

To Develop the Dairy Cow.

(Condensed from Farmers' Review Stenographic Report of Wisconsin Dairymen's Convention.)

Mrs. Adda F. Howie read a paper on how to develop the dairy cow. She said that the first step to be taken in the development of any breed is to develop the confidence of the animals. The best dairy cows in the world have been developed by "centuries of gentle care." Beginning with the calf, an honest effort should be made to develop every good quality the animal may possess; clean, dry and comfortable quarters should be provided for the dependent creature, which will soon return ample recompense for all care and labor expended. To obtain the best results the everyday life of a cow should be reduced to a system bordering on utter monotony; she should go in and out of the same door, invariably occupy the same stall, should be fed, watered and milked at regular intervals. Her entire existence should be as uneventful as possible. A cow from the time of dropping her first calf should be milked three times daily for a period extending from the time of freshening to five weeks to as many months, according to conditions. A five years' experience has given me firm confidence in the value of this practice.

Q.—At what times do you milk your cows?

Mrs. Howie.—At 4 o'clock in the morning, at 2 p. m., and at 9 o'clock at night.

Mr. Burchard.—That sounds awful; but how is it with the men that run the railroad trains. It must be remembered that the men that do this work have time during the day to rest.

Q.—How about keeping the stable clean?

Mrs. Howie.—In the first place we whitewash our stables twice a year; but this last year we were so busy that we whitewashed it only once. When we do this whitewashing every cobweb is swept down. We also put up curtains in the barn. The gutters are flushed out every day, and the barn floor is scrubbed twice a week. I believe that the barn is worth only one-fourth as much as the herd, so far as the cost of each is concerned, and that is my idea of dairy farming.

Q.—What part of the time each day in winter are your cows out of doors?

Mrs. Howie.—They are turned out of doors in the morning as soon as they have consumed their morning ration. If the day is very cold the cows are taken in again in about two hours, and after being warmed up they are again turned out; we do not let them get chilled.

Q.—How many times a day do you feed your cows grain?

Mrs. Howie.—We feed them three times a day if they are milked that number of times.

Q.—How long do you keep up the milking three times a day?

Mrs. Howie.—That depends on how the cows keep up their flow of milk; as soon as the flow decreases so that the udder, when emptied only twice a day, will not be painfully full, we stop milking three times a day. As a general thing we do not milk three times a day for more than two months, but we have sometimes milked that way for five months without hurting the cows.

Q.—Do you then cease to feed three times a day?

Mrs. Howie.—Yes; and we increase the amount of feed at each of the other two feeds.

Q.—Do you weigh your milk every day in the year?

Mrs. Howie.—Yes, we weigh our milk at every milking in the year. As to the result of milking three times a day when the cows freshen I would say that I have never had a case of garget on my farm.

Q.—In case a man does not want to breed for pedigree, will it pay to weigh the milk?

Mrs. Howie.—I think it will pay to weigh in any case; then the owner can tell whether the cow is paying her way or not.

Q.—How long do you let a cow go dry?

Mrs. Howie.—I like to have them go dry for six weeks, but some will not go dry at all.

Q.—How long should be the first milking period of the heifer?

Mrs. Howie.—The same as the older cows.

Q.—How long should there be between calves?

Mrs. Howie.—I have some cows that were only 17 months old at time of freshening, and cows that age should have a rest of 18 months between the first and second calves. But a cow of more mature age should be allowed only 12 months between calves.

Q.—At what age do you prefer to have a cow freshen?

Mrs. Howie.—At 22 months of age.

Educating Towards the Farm.

A Putnam Co., Ill., stockman writes: "Will you kindly inform me what per cent of the boys from the farm who graduate from your school return to agricultural pursuits? I have been appointed to read a paper before our farmers' organization on the subject 'Does a college education have a tendency to draw our boys from the farm?'"

During the past year there has been a total attendance of 380 pupils in our College of Agriculture at Madison. Of these 120 were in the dairy course pursuing studies laid down for the training of creamery and cheese factory operators. No student was admitted to this course who had not had at

Orchard Cultivation.

(Condensed from Farmers' Review Stenographic Report of Illinois Round-up Institute.)

