

**Mould Spots on Butter.**

Editor "The Farmer's Advocate":

This is the season of year when many butter-makers are troubled with mould spots on butter, both in the creamery and on the farm. It is a very annoying condition, and many people are at their wits' end to know what to do. Some makers, more particularly those on the farm, are fearful that the method of making the butter may be wrong, and write for expert advice. This idea is erroneous. The best buttermakers have trouble, at times, with mould on butter. Conn says: "The moulds do not particularly injure the butter, but detract from its appearance."

The dark spots on the outside of butter, commonly called mould, are caused by the growth of low forms of plant life. There are a great many kinds of moulds, the most common one being the ordinary bread mould (*Penicillium glaucum*). This mould will appear on almost any damp surface, if the temperature be right. It is because of the dampness in most places where butter is kept, that mould so frequently appears on this product of the dairy. The fact that most butter is wrapped in damp parchment paper, if in prints, or the package for solids is lined with wet paper, makes a favorable condition for the growth of mould spores.

**REMEDIES.**

As previously pointed out, mould is a plant, and the spots are the result of a number of plants growing on a damp surface. Knowing the cause, we are in a better position to suggest a remedy. All plants must have certain conditions of moisture and temperature before they can grow, and they must start from some form of a seed. In this case the seed is called a "spore." When conditions are unfavorable some bacteria resolve themselves into the state known as spores; as such they have a much greater resistance to heat and other destroying agents than the bacterium itself has. When, however, conditions for growth again become suitable, the spores germinate and once more we have the bacterium or vegetative state (Sadler).

What we have to do then is to make conditions unfavorable for the growth of the seed, or spores of mould. But it is better to first destroy the mould spores which are present, more or less, in nearly all cellars and refrigerators. A thorough cleansing with hot water will usually kill the seed, but on account of their "spore" form, they are sometimes difficult to kill, hence some stronger agent than hot water is generally necessary. The one most commonly recommended is a solution of one part corrosive sublimate in one thousand parts of water. This is either sprayed on the walls, ceiling, shelves and floor of the place where the butter is kept, or it is used as a wash and applied with a brush. One thing needs to be carefully borne in mind, namely, that this solution is a deadly poison if taken into the human stomach, and on this account it must not touch the butter itself or any other human food. With ordinary care there is little or no danger. Some advise the use of a coal-tar disinfectant such as carbolic acid, or some of the commercial preparations made from coal tar. Owing to their strong odor they are likely to taint the butter, hence are best applied in the form of an addition to whitewash or lime-wash, adding about a tablespoonful per gallon of the wash, then spray it on walls, etc., or apply with a brush.

After cleansing the room or refrigerator it should be thoroughly aired and dried, and if possible be exposed to sunshine. If the butter is kept in a house refrigerator it might be carried outside into the sunshine and left there for a few hours.

Another common source of mould spores is the paper used as wrappers or for lining tubs, boxes and crocks. The mould spores grow readily on this paper, and when wet in ordinary water the conditions are favorable for moulds growing. If the paper be soaked in strong salt brine for 24 hours before using, and if a small quantity of formalin be added to the brine all the better, the brine will kill the mould spores on the paper and there is less danger of mould, although we have known mould to develop on packages of butter where the paper had been so treated. However, it is a good precautionary measure to adopt on the farm and at the creamery.

**WHAT TO DO WHEN THE MOULD IS ON BUTTER.**

If butter prints become mouldy and the mould is on the paper only, remove the paper and wrap in fresh paper which has been soaked in brine. In case the mould is on the butter also, it will be necessary to scrape it from the outside of the butter, doing this very carefully so as not to spoil the appearance of the print. In case the mould has penetrated to the centre of the print, as it will sometimes where there are openings for the spores to enter, it will be necessary to break or cut the print in two parts, scrape, then re-work and print again. This means extra labor and some loss, but it is preferable to sending out mouldy butter to customers.

In the case of boxes, tubs and crocks, the but-

ter should be "stripped," that is, the package and lining should be removed and the linings destroyed where they are spotted with mould. If the mould is on the outside of the butter only, it may be carefully scraped, the package re-lined with clean paper and the butter put back in the original package if clean and free from mould. If not, the mould should be removed by washing or scraping. If the mould has penetrated the butter, it will have to be cut, mould removed, be re-worked and packed again.

Moulds are certainly troublesome to the buttermaker, especially on butter which has been held during the summer season.

