FOR FARMERS

Seasonable and Profitable Hints for the Busy Tillers of the Soil.

COWS AND FEED.

Clinton D. Smith, before the American Holstein-Friesian Breeders Association, said in part :

"A few years ago, at the Michigan Agricultural College, I had the pleasure of carrying on an experiment to test this question. The grand performance of our three great Holsteins—Rosa Bonheur 5th. Houwtje D and Belle Sarcastic—had attracted the attention of the farmers of the State. Their cry was that 'while you have done wonders with cows, it is all because you had such marvellous stock with which to deal.' The board was easily persuaded to grant my petition and allow me to put in a herd of some 30 grade cows, to see what the influence of persistent good care and persistent dry milking would be upon the yields of these cows, and incidentally upon the form and capacity of the cows themselves. I regret that the experiment was not continued longer, but I want to call your attention to some of the results of the feeding for a single year. To meet the farmers on their own ground, I went from station to station on the railroad and drove into the country, buying good average cows, mostly grade Short-Horns, but occasionally one with Holstein blood. The cows arrived at the college between August and October, and

THE FEEDING BEGAN.

We gave them a grain ration well balanced, but composed of such materials as the farmer has upon his farm except that we supplemented the grain feed with bran, cottonseed meal or linseed meal, according to the dictates of the market. The surprising thing to me was that a Holstein grade costing us $35 responded to the feed so well that she gave us 10,310 lbs. of milk containing 344.14 lbs. of fat in 44 weeks, an average of almost 8 lbs. of fat a week. In fact, the average yearly yield for the whole herd exceeded 7,000 lbs. of milk and 304 lbs. of butter. Next to the highest yield of milk came a cow with 9,135 lbs., and then five other cows, each with an amount of over 8,000 lbs. to her credit. Four cows gave over 300 lbs. of fat, and but 11 cows gave an amount of fat insufficient to produce 300 lbs. of butter. More than one of the cows would have gone into the advanced registry had they been pure bloods.

"The lesson I drew from this experiment was that a force pulling in the direction of large and economical milk-giving, is persistent dry milking and persistent high feeding. The trouble with most of us is that, as the cows get farther along in the period of lactation, we drop off the feed prematurely. We follow the false doctrine that we should measure the supply of nutrients by the yield of milk, and whenever the cow drops in yield we punish her, and, through her, ourselves, by making a corresponding reduction in the food supply. We forget the drafts upon the feed other than for the production of milk, and we forget that these drafts increase as the time for the birth of the next calf approaches. Remember, on the other side, the

DANGER OF MILK FEVER,

and guarding ourselves against it as best we may during the last three weeks prior to the birth of the calf, we want to continue a good full ration of roughage and grain well through the entire period of lactation. Were the experiments I have indicated unsupported by similar experiments elsewhere, I should regard the work at the Michigan station as one of those peculiar accidents that sometimes happen, but upon which it is unsafe to predict a general rule, but I have found in the public press, as well as in the reports from other stations, parallel results, and I have come to believe that continued good feeding, combined with persistent dry milking, is a force that while not of equal weight with heredity, is one not to be despised in establishing this trend of assimilated food toward the udder.

As a consequence of the combined efforts of heredity and judicious feeding, we have the formation of the dairy form, the yielding of the outward conformation to the inner forces. The enlargement of the udder and the vessels that lead to and from it, combined with the falling away of the parts to which the food of the animal is no longer directed, results in the establishment of the dairy form. Mark you that heredity is the important factor in this work, and that its supporting force is persistent and prolonged good feeding."

BUTTER MAKING.

