in southern California. Here the farms are small and almost exclusively occupied by their owners. But the great wheat ranches in other parts of the state, notably in the Sacramento valley, depend chiefly upon hired laborers, who make no homes of their own.

Irrigation lends itself naturally to diversified farming and tends to make population self sufficient within itself. Although in certain localities, especially those where the climate is favorable to raisins and oranges, the contrary has sometimes been true, the tendency of irrigation as a whole has been to discourage the production of single crops and make families independent by producing the variety of things they consume. This tendency is steadily gaining ground. The diversified farming which irrigation both permits and encourages will be an important element in contributing to the independence of the people who shall inhabit the arid region of the future.—Expert Elwood Mead in Year Book for 1899.

KEEPING ANIMALS TOO LONG

Study of the Subject From the Financial Standpoint.

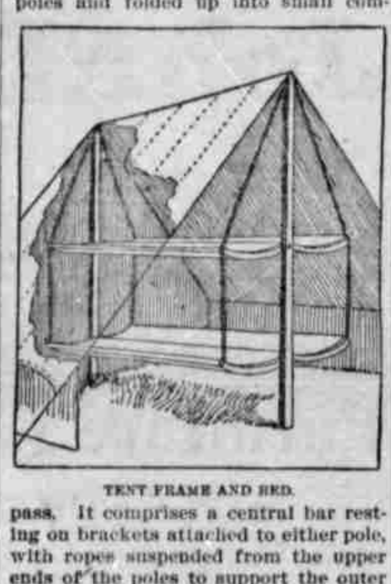
It is a very commendable and humanitarian sentiment to keep cattle too long, for it indicates an attachment for them that one is loath to break, and yet a farmer who is raising animals for his living cannot let sentiment interfere with what he knows to be good business, says E. P. Smith in The American Cultivator. Others keep cattle too long simply because they happen to be ignorant of the best time to dispose of them, and they keep waiting for a better turn in the markets to help them get good returns. Sometimes this living in the hope of doing better later induces a farmer to carry his herd over from month to month, and before he knows it a year has slipped by. The animals are meantime eating up all the profits they ever would have made for their owners and at the same time are passing the prime of life, when they sell at the best prices.

We cannot afford to keep cattle one day longer than the time they reach full maturity or prime of life. Up to this period they have been gaining in weight and flesh, and every pound of feed that has been given to them has made its corresponding amount of flesh. Liberal feeding of growing animals makes glad the heart of the farmer or breeder, but when the food ceases to exert its magic influence then something seems to be wrong. The wrong is very often that the cattle have passed their prime, and all future feeding will merely tend to help them hold their weight. There is no further gain.

Prime cattle sold in the market means something more than fat and well developed carcasses. It includes a certain tenderness and juiciness of meat which can be gained only through rapid growth and laying on of flesh. This result has been obtained by good feeding of good animals. If these animals had ceased to grow, the meat would begin to lose much of its best virtues. It may not be an easy matter always to tell just when an animal has ceased to grow or when it has reached its full prime, but it is more profitable to sell just before that period and thus lose the few extra pounds it may have gained than to hold it a few weeks beyond maturity when it gains nothing in weight and loses in quality. Most of us are inclined to hold our cattle too long, and it may well be of value to some of us to look into the matter. Are we hampering ourselves by holding cattle over for higher markets when they should be sold at once, or are we selling them just as soon as they have reached their prime and are in the very best condition for the market?

Camping Combination.

Soldiers and camping parties who have occasion to sleep in tents will appreciate the comfort of the combined tent frame and bed here shown. This invention has the advantage of not taking up much room when not in use, being easily removed from the tent poles and folded up into small compass.



TENT FRAME AND BED.

It comprises a central bar resting on brackets attached to either pole, with ropes suspended from the upper ends of the poles to support the outer ends of the horizontal arms to which the cover is secured. The invention has been patented. It will be seen that the bed will easily accommodate four persons, and the height of the two frames can be adjusted as desired, while the ease and rapidity with which the device can be removed from the tent and the small space it occupies when folded add greatly to its value and make it a very desirable addition to any camper's or soldier's outfit.

