DAIRY COWS' SUMMER RATION.

By Earl W. Gage.

One of the most common mistakes in the feeding of dairy cows on the farm is that the good cows are not given a sufficient quantity of feed, above that required for their physical maintenance, to obtain the maximum quantity of milk they are capable of producing. Successful feeding of dairy cows involves the provision of an abundance of palatable, nutritious feed at a minimum cost, and feeding this in such a way as to receive the largest milk production from the feed. One successful dairy farmer defines feeding for profit as liberal feeding, or feeding to the full capacity of the cow.

From the standpoint of economical milk production, a dairy cow should not be fed more than she will consume without gaining in weight. But there are times when it is desirable to make exceptions to this. Practically all heavy milk producers lose weight in the early part of their lactation period; that is, they produce milk at the expense of their body flesh. When such cows approach the end of their milking period they normally regain the flesh they have lost, and the dairyman can well afford to fiberally feed them, with the assurance that he will be repaid in the form of milk when the cows again freshen.

Pasture is the natural feed for cows, and for average conditions, with ample pasture of good grasses, or legumes in good succulent condition, good production can be secured.

Experts advise us that grain should be fed to heavy-producing cows under all pasture conditions. Variations should be made to meet different conditions and individual cows. Grain-fed cows on pasture need not contain the same percentage of protein as for winter feeding. Pasture being an approximately balanced ration, the grain ration should have about the same proportion of protein to other nutrients. The following mixtures are suggested for supplementing pasture without other roughage:

Mixture No. 1. Ground oats, 100 lbs.; wheat bran, 100 lbs.; corn meal, 50 lbs.; per cent. of digestible protein, 10.3.

Mixture No. 2. Wheat bran, 100 lbs.; corn meal, 100 lbs.; cottonseed meal, 25 lbs.; per cent. of digestible protein, 12.7.

Mixture No. 3. Corn-and-cob meal, 250 lbs.; cottonseed meal, 100 lbs.; per cent. of digestible protein, 15.5.

Mixture No. 4. Wheat bran, 100 lbs.; gluten feed, 50 lbs.; corn meal, 50 lbs.; per cent. digestible protein, 13.6.

To carry the dairy herd over a period of short pasture without falling off in milk, soiling crops are growing in favor. For this purpose, second-growth red clover, alfalfa, oats or peas are excellent. Corn is also available usually in August and September. What may be a disadvantage in the use of soiling crops is the extra labor required to cut and haul these crops from day to day, when field work is pressing hard.

The summer silo is gaining in favor in many sections. An acre of corn in the form of silage will provide succulent roughage for several cows for a season. During periods of drought, when both pastures and soiling crops fail, a silo filled with well-matured silage grown the year previous is most valuable.

In planning a summer silo, the farmer should keep in mind that its dimensions should be in relation to the number of cows fed daily. As a usual thing, under summer conditions, a cow will consume about twenty pounds of silage. Therefore, silage enough must be provided daily to prevent excessive surface fermentation. On this basis, a summer silo for twenty cows should be eight feet in diameter; for thirty cows, ten feet; and for forty cows, twelve feet. As eight feet is about the minimum diameter of a silo for best results, a summer silo is most applicable for twenty or more cows.

The Dairy

In the management of the dairy cows it is very important that the milking be done at regular periods. That is at the same hour night and morning as nearly as possible. The more equally the twenty-four hours are divided in which the milking is done twice, the more uniform will be the quantity and the quality of the milk produced.

Do not expose calves to heat and flies, but during extreme heat keep them in a dark, coo' place until four months old.

Free access to water and salt is essential for the best results in dairying.

A belt of trees adjoining the pasture field in which cattle pasture is a real comfort to the animals in hot weather.

Spraying with some preparation to keep flies off cows is the price that must be paid for a normal milk flow from now on. Unchecked attacks by flies may easily reduce production twenty-five per cent.