When cream is separated from milk the fat globules come to the surface by gravity or are thrown off by the centrifugal process, writes Prof. G. M. Gowell. When cream is churned, two of them will stick together, then three, then four, and then one dozen, until finally those little globules, only about one-fifth of a thousandth of an inch in diameter gradually stick together and become large enough to see. They are very small yet, not large enough to make butter from without waste. So we keep on churning until more unite, and when those get large enough so that we can readily draw off the buttermilk, when they are about the size of number 8 shot, the work has been carried far enough. If we let them get larger than this they will lockup a certain amount of milk serum, and that will have to be separated again in order to free them from the buttermilk. To stop the work when they are just the right size depends upon the skill of the butter maker. It is a simple matter when you know how to do it. We do our work on this way : We churn at such a temperature that we can form these granules in from 40 to 60 minutes. I cannot tell you what the temperature is. From Holstein milk, Ayrshire milk and the milk from many individual cows, the butter comes quicker than from Guernsey or Jersey milk, and other milk in which the butter fat is hard. The fat in the milk of the Holstein and some other breeds is soft, while in that of our butter breeds it is hard.

DIFFERENT FOODS

have an effect on the fat. Cottonseed meal gives us a hard, and cornmeal a soft fat. The rule is to experiment and find out at what temperature it is necessary to churn to have the butter come right and come within from 40 to 60 minutes. Having determined that, you have the right temperature. Then, do not have the cream too thick. I would not have the cream contain more than 25 per cent. of fat, in order to have it in the best condition for securing granules. If it is thicker there is not liquor enough for the fat globules to float about and have room to form and finish. Thirty-five per cent. cream is too rich. The little globules are so close together that in agitating the churn they are liable to attach themselves and become large and of different sizes. We want bath enough for them to float about in. It is perfectly safe to use the cream from the gravity cans, as it will not contain 25 per cent. of fat, but do not make the cream from the separator too rich, or it will be too dense for finishing the globules in the best form.

At 15 per cent. it is rather thin, but this does not interfere with securing good granulation. At 30 per cent. we can get good granules, but it requires more care. If we find that 60 degrees is the right temperature, we use that. If it is Holstein milk we may have to churn at 55 degrees or a little above 50, especially if the cows are fed on cornmeal and silage. If we are using cream from Jersey cows that have been fed considerable cottonseed meal, we sometimes have to churn up to 70 in order to get the butter to come right.

When the granules begin to appear, look into your churn, and if you are a novice you will look quite often. As you continue to churn you gradually become accustomed to the business, and you know about how much churning to give it each time. Sometimes the granules will grow in size very rapidly, especially if the temperature is a little high, or the fat a little soft.

TWO SHOTS A SECOND.

New Automatic Pistol Being Produced in England.

A new automatic pistol is being manufactured in England by the Mars Automatic Fire Arms Syndicate. It is made of three different sizes, 0.335, 0.36 and 0.45 inch. The magazine is contained in the handle of the pistol, different models carrying from eight to eleven cartridges. The weight of the pistol is 2 pounds 10 ounces. The mechanism is peculiar in that the breech remains closed until the bullet has left the barrel, so that there is no chance of the cartridge bursting by its being withdrawn while there is still pressure in the bore, consequently this pistol can fire a very heavy bullet with a large charge. The weight of the Mars bullet is 220 grains, the charge 14 grains of cordite, the muzzle velocity 1,250 foot seconds (nearly double that of the Colt revolver) and the muzzle energy 760 foot pounds (nearly three times that of the service revolver).

An expert can fire twenty-four shots in ten seconds, and in accuracy it is stated that when fired from a rest at 1,000 yards range it will keep all its shots on a four-foot square target, while its penetration is 16 inches of pine, against the Mauser pistol's ten, and the Colt's eight.

COLOSSAL STATUE.

The colossal equestrian statue at Rome of King Victor Emmanuel II. is now nearing completion. The statue is about 33 feet in height from the level on which the horse stands to the crown of the King's head. The feathers in his helmet are about 5 feet extra. There will be space for one or two persons to get into the head, and for four or five in the head of the horse.

SIMPLE LIFE-SAVER.

It is not generally known that when a person falls into the water a common felt hat may be made use of as a life-preserver, and by placing the hat upon the water, rim down, with the arm round it, pressing it slightly to the breast, it will bear a man up for hours.

The number of blast furnaces being erected in Britain at the beginning of this year was 70. Of these 11 were being built in Scotland.

FOR THE HOME

Recipes for the Kitchen. Hygiene and Other Notes for the Housekeeper.

What Makes a Home.