Cultures For Butter Making.

The chief factor in determining the value of butter is always the flavor, says a correspondent of The American Agriculturist. This is also the most difficult thing to secure in practice. Results of investigations have shown that the flavor of butter whether good or bad is mostly a result of the fermentations which have taken place in the cream. Feed of the cows, kind of churn used or manner of churning has little effect on the flavor.

The fermentations are due to the growth of certain bacteria. Those that cause bad results come mostly from dirt and filth. They cause a decay of the milk similar to the decay of animal or vegetable bodies, and the products produced largely give the taints to milk and the bad flavors to butter. The fermentation which gives the good butter flavor is a pure souring of the cream. The butter maker has it within his power to make butter with almost the same flavor the year round by observing cleanliness and using good starters to ripen the cream. In some samples of butter shown at the Iowa stock breeders' convention, made from a combination of four kinds of bacteria used as a starter and representing the common sources of contamination by dirt, this butter was judged to be worth 10 cents less per pound than another sample made from a portion of the same cream with the right kind of fermentation.

Marketing Wool.

Thousands of dollars are annually lost by woolgrowers by reason of the slovenly manner in which the clip is sent to the market. Many a clip is discounted a full cent or more per pound on account of the bad condition in which it comes to the market, and nothing is gained by the seller either in saving of time or labor. A clean, well tied fleece always meets a warm welcome among buyers, sorters and millmen.—Sheep Breeder.

A Good Late Soiling Crop.

A crop of barley and peas is very useful for late soiling and may be seeded from Aug. 1 to Sept. 1 in New Jersey. Its field management is practically identical with that of oats and peas. It is not injured by light frost and can be fed throughout the months of October and November. The yield, however, is very materially influenced by the season. If the weather is cool and moist throughout August and September, nearly as large yields may be obtained as from a crop of oats and peas, but if the fall is dry and hot the crop is liable to be very much reduced, as the pea particularly is seriously injured by such weather conditions.

FARM AND GARDEN

FITTING THE SOIL.

For Roots or Tubers—Comfortable and Uncomfortable Beets.

Figs. 1 and 2 show sugar beets grown under proper soil conditions, and Figs. 3 and 4 show beets grown in improperly prepared soil. These clearly illustrate that in the growing of beets success depends very largely upon the soil preparation. One has only to look at the illustrations from Cornell university experiment station bulletin No.

TOO MUCH OUT OF GROUND—AS IT OUGHT TO GROW.

143 to see which beets were made comfortable and which were so cramped and hampered that they were compelled to throw out feeders, or fingers and toes.

Fleshy, rapid growing roots, as the beet, or tubers, as the potato, in order to expand and grow naturally in the ground must have the soil so mellow and loose that in growing they will not be crowded out. In the case of the beets with the prongs the subsoil had not been properly loosened so that the roots could develop in it, and as growth progressed feeding roots were thrown out in the directions of least resistance, and the result is a monstrosity.

It has been found that a plant will send out feeding roots in the direction of the most available plant food. Where fertilizer was applied to beets as a top dressing a large per cent of the crop was ill shaped. The sugar beet requires for proper growth a deep, mellow, well drained soil. If these conditions are not present naturally, they must be produced artificially by those who would succeed in growing beets for the factory.

What is true of the crop just mentioned is true to a greater or less extent of all farm crops. Certain conditions are required to make the plants comfortable, and these conditions vary with different crops.

In potato culture one question which is asked more than all others combined is, "What makes the potatoes grow out of the ground?" We are informed that the potatoes must be hilled in order to keep the tubers from becoming sunburned. A rapidly growing tuber must have a mellow soil on all sides in which to expand if it is to expand uniformly. If the lower side of the potato rests upon hardpan or upon soil which has not been well fitted, it must of necessity expand in an upward direction.