Prof. Blair spoke on orchard cultivation. The orchardist should cultivate his orchard for the same reason that a man should feed and water his stock. If the orchard be left to itself it may live and produce fruit, but if it is to be a commercial orchard of value it must be fed. Cultivation helps to feed and water the orchard. An orchard should not be fertilized till the soil in it has been put in such state by cultivation that the plant food already there can be used by the trees. The ground should be in a good state of cultivation when the trees are set out, and the first crop should not be permitted to come within three feet of the trees, and that empty space should widen every year. In no case should a crop be taken from the ground after the trees have come into bearing. Cropping the orchard has been a fruitful cause of failure. The loss in fruit is often ten times what the crops amount to. Soil to do its best work must have 40 or 50 per cent of saturation. Corn should not be grown in the orchard for the reason that it pumps out too much water.

Because the orchard does well in sod is no proof that it would not have done better if cultivated.

Q.—Is the orchard grass seed that we receive from time to time from the government a good thing to sow in the orchard?

Prof. Blair.—No. One year in a long series of years it may prove all right, but as a practice it should be discouraged.

Q.—Can we grow raspberries, blackberries and currents in the orchard?

Prof. Blair.—Such things, that require cultivation and manure, may be grown between the trees, as they are not likely to injure the trees.

Q.—In the preparation of the land for trees would you subsoil? Will the land hold the moisture better?

Prof. Blair.—It must be remembered that subsoiling is not of long benefit, and if we subsoil the land this year the effects will be lost in a year or two. It will do well to subsoil directly under where the trees are to be set, as that will permit the trees to root deeply. The next year the subsoiling should be done a little away from the trees to encourage the roots to strike deep. Some of our sandy lands are not benefited by subsoiling, as they are naturally porous enough. It is a good practice where the conditions are right.

Q.—What should be the cultivation of the orchard after it begins to fruit?

Prof. Blair.—Cultivate during the early part of the season. Cultivate till the trees have begun to harden up their wood, and then put in some crop such as the cow pea and leave it there, so that it will keep the soil in the best possible condition during the fall and winter months. Plow it under in the spring. During the winter it will help to hold the moisture and snow. Cover the land to keep what you have gained. Prevent in this way the soil from cementing together by the fall and spring rains. This can be done by the cow pea as well as by any other plant.

Q.—How near to the body of the trees should we cultivate?

Prof. Blair.—Right up to the trunk.

Q.—How large is the root system of a tree?

Prof. Blair.—It is much larger than the top. Plant two trees 40 feet apart, and in ten years their roots will interlace.

Q.—How wide a space should we subsoil the first year? Wouldn't it be dangerous to subsoil where the land wants drainage?

Prof. Blair.—I would not subsoil on heavy clay land; for it would be useless, and the subsoiling would merely make a basin for holding the water. Drainage must go with subsoiling.

Henry Augustine.—We should not mulch a young orchard unless we expect to keep it up; for mulching the young trees keeps the ground moist near surface and the young roots take their direction along the ground near the surface. There they are more exposed to the frosts of winter and need to be always protected. If the ground is cultivated deeply and not mulched the roots will strike deeper, and after the trees have obtained their maturity and the roots have taken their direction mulching can be followed to advantage.

Q.—What implement would you use in cultivating the orchard?

Prof. Blair.—The plow is the greatest pulverizer we have, and if we want to pulverize the ground deeply it will do the work better than any other implement.

Q.—Would you use fertilizers in the old orchard?

Prof. Blair.—I would fertilize with good stable manure and sow leguminous plants. From observation I know that there are thousands of orchards in southern Illinois that are literally starving to death.

Q.—Would you sow stock peas and hog them down?

Prof. Blair.—The hogging down problem must be determined by the grower himself. The southern Illinois land will not stand much of that. I would prefer to have the crop cut and fed, as the tramping by the hogs is very injurious to some soils. Some orchardists have had very good results from hogging down, and to such I would say, "Go ahead."

Q.—Is it injurious to plow an orchard late in the fall and leave it that way all winter?

Prof. Blair.—We do not encourage fall plowing.

Mr. Hinckley.—My experience in

hogging down has always been satisfactory, and by not using too many hogs I do not see that there are any injurious effects. If a man puts in too many hogs the ground will be injured by the tramping.

Our Rainfall.

