

THE DAIRY DEPARTMENT.

CHURNING AND MAKING BUTTER.

Although the process of churning is simple enough in itself, yet many a lot of fine cream has produced butter of an inferior grade, because the churning had not been properly conducted, or that a strict attention had not been paid to cleanliness. If the churning be done too rapidly the butter is impaired to a very appreciable extent, in its keeping qualities as well as in its texture and perhaps in its taste. Regular churning, not done too rapidly, should be blessed. Sometimes, owing to carelessness or neglect, the churn has not been properly cleansed out, and much of the impurities, caused by the action of the atmosphere on the susceptible particles of milk or cream which should have been removed at the last washing, are churned up with the fresh cream. As milk—and cream especially—is one of the greatest absorbents of impurities which we have, exceeding water in this respect, the butter naturally comes out of the churn with all its should-be good qualities injured. And right here permit me to say that the more complicated the churn is the more danger is there of making an inferior grade of butter, as the intricacies conceal and retain small particles of cream, milk and atoms of cheesy matter. The atmosphere, acting on these, decompose them, and the cream subsequently churned in the churn must naturally become tainted more or less with this impurity. The simpler the churn is the better. In many of the dairy sections of Pennsylvania, the old-style dash churn has been discarded, and one of the following style substituted: The churn itself revolves, being swung on leg or small axles at each end. There is no revolving dasher inside, but from eight to ten pieces are hooped in with the churn, running the entire length. As the churn revolves these dashes—if they may be called such—break the cream in bring the butter in a fine condition. One of the greatest recommendations for this style of churn is that there are no places where impurities can collect and remain to impair subsequent churning. Those I saw were run by horse-power. As the labor would be much greater than would be required to work an ordinary churn, I do not think it would do for hand-power, although it might, as this is only supposition. I may have seen them large enough to churn 200 pounds of butter at one time. The lid is bolted on to prevent the loss of cream, and can be readily removed, when so desired. A hole on the opposite side is used for drawing off most of the buttermilk preparatory to removing the butter.

The temperature for the cream should be a few degrees lower than for the milk, 55 to 57 degrees being a very good rate. Before putting in the cream we put in a bucket or so of water (cold in summer and warm or hot in winter), churn it around until all the wood is saturated and then put in the cream. The churning usually lasts from three-fourths of an hour to one hour. Some farmers like their butter to come in a few minutes. It usually can be made to come in a very short time, but at the expense of quality and long keeping, for it will come soft, will not have so fine or rich a flavor, and will not retain what little good flavor it does have for any length of time. We do not wish ours to come in less than thirty minutes, while three-fourths of an hour is better for the above given reasons. Butter, which is churned at a proper temperature and comes at the right time, is far less trouble to work, is not soft and spongy, but seems to be waxy, with that firmness under the paddle and with that grain and solidity which all judges of good butter so much admire and strive to obtain.

When the churning has been completed, most of the buttermilk is drawn off, leaving just enough to prevent the butter from clinging to the inside of the churn, after which, remove the butter with the hand, or better still, with a small, shallow ladle, putting the butter on the board used as a working-board. Some use the patent workers, but we like to work ours with an ordinary paddle, made of cherry, apple, or some other hard, close-grained wood. After it has been well worked, so as to remove all the butter, milk, the butter is salted. The quantity of salt to a pound of butter varies with different dairymen, according to their own tastes or the desires of their customers—from one-

half ounce to an ounce of salt to a pound of butter. The salt should be well worked in, and if the butter presents a mottled appearance it shows that the butter has not been dissolved; and it must be well worked until it is done, taking care not to work it so vigorously as to injure its texture.

After it has been properly worked, salted and made up, it should be weighed out into pound prints, lined or marked off so as to make half-pounds. A butter dairyman who has a very wide reputation for his butter always puts it up in half-pound prints, lined off in quarter-pound cakes, and this suits the "fancy" customers (high-priced buyers) best, as they can always buy a small quantity—half-pound—at a time and have it fresh. As appearance always pays well, it is a goop thing to have the butter rags neat and the edges cut in small scollops, which adds much to the looks of the butter. A friend of mine who does this has a small steel made to cut them with, one blow of the hammer cutting a scollop in over twenty rags.