We find that cows like our milking machine better than hand milking, especially young cows, says a writer in Nor'-West Farmer. So far we have found only two cows that object to it seriously, and that only when it is placed on the left side. We have two cows that hold up their milk, but they do the same with a hand milker. Since we have been using the machine have not had a single sore teat or udder. One man can milk from 30 to 35 cows in one and a half hours, do the stripping, feed his calves, and take the skim milk from the separator. The washing and care of the outfit would not average more than thirty minutes per day.

Individual records of each day's milk and the amount of butter produced will show up the questionable animals.

Wheat bran and ground oats have usually been considered to have approximately equal values in the dairy cow's ration, but the cost of oats as compared to the market value of bran has usually been prohibitive, so that oats have been much less widely used than bran.

Silage helps the dairyman supply his herd with succulence in winter as well as in summer. It helps to keep the cows healthy and productive i the winter when green feed is lacking and dairy prices are highest.

Inferior cows lower herd profits, but they can be detected by individual milk and butter records. Low yields mean small profits or more often actual losses.

Hogs

Dusty feeding floors or sleeping quarters cause the pigs to cough much of the time. The floors should be swept or flushed off with water every day.

Take no chances with a sick hog. Act quickly. Get a veterinarian or a trained man immediately. Use the telephone or send to town at once. Only prompt action will stop hog cholera losses. Every hog saved will help win the war.

Feeding unpasteurized whey from the factory to calves or pigs is a excellent way to spread tuberculosis.

Breeding ewes require at least twelve square feet of floor space in the shed.

Skim milk and grain can be fed to much better advantage to hogs than to mongrel dairy calves.

Rape seeded at the last cultivation of corn will furnish abundant nitrogenous feed for hogs in fall.

The only way to improve the hog on the farm at the lowest cost is by using pure-bred males on well selected sows.

A pig that has been stunted in the early stages of its life should never have a place in the breeding herd.

The hog makes a mature product quicker than any four-legged animal, and in these strenuous times should be the mainstay in our efforts to increase meat supplies.

Horse Sense

Care of Horse's Hoofs.

The hoof is more exposed to wear and tear than any other portion of the horse's body. The hoofs correspond to the claws of other creatures. The outside is of hard, dense, compact, insensible horn in thin layers. The inner hoof is supplied with blood vessels and nerves, indicating sensitiveness.

If nails are directed wrongly in shoeing and penetrate this sensitive part of the horse's foot, they cause pain, inflammation and possibly lockjaw and death.

If the hoofs dry up or become brittle there are many remedies, but none better than nature. The dew is cooling and softening and will heal hoofs much better than bathing in hard water. Many horse owners laugh at the idea of nature taking care of the hoofs. They are wrong.

Travelling on hard, dry roads, standing on dry floors, bathing with hard water are all destructive to the hoof. If you must help nature it is beneficial to fill the hollow of the foot or the cavity of the shoe with one part tar oil and two parts whale oil, which will feed the hoof. A brittle hoof must have, in any case, food and the proper moisture.

The horse's hoof is made up of hidden springs, self-acting pulleys and cushions ever soft. These all have to be watched.

It is an exception to find an 8-year-old horse with a healthy set of hoofs. Nearly all are brittle, shelly-dished or the frogs are cut away or the heels are high and inelastic.

I've heard owners complain or blame the smith. But in the majority of cases it's the treatment the horses get in the stable that is to blame. The horses are left to stand all year around on a dry, hard floor or in the manure or be washed in hard water or driven barefooted on gravel roads. Overfeeding or anything that injures the horse's general health also affects the hoofs.

WHEN THE THRESHING MACHINE COMES

To Assist The Housewife in Her Task of Preparing Meals For the Harvesters.

Not so much what to serve as what not to serve needs to be considered in preparing meals for threshing crews. Variety must be worked into all meals rather than into one meal. One error that we women too often make is the custom of serving more than one kind of dessert. Another, is the duplication of the same type of food as, potatoes, rice and spaghetti, all of them starch foods which should be substituted one for the other, not all served at one meal.

The menus given here can be modified to suit local conditions.

