

and the in-
acre over

that as
their ways,
venture on
armed for
d a great
picious of
things dif-
n former
their in-
ld be ap-
hen show
convinced.
nt is ma-
e, that he
autation to
arrant.

mentally
s to their
ve always
even the
ne form of
e and dis-
boxes, etc.
make the
es easier
ake lever,
AUTO.

ing.

rtment of
s the use
Whether
consider-
bulletin,
ve helpful
ch a grad-
give the
he road
ed shape,

On the
not built
ce is very
so-called
e as they
of putting
try roads.
at railway
country
multitude
advice on
drainage
s away is
the ditches

and thus
the symp-
attention.
may have
n and be
physical
y be well
e affected
ations of
a loss of
tack the
in cheesy
e nodules
They are
ic glands.
from the

ans of de-
infected.
e author
hat there
nd dairy-
rk. The
ughtered
remaining
s which
oroughly
stroy the
the fields
with the
e bacillus
sequently
system of
animals
e housed
and the
n. Tools
effort is
dropped
and fed
y the off-
en raised
m where
to do all
y carried

out. However, when an animal shows clinical symptoms it should at least be isolated from the main herd, and so eliminate the danger of spreading germs by means of sputum or excrement. Stockmen should co-operate in preventing the spread of this contagious disease, which not only causes loss of live stock but endangers human life. As a large quantity of milk is consumed in the raw stage it is important that dairy herds be clean. Some towns and cities demand milk from tubercular-free herds, while many consumers in other towns have their milk supply pasteurized. In this way a good deal of danger to public health is eliminated. It is believed that young stock become infected through consuming dairy by-products from infected herds. This is a strong argument in favor of pasteurizing skim-milk and whey to be used for breeding purposes.

Tuberculosis is rapidly becoming more prevalent in hogs. It is claimed that during the past ten years the percentage of tubercular hogs in some large packing houses has practically doubled. This may be due to the fact that the disease is transmittable through dairy by-products. Milk received at the creamery or factory from a few tubercular cows may be sufficient to infect a number of herds of hogs if fed on the by-products.

In order to prevent the herds, becoming infected some breeders of pure-bred stock are purchasing new stock subject to the tuberculin test so that they may avoid introducing diseased animals into the herd. Breeders who can guarantee their herd free from disease are few in number. Stringent measures should be adopted to prevent this disease becoming more prevalent. Now is the time for breeders to strike tuberculosis a heavy blow. Test and examine the herd and if clean all well and good, aim to keep it so, but if there is a reactor in the herd no time should be lost in isolating her from the healthy stock. One or two diseased animals are easier to look after than half the herd, and the loss will not be so great.

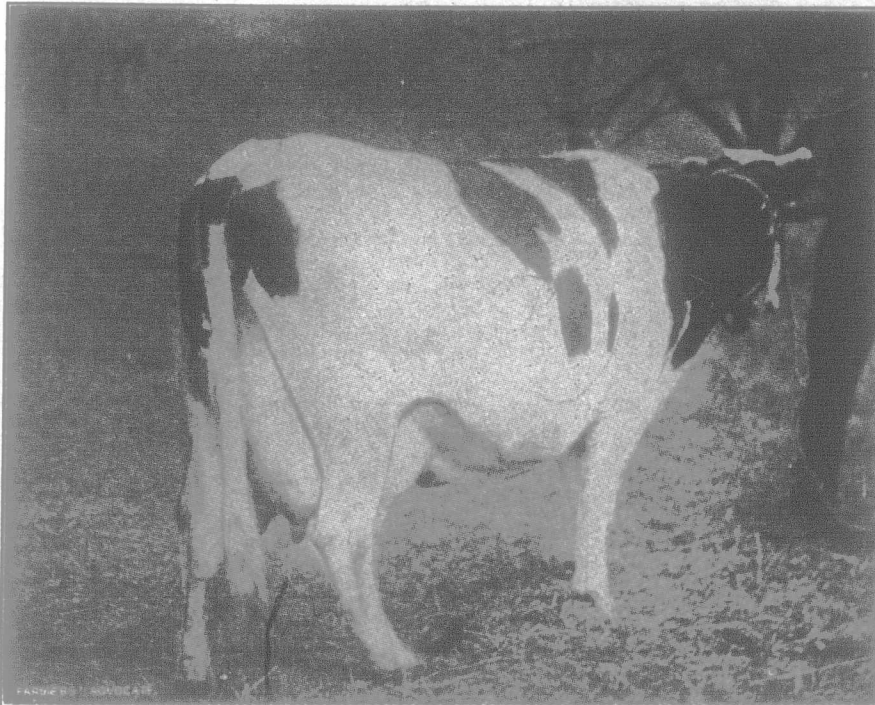
At a dairy breeders' association meeting, in the United States, Fred. F. Field, of Massachusetts, gave his experience and methods of eradicating tuberculosis from his herd. He claimed that it is possible to clean up the herd, but one must assume that all the cattle are tuberculous and pasteurize the milk. He advised taking the calf away from its dam at birth and feeding it on pasteurized milk. The stable should be disinfected and whitewashed and large windows put in. A physical examination of the cattle should be made, and cultures taken to see if they are spreaders. This means applying the bacteriological test to samples of sputum, excreta and milk. This must be continued and spreaders kept from the rest of the herd.

