GLOUCESTER CHEESE.

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Mr. Hayward, of Frocester Court Farm, has given his experience as a cheesc-maker in the Vale of Berkeley: it is a valuable document.

Management of Cows.—The cows are generally turned out to grass in the end of April or beginning of May, upon those grounds which Mr. Hayward has found, from experience, to produce the most and the richest milk. These grounds are nearest to the homestead, and have always been pastured. The driving of the cows before milking, and the carrying of the milk to any considerable distance, are found to injure the quality of the cheese; and to avoid this consequence, the pasture grounds should always be, as on this farm, near the homestead.

The cows on this farm are divided into three lots, the young and weak ones being in one lot. Each of these three lots has two fields of pasture, and they are generally kept a week at a time in each field, so that they have fresh pasture every week — an advantage much greater than most farmers are aware of. Great care is taken never to over-stock the pasture of the cows. They ought, at all times, to have a full bite of close, short, fine grass. Long over-grown grass gives a rank flavour to the cheese, and should always be avoided.

In dry seasons, when the pasture has got too short, some of the fields that were intended for mowing are given up to the cows for pasture. When the hay is all cleared off the mowing grounds, and the after-grass begins to grow (it generally takes several weeks to make much appearance), the cows are shifted into these grounds. Land which is long pastured by any animal gets foul or unsound for it, and the after-grass always makes the cows spring their milk. They are, therefore, generally moved from the pasture grounds into the after-grass before there is much of it for them.

It is very essential for cows to have a shade and water in every field. The shade of trees, however, is the only shelter from the sun and storm which they have on this farm, and indeed in the whole vale.

Pigs.—Upon this and every dairy farm a number of pigs is necessary to consume the whey—one pig to two cows in summer, but not so many in winter. Their food in summer is grass, clover, vetches, and whey; in winter, raw potatoes, with tailing corn, whey, and skimmed milk. When they are being fattened, bean or barley meal is mixed with boiled or steamed potatoes, in the proportion of a bushel of meal to two cwt. and a half of potatoes. The breed of pigs kept on this farm is the Berkshire, with a small mixture of the Hereford. Some of them are sold in a store state; most of them are fattened. Five or six breeding sows are always kept, which are regularly fattened off, when one year and a half old, and fed to about three cwt.

MANAGEMENT OF THE DAIRY.

It is acknowledged by every one at all acquainted with the subject, that the quality of cheese does not depend upon the superior richness of the soil or the fineness of the herbage; for cheese of the first quality is frequently made from land of an inferior description, and from herbage of a coarse nature. Nor does the quality of the cheese depend on the breed of the cows; for cheese of the best quality is made from the milk of cows of all the different breeds that are to be found in the country. We think it principally depends on the management of the cows as to their food, &c., of the milk in converting it into cheese, and of the cheese till it is fit for market.

The following circumstances are injurious to the quality of cheese :—Allowing the cows to get rank or ill-flavoured grass or hay, these conveying a bad flavour to the milk and cheese; allowing the cows to run and heat themselves; driving them far to be milked, which makes the milk froth much in milking; carrying the milk from the place of milking to the dairy; and allowing it to remain long after it is milked, before it is set with the rennet.

The greatest dependence is upon the dairy-maid; and the chief art of making cheese of the finest quality lies in her management. The superintendence of the dairy invariably devolves upon the farmer's wife. Mrs. Hayward attends to every minute circumstance in this department; and the

following is a report of the information she has. obligingly communicated to us respecting the whole economy of the dairy of this farm.

The management of a dairy should be conducted with the greatest regularity. Every operation should be performed precisely at the proper time. Either hastening or delaying the execution of it will cause cheese of an inferior quality to be made of milk from which the best may be obtained. A dairy-maid is selected for skill, cleanliness, and strict attention to her business. Her work commences at four o'clock in the morning, and continues without intermission till bed-time.

Dairy-house.—The dairy-house should be kept at a temperature of between 50° and 60° ; and the dryer it is kept the better, as both milk and cream retain their sweetness much longer in dry than in damp air. Every time, therefore, the dairy is washed, it is dried as quickly as possible.

Around two sides of the dairy there are broad shelves, made of elm, for putting the vessels that hold the milk and cream, and the newly-made cheese upon. On another side there is a frame with three large stone cheese-presses. In the middle of the north side is the door; and in the corner, on the left, is the stair leading up to the cheese-lofts; and behind the door is a single cheese-press, which is generally used in pressing the cheese the first time, before it is cut down and put through the mill. In the middle of the floor stand three leaden vessels, large enough to hold all the whey of one "meal" or milking; and by the side of these stands the cheese-tub.