The use of the fireless cooker is strongly recommended for cereals and such foods as need long, slow cooking.

The evening meal should be anticipated and everything prepared in the morning that can be so prepared thus saving strength, time and fuel.

Cookies, cake, salad dressing, beet pickles and other items may be prepared the day before the first meals are served.

Breakfast: Fruit, cereal, creamed dried beef, poached eggs, potato cakes, hot biscuit, jelly, coffee or milk. Dinner: Pork, apple sauce, rice, boiled beans, boiled cabbage, fresh onions, corn bread, bread, caramel-custard ice cream, coffee or milk. Supper: Cold sliced pork, fried potatoes, baked beans, cottage cheese, corn bread, bread, baked apples, whipped cream, tea or milk.

Immediately after breakfast put the beans on to cook and when parboiled once, divide and prepare half for baked beans and allow the remainder to cook with the pork until tender. Make cottage cheese.

Caramel-custard ice cream is made by combining three cups of milk, two eggs or four yolks, one and one-half cupful sugar (one-half caramelized) and making a steamed custard. When this is cooled, add three cupfuls cream and freeze. This may be made early in the morning and packed.

The baked apples should be prepared during the morning. Extra rice should be cooked and all that is left from dinner should be put into a pan and molded ready to slice for breakfast.

Put breakfast cereal in fireless cooker after supper.

Breakfast: Fruit, cereal, minced ham, scrambled eggs, creamed potatoes, hot biscuit, jelly, coffee or milk. Dinner: Boiled dinner, horse-radish sauce, lettuce, corn bread, jelly, tapioca pudding, coffee or milk. Supper: Corned-beef hash, poached eggs, greens, sliced tomatoes, corn-bread, fruit, cake, tea or milk.

The boiled dinner should be started early in the morning. The tapioca pudding should be made soon after breakfast and thoroughly chilled.

For the boiled dinner wipe carefully a piece of well corned beef, plunge into boiling water and let simmer four or five hours until the meat is tender. A piece of salt pork from which the rind has been removed may be added and the two cooked together. About one and one-half hours before time for serving prepare carrots, turnips and beets. Add the turnips and carrots to the stock and after the meat is tender remove until nearly time to serve. Cook the beets separately, using some of the meat stock to cover them. Prepare onions and cabbage, and parboil each separately to take away some of the strong flavor. Cook the onions separately in the meat stock and after the cabbage has been parboiled put it in the kettle with the turnips and carrots. About one-half hour before serving add pared potatoes. The meat may be returned to the kettle to be reheated. Serve the onion and beets in separate dishes. Place the meat in the center of a large platter and arrange the vegetables attractively about it. Horse-radish sauce is made by soaking one-half cupful of soft bread crumbs in milk. Drain and mix with one-half cupful of well-drained horse-radish. Whip one-half cupful cream and fold in carefully the mixture of bread crumbs and horse-radish. The greens should be soaked and thoroughly washed ready to cook in the evening. Boil potatoes for breakfast the following morning. Put breakfast cereal in fireless cooker before bedtime.

Breakfast: Fruit, cereal, bacon, eggs, fried rice, muffins, syrup, coffee or milk. Dinner: Baked ham, gravy, boiled potatoes, creamed peas, fried apples, radishes, bread, lemon pie, iced tea or milk. Supper: Cold sliced ham, mustard, potato salad, buttered beets, pickles, bread, preserves, baked custard, tea or milk.

At dinner time cook extra potatoes for the evening and breakfast the following morning. Cook the beets which may be reheated and buttered for the evening meal. Prepare the baked custard.

At night, put breakfast cereal in fireless cooker. Mix and mold biscuit for breakfast. Keep in the refrigerator over night. Bake as usual in the morning.

The Sunday School

INTERNATIONAL LESSON

AUGUST 26.

Lesson IX. The Captivity of Judah—2 Kings 25. 1-21. Golden Text—Ezek. 33. 11.

