equal to 44), whey not pasteurized, 18 lbs.; whey pasteurized, 44 lbs. Difference in total amount of fat return-Difference in total amount of the or whey, 44-18 equal to 26) 38 lbs. Value of fat for feeding per ton of cheeses (20,000 lbs, whey) allowing for a lb. of fat (13 × 6 equal to 980.) (44 × 6 equal to 98.25), whey not pasteurized 98c; whey Difference in feeding value of fat alone

pasteurized, \$2.20. Difference in feeding value of fat alone per ton of cheese (20,000 lbs. of whey) \$2.20 .90) equal to \$1.30.

If the value of fat for feeding is considered greater than 5 cents a lb., considered greater than 5 cents a lb., the difference in feeding value of pasteurized over unpasteurized whey increases in proportion or if 10 cents and 20 cents a lb. of fat be allowed for feeding value the difference in favor of pasteurized whey for fat alone would be \$4.00 and \$5.20 res-pectively a ton of cheese (20,000 lbs. of whey). of whey).

AVERAGE FAT CONTENT OF WHEN

The average per cent. of fat in whey when drawn off vats is about .23 per cent. It is shown that where the whey is not pasteurized, very little fat lost in cheese making is really The lost in cheese making is really available for feeding purposes as most of it rises to top of whey in tanks and whey is drawn from underneath. Where proper pasteurization is practiced, however, practically all the fat is evenly distributed in the whey and each patron gets a proportionate amount

It is also shown that the acidity of It is also shown that the acidity of whey is very much less where past-eurized. Some factories deliver the whey with an acidity not greater than .23 per cent, which is practically as sweet as when drawn of yrats. It is to be regretted that up to the pres-ent time this season large quantities at some of our factories. Owing to a some how, but here the the the the the search of the the the the the the the search of the the the the the the the table the the the the the the the the search of the the the the the the the table the the the the the the the the hold one day's whey. Tanks shall be as near boiler as possible. To install, the searcity of hogs the patrons have not taken away their allowance. This all of which are always in use) it

in the meantime it is very difficult for factory men to handle this sur-plus, and good results from pasteur-ization cannot be obtained where quantities of whey are in the tanks from day to day.

WHEN TO HEAT Heating should begin as soon as whey is drawn, to check development of acidity and so far as possible the growth of other germ life. The tem-perature should be raised to 155 de-tage to 155 degrees. A temperature much over 160 degrees causes albumen to coagulate and thus whey becomes slimy. From and thus whey becomes slimy. From data secured it is shown that, say, 20,000 lbs, of whey in average covered tank if heated to 155 degrees will re-main above 150 degrees from 45 min-utes to one hour. Above 140 degrees from one hour to one and one half hours, and above 130 degrees from two hours to three hours and twenty two hours of the hours and twenty minutes, delivered in patron's can af-ter twenty hours, from 100 degrees to 120 degrees. The tank should be cov-ered to maintain temperature and onomize steam.

From experiments made during last From experiments made during last winter it is shown that with coal at \$4.00 a ton the cost of pasteurizing, heating to 155 degrees, will be from 50 cents to \$1.00 a ton of cheese (20,000 lbs. of whey) or an average cost of 75 cents, depending on size of boiler, location of tanks, method fol-

boiler, location of tanks, method fol-lowed and experience. The illustrations in this issue of Farm and Dairy show five different systems of heating whey (tank cover also shown). Any of which can be ar-ranged to suit nearly all conditions.

should cost from \$5.00 to \$15.00, d pending on the distance steam has to be carried. the that

Make Good Bodied Cheese

Some cheesemakers are inclined to make a rather soft cheese during the winter and spring. This is done for winter and spring. This is done for the purpose of getting a good yield when prices are high, but when warmer weather comes, it is advisable to make a good bodied cheese that will stand the summer weather conditions.

Problems Concerning the Maker

Editor, Farm and Dairy,-In care-fully noting Mr. Nimmo's remarks re-garding cheesemakers' wages, in garding checkemakers' wages, in Farm and Dairy on June 10th let me say that I am quite in harmony with him on the subject. I belive in co-operation of makers along the line not so much in fixing wages but in former the accessence undiffective of fixing the necessary qualifications of the maker. No maker should be en-gaged unless he has proved himself capable of putting up the very finest quality of cheese, no matter what wag-re are ached. s are asked.

Quality should be the consideration first, last, and all the time. In or-

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der to get this we must have the co-operation of both makers and pat-rons. The maker cannot make the finest quality of cheese no matter how whillful he is unless he gets the finest quality of milk. To get such milk every care should be taken in every detail from the feeding of the cow to the shipping of the cheese.

I am very proud of the fact that in our factory this year the patrons have done away with taking the whey home in the cans. The habit of takhave done away with taking the whey home in the cans. The habit of tak-ing whey home in the cans is a di-grace to the cheese industry to the prace to the cheese industry to the Lindsay district. Makers should un-ite and not be responsible for any off flavor, where the whey is return-ed in the can. But then you say the maker has the right to return the maker has the right to return the maker. However, there are conditions that are impossible for the maker to grapple with. There are bacteria in such mild that increase wery rapidly so while the cheese is curing. In conclusion let me say that the majority of makers receive at present no more than an ordinary day's mag.

no more than an ordinary day's wage. They get nothing for their worry and responsibility. Let patrons and makers unite in every way to improve

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June 24, 1909.

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rich milk.] good dairying are promoted ves the The weight-onthe unfair i e same am nade from es milk, while r vary from 8 t normal milk, ially skimmed 6 pounds to discrimina oduction of n

*Extract from a lethods of Payi actories, by L.

Fig.3 (A.A.) Lower and Upper Tanks. (B.) Live steam pipes; (C.) Exhaust steam; (D) Elector or pump. If ejector is used heat to about 125 deg. to 130 deg. in lower tank. Ejector will then deliver to upper tank at about 150 deg. If pump is used heat to deg. in lower tank E STEAM PIPE F LEVE STOP C

(A.A.) Lower and upper tank (B.E.) Live steam in upper tank instead of lower. (O.) Exhaust steam. (D.) Pump or ejector. (F.) To close valve inside of tank to prevent leaking. Can be put on any tank. (O.) Stop cock (B.E.) can be put into low-er tank if desired.



We recently offered a souvenir to every farmer in Western Canada who told us how many

cows he has, and what cream separator he owns. Answers came in great numbers. Over half who answered own cream separators. Over half who own separators have the world famous Sharples Dairy Tubular. Four times as many own Tubulars as own the most popular machine of any other make.

Tubular popularity is the result of Tubular simplicity. These two pictures tell the story. The upper picture shows all there is to the light, simple, sanitary

The lower picture shows the many common "bucket ers and their overworked Tubular sales exceed The manufacture of Tubulars Sharples Dairy Tubular bowl. 52 disks used inside one of the bowl" machines disgusted farmwives are discarding for Tubulars, most, if not all, others combined. is one of Canada's leading in-



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