Above the dairy there are two cheese-lofts, around the sides of which there are broad shelves for holding cheeses; and in the middle stands a frame for holding two rows of boards, called here "cheesetack," which being only about eight inches apart, contain a much greater quantity of cheese than could be disposed on the floor. The stair to the cheese-lofts is of oak, and seems to be the pride of the dairymaid, for it is dry rubbed and polished so smooth that it is dangerous to walk upon; but this sort of pride is encouraged, as evincing an attention to cleanliness.

Along the north side of the dairy there is a shed, which communicates with the dwelling-house. In this shed the utensils are kept upon a stand for the purpose, the cream is churned, and other work performed, nothing being done in the dairy but the making of the cheese and the making up of the butter.

Opposite to the door of the dairy, and detached from the shed, is a wash-house with a pump-well at the door of it. In this wash-house the water and the milk are heated in boilers for the purpose, and all cleaning work is performed.

Utensils .- 'The milking pails are made of maple, on account of the lightness of the wood and its cleanliness of appearance. They hold about six gallons each, and the cheese tub is of a size large enough to hold the whole of the milk. The ladder, the skimming dish, and the bowl are of maple. The sieve for straining the milk is about fifteen inches in diameter, and has a hair-cloth bottom.

There are a number of cheese vats, sufficient to hold all the cheese made in four or five days. They are made of elm, and turned out of the solid. That which gives five cheeses to a cwt. is considered the best size for double Gloucester, the inside diameter of which is fifteen inches and a-half, and depth four and a-quarter; and that is considered the best for single Gloucester which gives eight to a cwt., the diameter within being fifteen inches and a-half, and depth two and a-half. Round boards, called " suity boards," made of elm, of the diameter of the cheese vats, and thicker in the middle than at the edges, are occasionally necessary to place on the cheeses when in the press, if the vats are not quite full. Without the assistance of these boards, the cheese will be round in the edges (a proof of not being well pressed), and not so handsome.

The cheese presses are made of stone, as being the cleanest material for the purpose, and of steadiest pressure. They weigh about seven cwt. each, they are raised by a block and tackle, and the whole apparatus is painted white.

From the whey leads, which are oblong, and about eight inches deep, there are leaden pipes which convey the whey into an under-ground cistern, near the pigs' houses, where by means of a pump it is raised when wanted for the pigs. Leaden keep the whey longer sweet than wooden vessels, and are much easier kept clean. This is done by scouring them with ashes of wood, and washing them well every time they are emptied, which is every thirty-six hours.

Tin vessels are used in preference to earthenware for holding the milk that is set for cream, and also for holding the cream. Those used for the cream hold about four gallons each, and are made with a lip for the convenience of shifting the cream from one of these vessels into another. This is done once every day during summer ; and there is a wooden slice or knife always kept in the cream vessel, with which the cream is frequently stirred during the day, to prevent a skin from forming on the top of it, which is injurious to the quality of the butter. The skimming dish, used for taking the cream off the milk, differs from that used in cheese-making, being made of tin, with holes in it to let the milk run out that may be taken up with the cream.

of maple. The boards for making up the butter in half-pound rolls are about one foot long and nine inches wide. The barrel churn is made of the best oak, and great attention is paid to its cleanliness. The butter-milk is never allowed to remain in it, but it is washed, scalded, and put up to dry as soon as the butter is taken out.

Milking .- This is performed in three separate courts, to which the cows come from their several fields. The milkings should be as near as possible at equal divisions of the day, commencing at about four o'clock in the morning and three in the afternoon. To each milker eight cows are assigned, and one man carries the milk from all the milkers to the dairy. The milking should be finished in an hour. The dairymaid sees that the milkers do their duty, and that all the cows are milked clean; for the milk that comes last is the richest; and besides, if the cows are not clean milked, there will be a gradual diminution of the milk perceptible daily: for these reasons, the greatest care is taken that the cows are clean milked.