With the lesson text should be compared Jer. 39. 1-10; 52. 4-16. Kings tells nothing of Zedekiah, the last king of Judah, except the events connected with the siege and fall of the city. Jer. 27, 28 suggests that he became involved in treasonable negotiations as early as his fourth year, but no serious harm resulted (compare Jer. 51. 59). Finally he yielded to the pressure of the pro-Egyptian party and revolted.

Verses 1, 2. Siege of the city. Ninth year . . . . tenth month—The siege began in January, B. C. 587. Nebuchadnezzar—The greatest king of the Chaldean empire, B. C. 604-562. Forts—Better, a siege-wall. Eleventh—The siege continued for a year and a half, due partly to the natural strength of the city, partly to the interference of Egypt (Jer. 37. 5).

3-7. Capture of the king. Fourth—Supplied from Jer. 52. 6, July, B. C. 586. Famine—Compare Jer. 37. 21; 38. 9. Men of war—The text seems to have suffered in transmission. Compare Jer. 39. 4; 52. 7. Perhaps we should read: "And when the king and all the men of war saw it, they fled and left the city by night . . . ." Gate—Near the pool of Siloam. The expression "Between the two walls" is not quite clear. Arabah—The Jordan valley. Jericho—Evidently the king and his companions broke through the Chaldean army and tried to escape across the Jordan, but they were overtaken near Jericho. Riblah—A city in the far north, in the Orontes valley. Put out eyes—A form of punishment frequently applied by the Assyrians to rebellious vassals.

8-12. Destruction of Jerusalem. Burnt all the houses . . . brake down the walls—The attempt was made to blot out the city entirely. Captive—It would seem that the entire population of the capital, and of the rural population all but the poorest were carried away. Fell away—Deserters in the course of the siege. Multitude—Perhaps better, artisans. Compare "craftsmen and smiths," in 2 Kings 24. 16. Poorest—Men without influence, and, therefore, not dangerous.

'Tis Quality Always Counts.

The farmer has need to be the most pragmatical of all men. He must put everything to the test. There are few fixed values on the farm. Some Jerseys give thin milk, and some Holsteins give small quantities. One ton of silage may not be half as good as another ton. One pure bred hen will lay twice as many eggs as another pure bred hen of the same name. There is often as much as fifty per cent. difference in the producing qualities of two lots of seed corn of the same variety.

You can not take anything for granted, but must watch and weigh, and measure and test. It is a fortunate thing that nearly all farmers are unconscious scientists. They have the gift of "sizing things up" They know by instinct and judgment many things that may not be acquired in books. Sometimes this makes them impatient of book knowledge.

But the book farmer, who also has practical knowledge, has the better of it, usually, and it is every man's privilege to avail himself of the current technical attainments of his trade.

Fresh or Rotted Manure.

Perhaps one of the most remarkable results obtained in our experiments with fertilizers has been the discovery that, as far as ordinary farm crops are concerned, fresh and rotted manure, applied at the same rate, have given practically equal yields. The explanation for this is not easy to find, since rotted manure, weight for weight, is very considerably richer in plant food than fresh manure. It probably lies in the better inoculation of the soil with desirable micro-organisms for the assimilable forms by the fresh manure and the greater warmth set up by its fermentation in the soil affecting beneficially the crop in its early stages.

Poultry

Egg eating is a habit frequently started by a broken egg in the nest. To prevent: Have dark nests; keep nests clean, and avoid feeding egg shells. Change of pens will sometimes stop the habit.

Mark the pullets this fall so that you will know just how old your hens are. A leg band on the right leg one year and on the left leg the next will assist in culling the flock.

If your chicks are not doing well something is wrong. Look out for lice, and for worms in the intestines.

Two-year-old hens had better be sent to the market. They seldom pay for their feed if kept over a third season.

Supplement the regular feeds of the hens with a wet mash—fed crumbly. Feed all the chicks will clean up before going to roost, but none should be left in the trough, for it will sour.

Chickens will do better if not compelled to pick their living with the old fowl. There will also be less trouble from lice.

A growing chick will not thrive on short rations. If the right kind of food is fed, there is little danger of overfeeding, especially if given plenty of range.