As soon as the butter has been printed and put it into rags, put it into large floats, which are made of tin of any required size, square at the corners and turned up on the sides about an inch. After the butter is put on these they are put on the water in the spring-house or milk-room and left to get firm before packing, for unless cool and firm before packing into the butter tubs and boxes they will not arrive at their destination in goop order, while comparative injury to both texture and flavor often results.

Some butter dairymen think it absolutely necessary to wash their butter after taking it from the churn to free it from buttermilk. This answers the purpose as far as the buttermilk is concerned, but butter is undoubtedly injured in its keeping qualities by having water pass over it. For immediate use it does as well as any other butter, but it is very seldom that a dairy can consume all its own butter, even if it wished to, and then arises the question of profit.—*Farmers' Stock Journal.*

HORTICULTURE.

COVERING STRAWBERRIES.

Often there is much said, and especially at this season of the year about covering strawberries; and many persons are induced by what they read to act so as to heartily regret it when the spring comes round. We have known people to act on this suggestion and cover their strawberry beds with manure, and find the whole completely rotten in the spring. And yet, a little covering with the right kind of manure is not a bad thing. If the plants are entirely unprotected the leaves are browned and often destroyed; while it must have been noted by every observant gardener that the best fruit comes from plants that have managed to keep their leaves bright and green till their spring flowers appear. And this is why a covering of snow the whole winter is so good for the strawberry crop. As we have remarked, when the leaves have browned the crop is small; but when the snow covers the plants all winter, they come out in the spring in the best possible state of fruitfulness.

But we cannot always depend on the snow. It does not always come, or continue in a regular way. So if some light material can be put over the plants that will not smother and rot them, and yet will be just enough to make a shade from the winter sun and a screen from frosty winds, it will be doing a good turn to the strawberry plant. Manure is bad. There is a salt in it, especially when fresh, which is destructive to foliage; but clean straw, or swamp or marsh hay that is free from weeds, answers the purpose very well. But it must not be put on very thick. The idea is, just enough to make a thin screen, and yet not enough to hold moisture long. Shade without damp is the idea. Light protection is good for the strawberry plant.—*Germantown Telegraph.*

The apple crop of Michigan proved larger than was expected. From Benton Harbor 80,000 barrels were shipped, and it is estimated that 100,000 barrels were shipped from Calhoun Co.

WINTER PROTECTION.—It is better to wait until the ground is frozen at least two or three inches in depth before we place litter or protecting material of any kind over the roots or herbaceous plants, shrubs or trees. Frozen earth will form a better non-conductor than frozen earth. The protecting material will tend to keep it thus frozen and prevent its freezing deeper. The litter if unrotted will protect far better than if decomposed. Well rotted manure, though it enriches the soil and nourishes the plant in the spring, must feebly conduce to protection against cold, since the mass is homogeneous and connected. Additional litter placed over the earth when it is deepest frozen is advantageous, protecting the ice—so to speak—and preventing exposure to intense cold that may follow.

We should bear in mind that our first object is to keep roots frozen from the time they are first frozen until such time in the spring when there is no longer any danger of severe weather.

Frozen roots can never suffer from drouth, nor, as is very evident, from the fatal effects alternate freezing and thawing.—*Rural New Yorker.*

PUBLIC SCHOOLS OF DEER LODGE COUNTY.

We take the following from the County Superintendent's report for the year ending August 31, 1875: Fifteen Public and three Pay Schools were held in the county; 18 teachers, 3 female and 15 male, were employed; 60 percent. of the census children attended the public schools and 11 percent. the pay schools (the latter having been held in schoolhouses during the period of regular vacation.) The average compensation of teachers was \$73.12, males \$75, females, \$60. The county contains four frame and seven log school houses, valued at \$9,000. The fund was received from these sources: Tax on property, \$8,386.06; fines, from clerk of District Court, \$83.78; from Probate Judge, \$12.50; from Justices of Peace, \$60.00 The sum of \$8,554.60 was apportioned during the year, making \$14.35 to each census scholar. The average cost of tuition per month per capita, \$3.37, the lowest in Deer Lodge District No. 1, \$2.10; the highest in Silver Bow, District No. 13, \$14.00. The tax levy of the present year will raise a fund of \$8,057.19; a balance of \$85.00 from last year remains unapportioned. The December apportionment will be made immediately on receipt of the Treasurer's Report. The following districts—Nos. 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 14 had reported their new census prior to Dec. 1st.—*New North West.*

The expedition fitted out by the Navy Department for the purpose of surveying a route for a canal between the Atlantic and Pacific oceans suitable for ships of the largest class, have made an interesting report. They sailed from New York on the 5th of January. On arriving at Aspinwall they went on board the United States steamer Ganandaigua, and in her proceeded to the mouth of the Attrato river, in the Gulf of Uraba; thence to the mouth of the Wapepi, where they began their survey on the 9th of February, and continued it to the 28th of April, completing a line of survey from the Attrato to the Pacific. The estimated cost of the canal is \$98,196,892.