A house is built of bricks and stones, of
sills and posts and piers;
But a home is built of loving deeds that
stand a thousand years.
A house, though but an humble cot,
within its walls may hold
A home of priceless beauty, rich in
Love's eternal gold.

The men of earth build houses—halls
and chambers, roofs and domes—
But the women of the earth—God
knows!—the women build the
homes.
Eve could not stray from Paradise, for
oh, no matter where
Her gracious presence lit the way, lo!
Paradise was there.

A Displaced Garment.

It is interesting to note that shawls as articles of adornment and habitual costume have completely passed out of vogue. Shawls of a white, feathery variety are used semi-occasionally yet, it is true, but only away from the fashion centres. Shawls have entirely lost their place in the temple of fashion.

The reason for the passing of this very essential garment of grandmother's day is that it is a piece of dry goods which is not good for trade. The style originaters in Paris, the great dressmakers of the world, tabooed the shawl because it is ready for use as soon as it leaves the loom. So far as London, Paris and New York are concerned, the shawl looms of India might as well stand idle.

This same garment, however, has an interesting history. In bygone days Lyons, Paisley and Norwich makers bought large stocks of Kashmir shawls for the sole purpose of imitating their dainty fabric and delicate patterns, which they did so skilfully that the imitations became very popular. A good black Caree from France, or a crimson Paisley was something which any lady might wear, and although not the real thing, served the purpose, for it was decorative, compliant and adjustable to all needs.

A shawl proper, whether worn by man or woman, was even in the East an article of distinction, something to be ranked with the robe of honor bestowed by the Indian nabobs, or the yellow jackets of Chinese Mandarins. It stood upon its own dignity, and whether it sheltered the head and shoulders of a beauty, or was nobly girded about the waist of a courtier, or merchant, a shawl was something by which you could judge the wearer. No upper garment better suited a comely countenance and well-shaped neck and bust, nor was any girdle of leather or silk or quilted work as comfortable and convenient as the twisted Kashmir shawl, whose softness caressed the body while it protected it.

Where Fasting Aids Health.

"The practice of fasting," said a medical man who adopts it, "is, when wisely followed, most beneficial. I am convinced that many people never feel the sensation of natural hunger. All they have is a morbid craving for food, which comes of habit rather than from any actual need felt by the stomach. Natural hunger stimulates the palate, and is felt in the mouth as well as in the internal organs. It makes the plainest food seem delicious, and, when being satisfied, is a source of such enjoyment as the average well-fed man has no conception of. Some suffer, it is true, from insufficient food, but not so many as those whose ills arise from over-nutrition, their digestions being continually overstrained. A habit of judicious fasting would do wonders for them. The system would recover its lost tone, and (in the case of mental workers), the brain would work with an ease and lightness that would surprise them, for from the practice of over-eating.

Be of Good Cheer.

The cheerful live longest in years, and afterwards in our regards.—Bovee.

"If all cannot live on the piazza, every one may feel the sun," says an Italian proverb. Life is full of sunshine for all who wish to absorb it, and full of gloom for those who take a morbid pleasure in dwelling in the shadows. Difficulties and troubles, if bravely met, make strong men and women, but anticipating and worrying about them make petty, weak ones.

Why can you not take your ease and be merry now. If you wait until you conquer all your difficulties, the time for ease and merriment will never come. Laugh, and be glad now, and the troubles which loom so threateningly in the distance will vanish, as you approach them, like soap bubbles.

Our Girls.

The compiler of "English as She is Taught" introduces the following luminous essay on girls, done apparently by a lad of wide observation:—

"Girls are very stuckup and dignefied in their manner and behaveyour. They think more of dress than anything and like to play with dowls and rags. They cry if they see a cow in afar distance and are afraid of guns. They stay at home all the time and go to Church every Sunday. They are al-ways sick. They are al-ways funy and making fun of boys hands and they say how dirty. They can't play marbles, I pity them, poor things. They make fun of boys and then turn round and love them. I don't beleave they ever kiled a cat or anything. They look out every nite and say oh ant the moon lovely. Thir is one thing I have not told and that is they al-ways now their lessons bettern the boys now thirn."

Should be Sponged.