Your Problems

Conducted by Mrs Helen Law.

Mothers and daughters of all ages are cordially invited to write to this department. Initials only will be published with each question and its answer as a means of identification, but full name and address must be given in each letter. Write on one side of paper only. Answers will be mailed direct if stamped and addressed envelope is enclosed.

Address all correspondence for this department to Mrs. Helen Law, 235 Woodbine Ave., Toronto.

Knitter:—Bright colored cretonne is perhaps the most popular material for a knitting-bag, though goods of all sorts from khaki to silk can be used. Cut a seven-inch circle of cardboard for the bottom and cover on both sides with plain sateen. Cut cretonne a yard and a quarter by 16 inches, seam up and join to the circle. Cover four or five-inch embroidery hoop with ribbon and to this attach a band one and one-half inches wide by eight long, sewing the lower end of the band across the seam of the bag near the bottom. This bag is roomy and can be easily closed by gathering up the top and slipping through the ring, and conveniently carried by slipping the band over the arm. It may be lined with plain sateen like the bottom. Khaki colored linen makes a serviceable bag.

B.H.:—It is very difficult to remove paint, but you might try turpentine or benzine.

B.B.:—The only safe and permanent cure for superfluous hair is treatment by electrolysis. This can be given only by an expert.

Housewife:—As you will notice in the splendid course in Domestic Science now appearing in the Household Department, there are five types or groups of foods:

1. Foods depended upon for mineral matter, vegetable acids and body-regulating substances, such as fruits and succulent vegetables.

2. Foods depended upon for protein, such as milk, eggs, meat and dried legumes.

3. Foods depended upon for starch, such as cereal breakfast foods, flours, meals and foods made from them.

4. Foods depended upon for sugar, such as sugar, molasses, syrups, honey, jams, thick preserves, dried fruits, sweet cake and desserts.

5. Foods depended upon for fat, such as butter, cream, salad oil and other table fats, lard, suet and other cooking fats and oils, salt pork and bacon.

In order that the meals may supply all the needed nutritive elements, one must make sure that all groups are well represented; not necessarily at every meal, but when the family diet is considered day by day and week in and week out. Quantities should vary, particularly of the energy-yielding foods, for persons engaged in different pursuits necessitating different amounts of exercise. The heavier the work the more food is needed. In planning meals in accordance with the method here suggested, choose only a few dishes and make sure that the different groups are represented in the daily fare.

Foods in groups 1 and 3 are less expensive, as a rule, than those in group 2, and for this and other reasons should be used freely as the basis of the diet, with sufficient amounts of foods from groups 2, 4 and 5 to round out the meals. Remember that the materials used in cooking or served with foods (flour, eggs, milk, fat, sugar, etc.), add their food value to the diet. Remember, also, that it is not necessary to supply all the types of food at every meal, providing enough of each is supplied in the course of the day. For example, if the foods which are depended upon for nitrogen (meat, eggs, milk, etc.) are found in abundance at breakfast and dinner, it is not necessary to include them at supper or lunch, or if a person prefers a light breakfast he may leave out the nitrogen-rich food and perhaps some of the other foods in the morning and make up for it at the noon and evening meals.

Detecting Stale Eggs.

Since stale eggs contain substances deleterious to the health, it is advantageous to test their condition before serving them as food.

Eggs purchased at the average city grocery store are in varying degrees of freshness, from those guaranteed to have been laid within twenty-four hours to those which have been in the hands of farmers and merchants for weeks and perhaps in cold storage for months.

It is a simple matter to test the age of an egg by holding it in front of a lighted candle in a dark room. The eye should be shielded from the flame by a cardboard or other material. In this a hole should be cut slightly smaller than the egg, against which hole the egg should be placed where the light may penetrate and reveal the position of the yolk and of the little air chamber which exists at the larger end. If an electric light is available, or a bright gas flame, these are, of course, much more effective in showing up the condition of the egg.