SHERIFF'S SALE.

James Hornbuckle & Samuel Marshall vs. John Tombs. To be sold at Sheriff's Sale, on the 24th of December, A. D. 1875, at the front-door of the Court House in Diamond City, Meagher county, Montana Territory, between the hours of 9 o'clock, A. M., and 5 o'clock, P. M., of said day, the east one-half of the northwest quarter, and the west one-half of the northeast quarter of Section fourteen, in Township ten north, of Range one west, together with all and singular the tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining; also, one small water ditch and water right thereto belonging, taken out of Magpie Gulch on the south side thereof near the old crossing of said gulch; also, one water ditch and water right taken out on the north side of said Magpie Gulch, above the head of the two following ditches in said gulch; also, two ditches constructed on the south side of Magpie Gulch, conveying the waters of said gulch to the premises known as the Tombs' Ranch. T. J. FLEMING, Sheriff.

December 4th, 1875.—3w

SHERIFF'S SALE.

John Gallagher, James Hornbuckle and Samuel Marshall vs. William Bacey, James McCabe, J. V. Stafford, W. Warner, O. C. Warner, S. Clem and I. Clem. To be sold at Sheriff's Sale, on the 24th day of December, A. D. 1875, at the front-door of the Court House, in Diamond City, Meagher county, Montana Territory, between the hours of 9 o'clock, A. M., and 5 o'clock, P. M., of said day, the Hells-gate and Avalanche Ditch and water right, which conveys the waters of White's Avalanche and Hells-gate gulches to Cave Gulch, and sometimes known as the Stafford & Co. ditch. T. J. FLEMING, Sheriff.

December 4th, 1875.—3w

GILBERT ECKER, Manufacturer of and Dealer in Custom made Boots and Shoes DIAMOND CITY, MONTANA. Keeps a good Stock of

BOYS BOOTS, ARCTIC OVERSHOES, BUFFALO BOOTS AND SHOES.

HIGHEST PRICE PAID FOR HIDES. December 2, 1875-6m.

MAYN & HEITMAN, GROCERS, And Dealers in

TOBACCO, CIGARS AND LIQUORS, Opposite Travis's Stable,

LOWER MAIN STREET, HELENA, M. T. PAY HIGHEST PRICE FOR PRODUCE. December 2, 1875-6m.

NEW FARMERS' HAY AND FEED STABLE. JOSEPH HOSKY, Proprietor,

LOWER MAIN STREET, HELENA. Accommodations for

ALL KINDS AND ANY NUMBER OF STOCK. Is prepared to

COMPETE WITH ANY STABLE IN THE CITY HAS FAIRBANKS' HAY SCALES.

I have 620 acres of the best hay land in Prickley Pear Valley, six miles from town, from which I get all my hay. December 2, 1875-6m.

HELENA AND DIAMOND CITY, STAGE LINE.

UNITED STATES MAIL. P. B. CLARK, - - Proprietor.

Coaches leave Helena Monday, Wednesday, and Friday, at 7 o'clock a. m. Leave Diamond City Tuesday, Thursday, and Saturday, at 7 o'clock, a. m.

Coaches leave Helena every morning, (Sundays excepted,) at 4 o'clock, a. m. Leave Bozeman every morning, (Sundays excepted,) at 4 o'clock, a. m. Passengers and freight carried at moderate rates.

OFFICES: HELENA—Davis & Wallace's, Main Street. BOZEMAN—Willson & Rich's, cor. Main and Bozeman Streets.

HELENA AND BOZEMAN.

BOZEMAN AND VIRGINIA.

Leaves Virginia City every Monday, Wednesday and Friday, at 4 o'clock, a. m. Leaves Bozeman Tuesday, Thursday and Saturday, at 4 o'clock, a. m. Office—in Virginia, at Raymond Bros. December 2, 1875-6m.