The value of any state for agriculture must always be governed largely by its natural rainfall. It is true that the semi-arid regions have the assistance of irrigation, but irrigation can affect but a small part of any state, because of the impossibility of raising water onto the higher lands in sufficient quantities to be effective, and also because the supply of water in such regions is very limited. The rainfall in the different states of the Union differs very widely, and this difference does not by any means depend on the distance of the regions affected from the coast. The general theory of rainfall in the United States is that our supply east of the Rocky mountains comes from the Gulf of Mexico, and that west of the Rocky mountains from the Pacific ocean. There is no doubt that this theory is true. We do not realize how much we owe to the great chain of mountains running down through Mexico and Central America. Were it not for this mountain range, a very large part of the United States, even from the Mississippi east to the Alleghany mountains, would be as arid as the most arid portions of western Nebraska and Colorado.

The great trade winds blowing from the Atlantic westward to the regions of Central America are stopped in their westward course and deflected north, being kept in a northerly direction by the whole ridge of the Rocky mountains in Mexico and the United States and even in a part of British America. It then deflects again toward the east and sweeps eastward to the Atlantic coast. Thus the mountains cause a cyclonic formation of air movement, which is of unquestionable benefit to our agriculture.

The wind as it comes from the gulf is warm from the heat of the tropics, and saturated with moisture. As it goes north it is forced into a colder region of the world and the fall of the air temperature causes a squeezing of the air sponge till it lets down its water. That this depositing of water is due to the falling temperature of the air is evident. In Florida, for instance, at Key West the rainfall is but 39 inches a year, only about the same as that of eastern Kansas, while at Jacksonville the fall is 56 inches and at Pensacola 63 inches, a remarkable difference for the same state.

Texas shows a great difference. At El Paso, in the extreme western portion, the annual rainfall is only 10 inches; at Fort Elliot, in the northern part of the state, the rainfall is 24.5 inches, while at Brownsville, the most southern part of the state and located near the gulf, the fall is about 37 inches. But at Palestine, more than 300 miles north of Brownsville, the fall is over 45 inches per year. The state of Oregon is another one whose rainfall is very uneven. At Umatilla, in the southeastern part of the state, the fall is but 9 inches, while at Portland it is 49 inches. This is due to the fact that Umatilla is sheltered by high ranges of mountains on both sides and gets an atmosphere that has been already hard squeezed before reaching it. Washington state has a fall of 27 inches of rain at Dayton, in the eastern part of the state, and a fall of 92 inches at Tatoosh Island, in the extreme west.

Gossip and Prophecy about the Weather.

Each spring brings to light some prophet who makes startling predictions as to the weather for the coming summer. The present season is no exception, and already a New England seer has come to the front with the dire prophecy that the coming summer will be a record-breaker for heat. We hardly know whether to believe this or not. We are inclined to doubt it for the simple reason that the weather that can break the record will have to do some pretty clever juggling tricks with the thermometer, considering what has already been accomplished in that line. A glance over hot weather statistics makes us doubt very much whether 1900 will have the ability to discount all its predecessors. In the year 870 the heat was so intense that reapers in the fields of central Europe dropped dead as they worked. The year 1000 was so hot that pools of water disappeared, springs dried up, and the fish, being left in the mud, decayed and bred a pestilence. In the year 1130 springs and rivers disappeared, even the river Rhine being dried up in the territory of Alsace. In 1159 Italy suffered intensely from the drought and heat. Not a drop of rain fell throughout the year after the first of May. In 1232 the heat was so great especially in the German states, that eggs could be roasted in the sand. The years 1303 and 1304 saw heat so excessive that even the Danube disappeared, and the bed of the river could be walked on like a highway. In 1333 cornfields and vineyards were burned up. In 1473, the historians tell us, the whole earth "seemed on fire." Coming down to more modern times we find that in 1718 the suffering from heat was terrible. Scarcely any rain fell on a large part of Europe for nine months, and the grass and corn were quite parched. In 1746 there was neither rain nor dew for many months and the leaves fell from the forest trees. In view of all these facts the summer that overtops all the others for heat, will have to be a scorcher, indeed.

It is the sunshine and the heat in the air that develop the leaves of the trees, and not the heat in the ground. A tree may be in full leaf though the soil around its roots be frozen solid.