Some argue that what we don't know won't hurt us, but, is it justice to humanity, to the dairy industry or to the individual dairyman himself to continue marketing milk from cows which he is not sure are free from this contagious disease? Sooner or later drastic measures will have to be taken to protect human life and the live-stock industry. It does not necessarily mean that a reactor must be destroyed, but her milk should be pasteurized before being consumed raw, and skim-milk or whey treated the same way before it is fed to stock. This precaution alone would considerably check the spread of this disease. A tubercular cow that is a spreader of the disease is a dangerous animal to have running with the herd. Prevention is less expensive than being forced to make a clean-up after a disease has become established. Young men laying the foundation of a herd might well start with tubercular-free animals and aim at keeping the herd clean. In the near future there will be a big demand for such breeding stock, and the men starting first will have the advantage over those who follow the even tenor of their way and keep putting off the day of ascertaining whether or not their herds are clean.

Delivering and Shipping Milk and Cream.

Very often the quality of milk and cream deteriorates considerably between the point of shipment and its destination, or even between farm and factory. Proper care at the dairy should be followed up in transit, if milk and cream are to be delivered in good condition. There are certain precautions to ensure the products remaining sweet and clean, which do not require much time or extra effort. It is well known that milk products

soon deteriorate if left exposed to the hot sun for an hour or more, but where one man draws milk or cream for a number of patrons the sun reaches a considerable height before the end of the route is reached. If the lactic fluid should be on the point of turning when placed on the stand, the heat and shaking on the wagon might easily render it unfit for cheese making before the factory is reached. This fact might well be taken into consideration, when the milk is returned some morning as sour, instead of the dairymen blaming the cheese maker and vice versa. If shade were provided near the milk stand there would be less danger of the temperature rising to the point at which lactic acid bacteria work rapidly. A large tree on the south-east side, or that side of the milk stand boarded up, would serve the purpose. One can of sour milk dumped in the vats prevents the coagulating material from working properly, consequently there is a loss. For this reason



Rhoda Parthena Caprice 2nd 14178.
Seven-day record 502.3 lbs. milk and 23.55 lbs. butter.

every patron should aim at having the milk delivered as fresh as possible. As a rule, from twenty to thirty-gallon cans are used in cheese-factory districts. This entails heavy lifting if they are full of milk, but they economize space on the wagon. The small cans, as shown in the illustrations are generally used when shipping milk and cream and are convenient to handle. On a heavy milk route the wagons are sometimes built to carry two layers of cans. Whichever type of can is used, it is essential that it be of good-quality material, with the seams properly soldered so as to make cleaning as easy as possible. Cans may appear clean to the eye but yet have enough milk adhering in the crevices to contaminate the entire lot. After rinsing with cold water to remove the bulk of the milk, scalding will complete the cleaning. Warm water is not enough to clean any dairy utensil.

When sweet cream is being shipped or drawn some dairymen have a heavily-padded casing for the can so as to eliminate the effect of the air temperature on the cream. This insulating material keeps the product in the can, even when exposed, at about the same temperature as it was in the dairy. In other districts milk and cream drawers have a covering for the wagon which protects the cans as well as themselves from the sun's rays. These factors go a long way towards delivering the raw material of the dairy in a condition that it can be manufactured into the product of finest quality. To aim at anything short of the best is not being fair to the business of which you are a part.

If Canadian cheese and butter are not of the highest standard, both producer and manufacturer are to blame. One cannot saddle it entirely upon the other, although no one can make special grade dairy products out of

second or third-grade milk or cream. There should be a spirit of co-operation existing between cheese-and-butter-makers and their patrons.

Typical milk stands are herewith illustrated. The top is about on a level with the milk drawer's wagon so as to facilitate his work; when thirty-gallon cans are used the dairyman has heavy work placing the cans full of milk on the stand, where proper steps or derrick are not constructed. Cans may be slid up on a couple of planks, but even then it is a man's job. At small expense an arrangement can be made that will greatly lighten the work. A post is sunk in the ground about eight feet from the stand with the top about eight feet high. A pole is attached on top of this by a couple of irons which will permit the pole to move up and down as well as be swung around. The end to which the can is to be attached should not be over half the length of the part on the opposite side of post, less than half lightens the lift but makes it harder pulling the end down to attach to the can. This attachment is a crosspiece the width of the can, having a rod at either end long enough to reach the handles of the can. If the pole is properly set on the post not much energy is required in lifting the can to the stand. It is no disgrace to lighten the work as much as possible. Physical strength is not so much the standard of efficiency to-day as it used to be.

Keeping fresh milk cool and where it cannot become contaminated with undesirable flavors, a little more shade around the milk stand and either jacketed cans or covered wagons for marketing will all aid in giving consumers a high-class product which in turn will tend to increase consumption of milk and its products. Many fail to realize that the higher the quality of the product marketed, the better it is for their business.

Consumers deal where they get the best service and are willing to pay the extra price. Put up the right class of goods and a market will be found. There is seldom a surplus of first-quality material.

POULTRY.

Roosts.

We were in a new poultry house the other day and the only thing we found fault with was the roosts. They were of the old-fashioned ladder type one above the other. Too many farm poultry houses are constructed on the same principle and it is wrong. Roosts are important and yet often carelessly constructed. F. C. Elford Dominion Poultry Husbandman, in Bulletin 87 says of them:

"The American breeds require about 9 inches per hen of roosting space. If more than one roost is required, place the first about 10 inches from the wall and the others from 18 to 20 inches apart. When cold houses are constructed, it is advisable to have only sufficient roosts to accommodate the hens. Roosts should not be placed too high; between 2 and 3 feet from the floor is high enough for most breeds. High roosts give trouble in that heavier birds are not able to reach them and the jumping off the roosts sometimes causes bumble foot and kindred diseases. Roosts should never be constructed on the ladder principle, but where more than one roost is required they should all be placed on the same level. Where roosts are placed one higher than another there is considerable commotion every



Drawing Milk to the City.



A Typical Milk Stand.