When an egg is fresh the air chamber is small and the yoke is visible in the middle of the shell. When an egg is advanced in age, the air space is increased in size, and the yolk sinks out of place, sometimes sticking to the side of the shell on which the egg has been lying.

At a still later stage in its deterioration, the egg shows one or more distinctly dark spots, due to the growth of a fungus, in addition to an increased air space, and the outline of the yolk is no longer definite. A decayed egg shows a greatly increased size of the air space, due to the shrinking of the shell contents, and a general running together of the white and yolk, no central dark nucleus outlining the yolk being visible.

Another method of testing an egg to find out whether or not it is a storage egg, and if so how long it has probably been held, is to place it in a 10 per cent. solution of salt at 70 degrees Fahrenheit. If the egg is absolutely fresh, it will sink. But if it is old, it will not do so, even if it is only a few days old.

The age of the egg can be determined, to some extent, by the position at which it floats upon the water.

Spraying potatoes once with the Bordeaux mixture is not sufficient. Spraying should be kept up at intervals of two weeks until the end of August.

Bed Time.

"Story time and bed time, kiddies!" called Aunt Barbara.

"Oh, Aunt Barbara," pleaded Bobby, "mayn't we stay out a little longer? It isn't very dark, you see, and we're having such fun playing tag with the fireflies."

"And the birds haven't gone to bed yet," added Bluebell.

"The baby birds are all tucked in," answered Aunt Barbara, with a laugh.

"But they're in bed all the time," argued Bobby. "We mean those that go upstairs to bed, same as we do."

"Well," said Aunt Barbara, smiling, "it is certainly a beautiful evening; so you may have fifteen minutes more of it, if you like."

"Thank you, Aunt Barbara!" cried Bluebell, and off ran the children to make the most of their extra freedom.

"Birds don't go upstairs," mused Bluebell, as she skipped across the large grassy triangle in front of the old house in which she and Bobby were spending the summer with Aunt Barbara. "They just fly into the trees and cuddle up on a branch, don't they?"

"Oh, I suppose so," answered Bobby. "But what's that out in the road, Bluebell?"

"Where? Oh, that funny thing bobbing along by the edge of the grass?" returned Bluebell. "Why, why, it's a—a—a sort of a big little bird, I think!"

"It is a bird," declared Bobby, "and it's pretty big, but I don't believe it can fly. Maybe it's hurt in some way."

"No," objected Bluebell. "It doesn't act hurt. I guess it's young and its wings aren't very strong."

"Oh, that's too bad!" sympathized Bobby. "It will have to stay on the ground all night, and a cat or a weasel may catch it."

"Let's call Aunt Barbara," proposed Bluebell. "She'll put it into a basket and take it into the house where it will be safe."

"That might frighten it," said Bobby. "Let's watch it a minute."

"It's brown and long-looking," whispered Bluebell. "I wonder if it's a quail."

Bobby shook his head. "No, quails are fatter," he replied.

Along the road, in the twilight, bobbed the clumsy little creature until it reached the grass that bordered the roadside. It wriggled up on the grass and kept on to the foot of a tree.

"If we had a ladder, Aunt Barbara might put it up in the tree," said Bobby.

But, to the children's surprise, the little traveller did not wait for a ladder or for any help. Without any pause for thought it began to go straight up the tree trunk toward the leafy shelter above.

"Look! Look!" cried Bluebell; but Bobby was already looking with all his eyes.

With its tail for a prop and with a little lift to its wings the bird hitched along its strange stairway.

"Its wings are yellowish underneath," remarked Bobby. "I'm going to get Aunt Barbara."

"Aunt Barbara! Aunt Barbara!" he shouted at the side door. "There's a bird here going upstairs all by itself!"

Aunt Barbara hastened after Bobby.

"It's a young flicker," she told the children. "He knows how to take care of himself, doesn't he?"

"And he goes upstairs to bed without having anyone call him," said Bobby, laughing, with a shy glance at Bluebell.

"And now we'll go, too," said Bluebell, and slipped her hand into that of her aunt.