The plow if properly used is the most effective weapon of the farmer in reducing the soil to a state of subjection. It destroys undesirable plants, it aerates the soil, it presents new surfaces for the roots of plants to feed upon. By pulverizing the soil it increases its moisture holding capacity, it enables the plant roots to come into intimate contact with the soil particles. In other words, it tends to produce conditions which will make the plant comfortable.—L. A. Clinton in Rural New Yorker.

RESULT OF TRANSPLANTING—RESULT OF HARD SUBSOIL.

Nursery Inspection In Ohio.

Ohio now has a law intended to prevent the introduction and spread of San Jose scale and other insects and diseases injurious to trees, shrubs, fruits, etc. The law provides for an annual inspection of every nursery in the state and forbids the transportation or sale within the state of uninspected nursery stock, whether grown within or outside of the state. Nurserymen can no longer carry on their business in Ohio without a certificate from the experiment station at Wooster, which has charge of this inspection work.

Vital Energy.

Live plants are plants with their particles in motion building up the plant's structure. This motion is known as vital energy. Physical energy results in decomposition. The material out of which plant structure is formed is known as protoplasm. The forms of flowers result from varying degrees and directions of vital energy, but what starts the motion in protoplasm and so directs the energy that a little cell may develop in one instance to an oak or in another to a buttercup has not been demonstrated.—Popular Science.

A heavy corn crop is expected in Nebraska and Kansas if conditions continue favorable.

If flat turnips are sown among the growing crops of corn or other crops at the last hoeing in July or August they will get a foothold so as to grow rapidly when the shading crops are removed. Before frost comes many of them will have grown large enough to have become fit for table use, while the others may be plowed under as green manure or they may even be left to freeze and rot where they are, suggests American Cultivator.

For a general purpose all around useful tree the willows have more merit by far than they are given credit for having. Their dense, rough growth especially fits them for wind breaks; their tenacious roots serve well to hold the soil on banks of rivers, canals, ditches and railway embankments; the wood is light, tough and elastic and serves for many purposes about the farm for which that of no other tree will answer so well. The wood of some species is highly esteemed for turnery, cooperage, bats, in carriage making, handles for tools, etc. Osier willows are grown for basket making and tying purposes. Some species make fine specimens for lawn and for roadside planting. As a class of trees for general planting they need much more attention than they have had or are now getting, and several of the American willows are well worth planting, according to Professor Hedrick of Utah.

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for Throat and Lung Troubles, and after taking it according to directions, I was as well as any man in New York State. I was healthier and stronger than before I took the cold which came so near killing me. I now weigh 150 pounds—ten pounds more than ever. After recovering, I applied for a life insurance policy. When the doctor began examining me, I was afraid he would discover that my lungs had once been affected, but he didn't. I passed all right, and was pronounced in a first-class condition. If that isn't proof of the most positive kind that Acker's English Remedy is a great medicine, I don't know what you call proof. I give it my warmest endorsement. My address is given above. Anyone who wishes may write me personally about my case."

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Dairy Points.

At the Dairy institute at Springfield, Mass., Professor Cooley said:

The feed does not affect the richness of the milk. You cannot tell by the looks of milk how rich it is.

We cannot afford to run cows on half time.

To get high grade milk brush the cows before milking, and it is advised by many that the udders be clipped.

Manage to have the cows come fresh, so as to maintain a uniform supply throughout the year.

It is claimed that summer silage will stop summer shrinkage.

Overalls should be clean. Don't have them stiffened with dairy starch.

Don't make a strainer do too much work. Have a fresh one for every ten or a dozen cows.

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The German dairymen have a stall which seems nearly perfect. The platform is just the right length for the cow, and behind it is a deep ditch of six or eight inches, with a ledge part way down, so that the cow in slipping off does not slip clear to the bottom. The cows soon learn to stand out of the ditch and keep perfectly clean.

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