You should never, in home dressmaking, cut any kind of woollen goods until it has been sponged, as cheap material is often not dampened before it is sold. To do this properly at home get an ironing-board or table the width of the goods and cover with tightly-stretched calico. Spread your cloth wrong side up, cover with a linen cloth that has been wrung out in water, and then press with a hot iron the lengthwise of the goods and do not iron. Never let the iron be still, and the goods must fall evenly on the floor on to a clean cloth as pressed.

Pineapple Lemonade.

Boil together for ten minutes one cup of sugar and a pint of water. To this add the juice of four lemons and one freshly-grated pineapple. Let this cool; then strain carefully and add about a quart of ice water.

Layer Cake Without Butter.

Beat two eggs, add two cupfuls of powdered sugar and beat hard for fifteen minutes ; add one cupful of milk and two cupfuls of flour, alternating a little of each and beating well. Lastly, add one teaspoonful of flavoring and three level teaspoonfuls of baking powder, beat and bake in jelly tins.

Fruit Punch.

To one cup each of water and strawberry juice, the juice of two oranges and two lemons and one cup of sugar and let it stand for half an hour; then add one pint of Apollinaris water, half a cup of brandied cherries, and a few sprigs of mint and serve from a punch bowl into glasses of cracked ice.

Chicken Pie.

Melt a little butter in a deep baking dish ; scatter over it cracker crumbs, add a layer of chicken, picked fine, then a layer of oysters, salt and pepper and bits of butter, then a layer of cracker crumbs ; alternate with the chicken and oysters until the dish is full, adding seasoning with each layer. Pour over the whole the oyster liquor, to which add a well-beaten egg and a teacupful of milk. Bake an hour.

Steamed Prune Pudding.

The following is a California recipe. Beat the yolks of two eggs with a half cupful of sugar until light, add a tablespoonful of softened butter and a gill of milk. Sift together one cupful of flour with one tablespoonful of baking powder, and stir it into the mixture. Add next the well-beaten whites of the eggs and one cupful of prunes that have been soaked over night, drained and the stones removed. Chop them with a spoon. Steam the mixture for two hours.

Oatmeal Drink.

This oatmeal drink is a most refreshing beverage for thirsty children, and has the advantage of being very inexpensive. Into an earthenware saucepan put two ounces of fresh oatmeal, two ounces of loaf sugar and a thinly-sliced lemon. Mix this with just enough cold water to dissolve the ingredients, and while stirring add half a gallon of boiling water, stirring at intervals till nearly cold. Squeeze in the juice of an orange and strain for use.

Vienna Rolls.

Sift two or three times one quart of flour, two teaspoonfuls of baking powder, and one-half teaspoonful of salt. Work in one tablespoonful of butter, add one pint of milk, stirring into a dough of the usual consistency. Roll to the thickness of half an inch. Cut into circular forms, and fold over once, moistening a little between the folds if necessary to make them stick. Butter the baking pans well, and do not let the rolls touch each other. When placed thereon, moisten the tops of the rolls with a little milk, or butter melted in milk, and bake in a hot oven.

Put one-half a pint of water and two ounces of butter into a saucepan over the fire. When boiling, add four ounces of pastry flour; beat until smooth. Take from the fire, and when cool add one egg; beat until mixed; add another and another, until you have added four at least; beat thoroughly again. Drop the mixture by spoorfuls in a greased pan; bake in a moderate oven for forty minutes. When done split them on one side; fill with cold soft custard made by adding a tablespoonful of cornstarch, moistened with cold milk, to half a pint of hot milk; cook for a moment; add the yolks of three eggs, beaten with three tablespoonfuls of sugar; take from the fire; add a teaspoonful of vanilla and set aside to cool.

Spanish Proverbs.

Never quit certainty for hope.
Losers are always in the wrong.
The book of Maybes is very broad.
Who robs a scholar robs the public.
He who has but one coat cannot lend it.
A good companion makes good company.
Better go about than fall into the ditch.
For a flying enemy make a silver bridge.
Plough or not plough, you must pay your rent.
The disease a man dreads, that he dies of.
Many go out for wool and come home shorn.
He who sows brambles must not go barefoot.
When a friend asketh, there is no tomorrow.