Cheese-making .- The cheese-tub being put in its place in the dairy, the ladder is put across it, . and a large thin canvass cloth covers the whole tub and ladder to catch any of the milk that may drop from the pail, and to prevent dirt from falling into the tub. Above this and upon the ladder is placed the sieve, through which the milk is strained. If the milk should not be of the temperature of 85°, a portion of it is put into a deep tin, kept for the purpose, and placed in a furnace of hot water in the washhouse, by which means the whole is warmed to a proper degree. It is of the utmost moment to attend to this; for if the milk is not warm enough when the rennet is put into it, the cheese will be "tender," and will bulge out in the edge, which spoils its appearance, and a great quantity of sediment of small curd will be found in the whey leads, which is so much curd lost. If, on the other hand, the milk is too warm, it will cause the cheese to "heave" or ferment, which injures both its appearance and quality.

When the milk is sufficiently warm, the colouring and the rennet are put into it. The colouring or anatto is put in by rubbing a cake of it on a plate amongst the milk, until, from its appearance, it seems coloured enough. One pound of anatto, at five shillings, is sufficient for half a ton of cheese.

The rennet being added immediately after the anatto is put in, the tub is covered with a woollen cloth for, at least, an hour. Rennet or runnet is made from the stomachs of calves, called here, "vells." Irish vells are the best; they are cured, and sent to England, and sold by the grocers to the dairy-farmers. Mrs. Hayward never uses them The butter scales, prints, and butter boards are | till they are twelve months old; for, if they are not old, the rennet made from them causes the cheese to "heave," and to become full of "eyes" or holes. She prepares the rennet from them by adding to every six vells two gallons of brine and two lemons. The lemons do away with any disagreeable smell, and give the rennet sweetness and agreeable flavour. Twenty or thirty gallons of it are made at a time, as it is found to be much better when made in large quantities. It should never be used till it has stood for at least two months.

When the curd is sufficiently firm for breaking, it is gently and slowly cut with a three-bladed knife, down to the bottom of the tub (the knife being about fourteen inches long), both ways or at right angles, and around the sides of the tub. The cuts should be about an inch apart. When it has stood five or ten minutes to allow it to sink a little, and the whey to come out as clear as possible, some of the whey is dipped out of it with a bowl, and the curd is cut a second time with the three-bladed knife-very slowly to begin with, for if the cutting is done hurriedly, a great sediment of very small curd will pass through the sieve, and be found in the wheyleads, and there will also be an increase of the quantity of whey butter which should have been in the cheese, and the value of the butter, thus obtained, will not compensate for the waste of curd, and for the loss of credit which the cheese will sustain from the abstraction of butter from it. The cutting being, therefore, performed very slowly at first, and with the strokes of the knife at a considerable distance from each other, is gradually quickened, and the strokes are taken nearer and nearer every time. At last, one hand with the skimming-dish keeps the whole in motion, turning up the lumps suspended in the whey, while the other, with the knife, is in constant motion, cutting them as small as possible; and this operation is continued till no more lumps are brought to the surface, and the whole mass is reduced to one degree of fineness. This process may occupy a quarter of an hour.

The curd is now allowed to stand a quarter of an hour, and being thus sufficiently settled, the whey is taken from it with the bowl, and poured through a very fine hair sieve, placed over the whey-leads. When the greatest part of the whey has been separated from it, the dairy-maid, folding over a portion of it, and beginning at one corner, goes around the tub, cutting the curd in lumps, and laying them on the principal mass, by which operation the mass is carried all round the tub, and most of the remaining whey escapes between the cut fragments, as they lie and press upon each other. From time to time the whey is taken from the tub, and put through the sieve into the whey-leads.

The curd is then put into vats, and pressed down

with the hand. The vats, being covered with cheese-cloths about one yard and a quarter long, of fine canvass, are placed in the press for half an hour, when they are taken out, and the curd cut into slices, and put into a mill fixed on the top of the tub, which *tears* it into very small crumbs, as small as vetches. This mill, which is of Mr. Hayward's construction, is a great improvement in the making of cheese, not only as it saves the dairymaid the most laborious part of the process, that of squeezing and rubbing the curd into small crumbs with her hands, but as it allows the fat to remain in the cheese, which the hands squeeze out.