Markets for Meat Products.

(From Farmers' Review Special Report of National Live Stock Convention.)

J. F. Hobbs spoke on the broadening markets for our meat products. In part he said:

Of England's vast bill of \$200,000,000 last year for outside meat stuffs, the bulk of it was paid to the United States. Our meat bill with Albion is growing annually, and new people are yearly eating more and more of our finely cured hog products. We have preached them to the nations of the earth; we cast them upon the waters—in ships. These floating warehouses have carried our canned and cured meats into every foreign port, and these products have even routed ling fish from the galleys of the steamer and the schooner. I have eaten American food in every part of the world. While the population of Europe increases, the herds and flocks of that area are not only relatively but actually decreasing in numbers, and our meat products are going in there to a greater and greater extent to make up the loss and to fill the table needs of the people.

A quarter of a century ago France had 188 head of stock per 1,000 acres of country. She has now 164 head per 1,000 acres, with an increased population. Denmark had 197 head per 1,000 acres then and only 115 for the same acreage now. Germany had three times as many sheep per head of population as now, and a lesser number of cattle per head of population now than then. Holland and Switzerland each had twice as many head of sheep per head of population then as now, and Belgium four times as many.

In these countries the flocks of sheep alone have decreased from 104,000,000 to 75,000,000 head, a net loss of 28 per cent, while the combined population has increased nearly 25 per cent. France, Sweden, Austro-Hungary, Switzerland, Denmark, Germany, Belgium and Holland had a combined population of 140,000,000 twenty-five years ago. They now have 173,000,000, an increase of 24 per cent, while their combined herds of cattle have only increased from 48,000,000 to 58,000,000, or 21 per cent. Our markets have extended to and so broadened in these countries that France, Germany, Belgium and some of the others have met our meat invasion with severe restrictions, which have been in some cases modified or entirely removed by our energetic agricultural department. The need of our meats, however, has caused them to gradually let us in under restricted conditions. These countries are now customers of ours, and must become larger ones as time wears on.

In the last decade we have made new introductions, and still more rapid strides in various Asiatic and African countries with our canned and cured meats. India, for instance, imported \$8,000,000 worth of food for the four months from April to September, 1898, and \$8,145,000 for the same period of 1899. That would total more than \$24,000,000 for the year. We sent in a large quantity, as compared with our exports to this country, a decade ago.

Australia, our great competitor in the fresh meat trade, has lost fully 30 per cent of her herds and flocks. New South Wales, the chief antipodean stock-raiser, lost fully 50 per cent of her cattle, and fully 35 per cent of her sheep in the last three years from drought. This slideback gives us a further opportunity to supply a trade already created for the South Pacific meats in India and on the Dark Continent. Argentina has not been able to hold the pace. We ship a surprisingly large amount of pork products to South America, Mexico and Central America.

The important part which the great herds of the world have played in feeding Europe, Asia and some African countries may be seen in the fact that fully 40,000,000 goats were slaughtered last year, the United States alone receiving the skins, tanned or otherwise, of nearly 17,000,000 of them. We have only 500,000 goats of our own. This fearful slaughter has been brought about by the high price of fur, skins and the general meat shortage of the world, and leaves this source much decimated for future years. The deficiency will make a new opening for our canned and cured goods. The broadening markets for our great products and their intrusion into the bills of fare of every civilized country in the world somewhat accounts for the increase in our own slaughtering from 18,000,000 hogs at the packing houses in 1892-93 to that of 31,000,000 inspected hogs killed at our abattoirs for the fiscal year ending June 30, 1899. This means about thirty pounds of green swine flesh per head of population for the former season, and nearly forty-five pounds per head of population for the latter.

The effect which a reverence for color or has upon commerce is remarkable. Certain nations are cranks on colors. It sounds childlike, but it is true that a fad in colors controls the trade of certain countries to a marvelous extent. Russia is partial to red. Germany captures and holds Russian trade by catering to the red taste of the Slav with crimson wrappers, etc. Saxony's goods are most popular in Brazil, because of their pink wrappers. Brazilians have a mortal horror of black. The Chinese detest green. Goods wrapped, boxed or otherwise packed in green are shunned by them. Green leathers, for instance, scare them. The Celtic mind as represented by the Irish and the sons of Italy has a strong predilection for yellow; the Scandinavian for yellow. The goods may be excellent and the inclosures the acme of art in all cases, but art fancies are not business, and make no headway

against color prejudice. The Japanese have a royal liking for blue, and so on as to the trade fantasies of other nations and races.