Snakes have no eyelids at all and birds no true eyelids. The latter are, however, provided with a membrane which can be let down over the eye.

OUR CLIMATE IS MILDER.

LOWER LEVELS OF LAKES DUE TO EVAPORATION.

Longer Seasons of Navigation and Farming Farther North.

Captain Bernier of North Pole fame, considers that the climate of Canada is gradually becoming warmer, and that in the course of the next fifty years there will be hardly any snowfall at all. Just what is the cause of this change of climate he does not pretend to say, but he has noticed numerous indications that it is becoming warmer, and it is upon these that he rests his belief.

Of course, it is very generally stated by old people that the winters are far less severe than formerly, and that the snowfall now is a mere bagatelle to what it used to be. Time was, so it is stated, when six feet of the beautiful on the level was not unusual in places where the most that has ever fallen in the last two decades has been three or four. The captain has noticed a great change in this way himself, and considers it evidence that the climate is becoming warmer and much dryer.

He has noted, too, that the old sea level of Toronto was, not so very many years ago, over 100 feet farther up than it is now. The level of the lakes, especially Lake Superior, is falling. The St. Lawrence River is losing its high level, and will, he believes, continue to

DECREASE IN DEPTH.

At Trinity Bay, on the St. Lawrence, the skeleton of a large whale was found 180 feet above the present sea level, and the late Judge O Brien was a witness of the fact. These results are, Captain Bernier considers, due to increased evaporation, in its turn the result of the steady rise of temperature.

Farther north, too, there are infallible indications of the growing mildness of the climate. At Spitbergen the old tidal mark is 300 feet and in Greenland 28 feet above the present sea level. It is possible now to navigate much farther north than formerly in the Arctic Ocean. Behring's voyages have long been beaten, and the reason is because there are now so many more openings in the ice than in his time.

It has been, then, clearly shown, even by these few observations, that the cold center is shifting, and the question is, in what direction ? There can be no doubt that Europe is much colder than it formerly was, and is becoming still colder. We are perpetually hearing of storms in Europe of greater severity than any in many years, hundreds of years in some cases. It is not merely so in isolated instances, but there seems to be a gradual increase of such phenomena, as if that continent were, so to speak, being broken in to

A DIFFERENT CLIMATE.

There is, Captain Bernier says, more bad weather over there, more dampness, and more snow. It is obvious, then, in what direction the cold center is moving, eastwards.

And this gradual change in climate may be expected to continue. It will then be a considerable factor in Canada's commercial and industrial development. The St. Lawrence and lake ports will be open for longer periods than now, and the season of navigation will be extended. It is not probable that the prevailing agricultural characteristics of the countries will be altered much at least not for a great length of time at any rate, but the captain expects that, owing to this increasing mildness of the climate, vast tracts of land in the far Northwestern portions of the Dominion will be rendered habitable and brought under cultivation.

"I will not see it," he remarked "but you younger people may, and the next generation certainly will."

RAILROAD SIGN LANGUAGE.

It is not deaf mutes alone who employ the sign language. Railroaders have a tongue of this sort that, since railroading began, has been growing until now anything that needs to be said in it can be expressed as perfectly as in words. The signals of railroaders are made with the hands and arms in the daytime, and with a lantern in the dark, the lantern signals, by the way, being comprehensible at a far greater distance than the daytime ones. The latter are made with one arm or with both, at the brakeman's option. To go ahead, to stop and to back are the leading ones. The arms moved horizontally and vertically make the two first signals ; the back turned and the arms pushed out make the last one. The main lantern signals are an up-and-down, a crosswise and a circular movement. There are, of course, a hundred other minor signals, and these vary slightly in different parts of the country. But the main ones are as common and as intelligible everywhere among railroaders as the English language itself.

WHERE RUNNING IS A CRIME.

In the city of Hot Springs, Ark. running is a misdemeanour. Any person going faster than a walk is arrested and fined. This law is in the interest of invalids, who throng the streets and suffer relapses from the excitement caused by the undue haste of a stranger. One who runs is supposed to be a thief, murderer, or escaped lunatic.