In its pulverised state, it is customary with most dairy-maids to scald the curd with hot whey, but Mrs. Hayward considers cheese richer when made without scalding the broken curd, this washing the fat out of it. She, therefore, without scalding it, puts it into the vats, and presses it closely together with the hand in filling them. In making double-Gloucester cheese, particular care is taken to press any remaining whey from the curd as the vats are being filled, and they are filled as compactly as can be done with the hand, being rounded up in the middle, but just so much so as that the whole can be pressed into the vat. Cheese-cloths are then spread over the vats, and a little hot water is thrown over the cheese-cloths, which tends to harden the outside of the cheese and prevent it from cracking. The curd is now turned out of the vats into the cloths, and the vats being dipped into the whey to wash away any crumbs of curd that may cling to them, the curd, inverted and with the cloth around it, is again put into them. The cloths are then folded over and tucked in ; and the vats, as they are filled, are put into the press one upon another. The bottom of the vats are smooth and a little rounded, so as to answer the purpose of cheeseboards, which, therefore, are only wanted for the uppermost vats, or when the other vats are not quite full. The vats are allowed to remain under the press about two hours, when they are taken out and dry cloths are applied, which with double Gloucester cheeses should be repeated some time in the day.

Salting and Salting-presses.—The vats, when the clean cloths are given, as just mentioned, are changed from the single press to the one next to it, and placed in it, one upon another, as before. They remain in this press till the cheeses are salted, when those made in the evening take the place in the press of those made in the morning, and those made in the evening are, in their turn, displaced by those made the following morning; the cheeses of the last making being always placed lowest in the press, and those of the other makings rising in it according to the priority of making.

The same order is observed in the other two presses, the last or newest making in each being lowest, and each making having next above it that which was made last before it. The cheeses pass through the three presses in this order, advancing a step in their progress at each "meal" or making, till, at last, in four or five days they come out of the presses and are put upon the shelves. They are generally salted at the end of twenty-four hours after they are made, though this is done by some at the end of twelve hours. The salting should never be begun till the skin is all closed; for, if there be any crack in the chesse at the time of salting, it will never close afterwards. The salting is performed by rubbing with the hand both the sides and the edge of the cheese with finely-powdered (salt. The cheese, after this, is returned to the vats, and put under the press, care being always taken, according to what has been said, to put the newest cheese lowest in the press, and the oldest uppermost. The salting is repeated three times with the single, and four times with the double Gloucester, twenty-four hours being allowed to intervene between each salting. After the second salting, the cheeses are returned to the vats without the cloths, that the marks of the cloth may be effaced, and the cheese may get a smoothness of surface, and keenness of edge, which is a peculiarity of Gloucestershire cheese. The double-Gloucester remain in the presses five days, and the single four; but in damp weather they should remain longer. The quantity of salt generally used is about three pounds and a-half to a cwt. of cheese.

The Cheese Room.—When the cheeses are taken from the salting-presses, they are put on the shelf in the dairy for a day or two, where they are turned once in twelve hours. They are then taken to the cheese-loft, to make room for the new ones. In the cheese-room, either on the floor or on the cheese-rack, they are turned once every day; and

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in general, in a month from the time they were taken out of the vat, they are ready for cleaning, which is done by scraping them with a common knife. The dairy-maid, in doing this, sits down on the floor, takes a cheese in her lap, and with the knife scrapes both sides and edge clean, taking off all scurf they may have contracted. The cheese, if intended for the London market, as is generally the case when it has been thus cleaned, is rubbed all over with a paint made of Indian red, or of Spanish brown, or of a mixture of both and small beer. It is rubbed on with a woollen cloth. After being painted, it is turned over twice a week, and oftener in damp weather; and, as soon as the state of the paint will permit, the edges of the cheese and about an inch of each side is rubbed hard with a cloth at least once a week.

Characteristics of true Gloucester.-The marks of true Gloucester cheeses are "the blue coat," which arises through the paint on their sides, and which is a sure sign of their richness and sweetness; the yellow, golden hue of their edges; a smooth, close, and wax-like texture; a very mild and rich flavour; not crumbling when cut into thin slices, not parting when toasted, with the oily matter they contain, but softening without burning. If cheese has been soured in the making, either from being too long in hand or from want of attention in scalding the utensils, nothing will cause it to assume the blue coat. If the curd is salted when ground down, before being put into the vats, the salt has the effect of giving a skin to each of the particles of the curd it comes in contact with, which prevents them from intimately uniting; and. although the curd may be pressed together, and become good cheese, yet it never becomes a smooth, close, and solid mass like that which is salted after it is made, but is of a loose texture, and crumbles when cut; and although it may be equally fat, yet in toasting the fat melts out of it, and the cheesy part burns. The skin of the cheese, too, is not tough and solid, but hard and brittle, and, when examined, seems to be formed of many irregular portions, something like mosaic work.