O. C. A., Guelph.

H. H. DEAN.

**HORTICULTURE.**

**Onions by the Bushel.**

A few days ago we had the privilege of looking over "a little farm well tilled" near the city of London, Ontario. On this farm, Thos. Baty, the owner, has three patches of onions, totalling about an acre and a quarter, from which he is harvesting a large crop. On one quarter acre he had picked up one hundred and twenty-eight bushels, and there were still a few on the ground. Mr. Baty prefers sowing the onions in rows fourteen inches apart, and thinning them to two inches apart in the row. At this distance they grow to such an extent that they crowd each other out of the row, and make practically two or three rows in one. The land is well prepared and heavily manured, and frequent cultivations are given during the season. A part of the



At Work in the Vineyard.

A common scene in the Niagara District, Ontario.

patch was not thinned at all this year, the seed being sown rather thinly and every plant that grew allowed to mature. They are a great crop, almost as good as those which were thinned. The onions are allowed to dry off fairly well before being harvested. They are cut by running an implement much like a wheel hoe through them. This carries a cutting knife, which runs under the onions severing the roots. They are allowed to dry in the sun for a few days, sometimes two or three or longer, and are picked into bushel crates and piled up one tier thick and covered. This allows air circulation, and is a good plan. Never did we see more shapely Yellow Globe Danvers. They were almost perfect globes. This is due in part no doubt to seed selection which Mr. Baty is practicing.

One point we wish to mention is a way to kill the troublesome purslane, which most gardeners know to their sorrow. Mr. Baty has found that if it is pulled into small piles when hoed off, and is then covered over with a light covering of earth it very quickly dies and rots. He showed us some which had entirely decayed after only a short time covered. It is worth a trial, and will bring results.

There are vast possibilities on small places. This farm comprises five acres, and onions alone bring in satisfactory returns. Other garden crops are grown, poultry and a cow kept, and the whole is a model which many might follow if they are prepared to work and manage operations.

**Making Cider Vinegar.**

Editor "The Farmer's Advocate":

We have a quantity of apples, both crab-apples and large apples, and there seems to be no market for them here, so we sent for a cider mill, thinking to make cider and cider vinegar, but we don't know just what process to go through to make the vinegar. Could you tell me through your valuable paper how to make vinegar out of apple juice? In making cider is there anything done with the juice after it is pressed from the apples before it is bottled.

G. W.

It is possible that many apples may go to waste this year that could well be converted into some product very useful in the culinary department of the home. Vinegar is one of the products that will keep for a long time, and one that can be produced very cheaply. The quality of vinegar varies as the amount of acetic acid it contains, and it in turn depends upon the sugar content of the apples and the conditions under which the sugar is transformed into alcohol. There are two fermentations which the cider must undergo before good vinegar is produced. First, the alcoholic fermentation changing the sugar of the apple juice into alcohol; and second, the acetic fermentation by which acetic acid is formed, and when the latter product constitutes four and one-half per cent. or more of the total quantity it is considered a very good vinegar.

In the first place the apples should be clean, not for sanitary reasons only, but on unclean fruit there may be germs that will retard the alcoholic fermentation or set up a fermentation that is detrimental to the production of good

vinegar. If possible allow the cider to stand for a few hours; and then remove the clear liquid to thoroughly-cleaned containers filling them to only two-thirds or three-quarters of their capacity. Place them in a temperature between 65 and 70 degrees Fahrenheit, but any temperature above 75 degrees may result in waste through an evaporation of the alcohol. When stored at a temperature of 65 to 70 degrees the first fermentation will probably require four or five months, but this time may be reduced appreciably by adding yeast at the rate of one cake to five gallons of juice. Before adding to the cider the yeast cake should be thoroughly disintegrated and stirred into a cup of warm water. Leave the vessel uncorked, but plug with loose cotton that the air may

circulate over the liquid without admitting particles of dirt.

An absence of gas bubbles will indicate a completion of the alcoholic fermentation, and at this period it is wise again to draw off the clear liquid and cleanse the containers before the acetic fermentation commences. This may require from three to eighteen months, according to the conditions under which it is carried on, but if it is placed in a warm room or outside where it may be exposed to the sun, from six to twelve months time should be sufficient for a complete change. When this latter fermentation is to commence it may be hastened considerably by adding old vinegar and mother of vinegar. Mother of vinegar may be produced, if it is not to hand, by using equal quantities of hard cider and old vinegar. Put them in a shallow pail or crock and allow to stand for two or three days in a temperature of 80 degrees. A gelatinous covering will form on the top, and this should be taken without breaking it and placed upon the top of the liquid which is to be made into vinegar. It should not be stirred in but should be allowed to remain on the top of the liquid, for it is there that the acetic fermentation takes place in the presence of an abundant supply of air. When a fair percentage of acetic acid is present in the product, the barrels should be filled full and plugged tightly in order that other fermentations may not take place that will impair the quality of the vinegar. Vinegar can be