Until a few years ago the markets of India and other Asiatic countries, South Africa and many European countries were practically closed to our meat products. They now take the product of hundreds of thousands of our live stock.

Horticultural Observations.

The work of the landscape gardener is one of the most important that is done in the beautifying of home grounds. In the past we have tried to get along without such services, but the lack of it has often proved very expensive. The grounds that were planted years ago were very often artistically covered with rows of trees and clumps of bushes that in time grew up to be unsightly thickets, obscuring the house and shutting off the view to the road. The time came when, in the interest of looks and comfort, many of the trees had to be cut down, and much of the underbrush cut away. The grounds even then presented a sight far from desirable. All this can be avoided by paying out a little money at the start for the services of a first-class landscape gardener. It is not necessary to have him come to the farm, but a plot of the home grounds may be sent him. Such a plot should show all the buildings and other artificial objects on the space to be arranged, as well as every tree that it is desired to have remain.

It is now seen to be a mistake to set out large trees in the front yard, unless perchance such trees be at the side of the lawn. Of course where nature has placed a noble tree in the lawn no one feels like disturbing it, but the owner will try to preserve it as its growth of many years more than offsets its occupancy of ground that should be devoted to other things.

Where there are no such obstacles, the front of the yard should be made into a lawn and there should be nothing else in front of the house than a flower garden consisting mostly of annuals. The perennials should occupy a position to the rear or at least to the side of the lawn. The big trees should be planted by themselves; that is, the evergreens should be in one place and the deciduous trees in another, and these should never be mixed with apple trees. The general idea is to have the small growing plants in front of the house and the tall growing ones in the back, that there may be no obstruction to the view and that a part of all may be seen. In the case of the big plants and trees being in front, the rear and smaller ones cannot be seen at all.

The Wool Situation.

Silberman, Bros., Chicago, in their market circular say:

"The phenomenal activity in the wool market during the autumn of 1899 left in the hands of dealers and commission houses in all of the leading markets a very limited quantity of desirable grades. In November and December manufacturers bought very largely, and for that reason were not compelled to again appear in the market to make purchases to any extent for some time. Consequently the market remained quiet during January, at which time the London sales took place, and quite unexpectedly fine wools declined from 7½ per cent to 10 per cent, while coarse and medium grades about held their own. Since then manufacturers in this country have bought fine and fine medium wool very sparingly, and only enough to supply their immediate wants.

"Another decline of 7½ per cent to 10 per cent took place in March sale in London on all kinds of wool. This had an influence; it caused manufacturers to withhold from buying to any important degree.

"In the face of all these facts we cannot now expect a very urgent demand at anywhere near the prices recorded the latter part of last year.

"However, as mentioned before, the stock wool in this country has become limited and three-fourths of it held in very strong hands, by parties who are not forced to sell at any great sacrifice; hence we quote today, 'Market quiet, but values firm.'

"We do not feel at all discouraged regarding the present situation. Notwithstanding the fact that many are predicting lower prices, we feel confident that this quiet spell will soon cease. Manufacturers are consuming great quantities and must soon replenish their stock of wool to enable them to fill their fall orders for goods already contracted for.

"Under the existing circumstances we would not be surprised to see quite a reaction in April and May, with wool selling at higher prices than at present prevail.

"The present indications are that the South African war will soon end; with the war over and conditions restored abroad to a normal basis quite a different spirit in business will undoubtedly prevail, and with equally as much prosperity in the old country as here we feel very confident we shall see an advance in wool in all parts of the globe at no distant day.

"It is our opinion that statistically wool has a bright future."

Nasturtiums.—Few plants so easily grown from seed yield such rich returns in beautiful bloom. They will grow in all soils, and either in full sunshine or partial shade, though in shady locations they must be planted farther apart, as the greater moisture will induce a larger growth of vine and foliage. They commence to blossom early in the summer and continue to flower freely until cut off by frost late in the fall.

If you would find out how poor a man is try to borrow money of him.