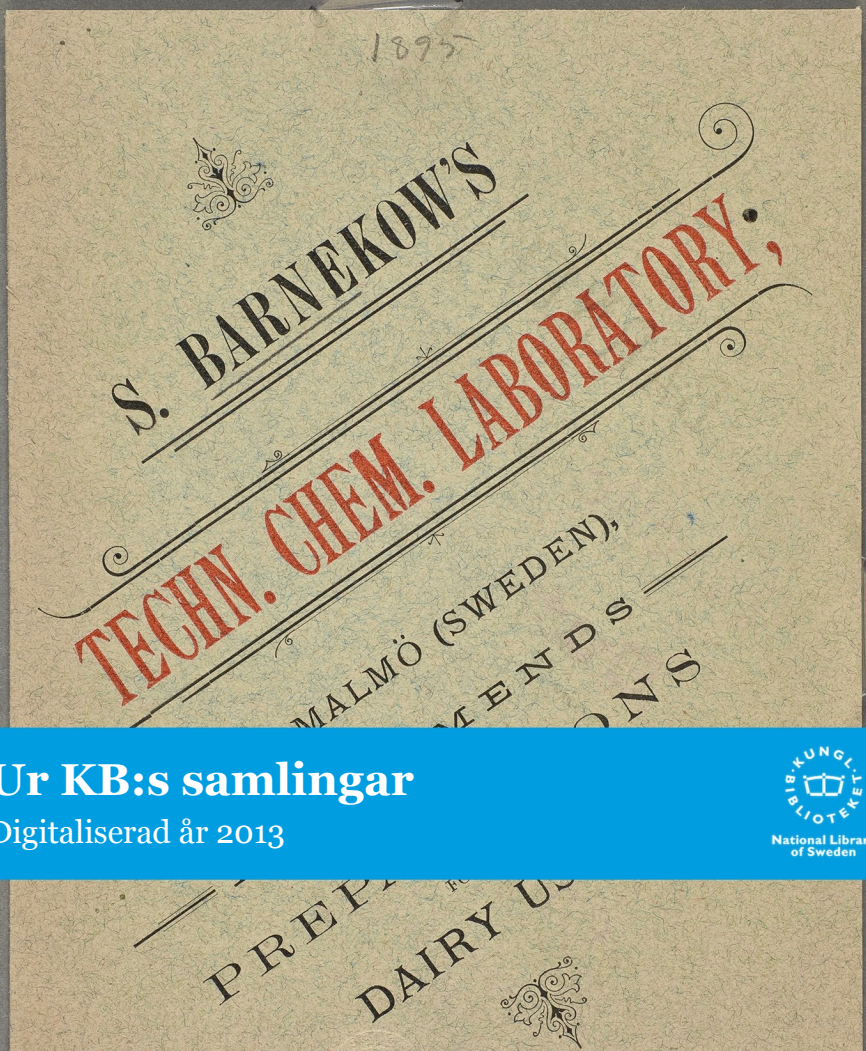

1895

S. BARNEKOW'S

TECHN. CHEM. LABORATORY,

MALMÖ (SWEDEN),

RECOMMENDS

PREPARATIONS

FOR

DAIRY USE.

Sole Agents:

Barnekow's Lactic Acid Ferments,

dry and fluid.

(Zoffmann's preparations.)

These bactereological preparations for production of fine butter are recommended by »Nordisk Mejeri Tidning» and other technical papers, by the greatest authorities on Butter-Making and by numerous dairies in Sweden and Denmark, as preparations of the highest purity.

They are manufactured under the control of the eminent Dairy-Bacteriologist, Professor Zoffmann in Copenhagen and are undoubtedly one of the most important means in these days of rational Butter-Making, for obtaining a fully developed taste and flavor and a highly keepable butter and if properly used, give the greatest security for avoiding faults in the souring. — These preparations are guaranteed to keep in the most different climates.

Besides Barnekow's *dry* Lactic Acid Ferment, which has been known for a long time and frequently imitated, we are now making a Concentrated *fluid* Lactic Acid Ferment in different packings as pr subjoined price list.

Butter made of pure cream soured with these preparations is sure to fetch the highest price in the market.

By our process *only* those milkbacteriae are cultivated in the cream which are *necessary* for the souring, whereas all useless or injurious micro-organisms, producing an abnormal flavor in the butter, are destroyed.

A bottle or glass of these preparations will develop sufficient matter for providing ferment for a creamery of any seize sufficient for 2, 4 or 6 weeks and even more, according to the conditions existing at the creamery and the care bestowed on the culture.

Instruktions for use.

1. Both cultures (dry or fluid) will produce the same result and only one is therefore necessary.

Our *newest* preparation, the *fluid* culture is *concentrated.* One bottle of $^1/_5$ or $^2/_5$ lbs is enough for souring 1 or 2 Gallons of skim milk.

Of the *dry* culture a bottle of $^1/_2$ lbs or 1 lbs is required.

The more concentrated form of the fluid culture makes it specially suitable for Export, besides being easier to mix with the milk.

The white matter remaining in the fluid culture is the reserve nourishment for the bacteriae, and the mixing of it is therefore not necessary.

2. Glasses and bottles of our pure culture of Lactic Acid Ferments, both dry and fluid must only be opened *immediately before being used.*

3. The culture must not be allowed to freeze nor be exposed to a temperatur over 120° F. (49° Cels.) for the dry 78° F. (26° Cels.) for the fluid or to daylight.

4. It must be remembered that these ferments are a colony of living organisms plus their necessary nourishment and require careful preservation.

5. To obtain the full benefit of these cultures, the greatest cleanliness is required in the Dairy and all vessels and utensils must be kept thoroughly clean and scalded or steamed before and after being used.

A. *How must the Lactic Acid Ferment be used?*

6. Measure off 1—2 Gallons of fresh, pure new skim milk in a tinned or enamelled metal vessel, put it in a vat with water to be heated either by vapor let into the water, or over an open fire (and have in readiness a culture of corresponding size for 1 or 2 Gallons of milk).

7. When the milk, after being steadily stirred, has been raised to 176° F. (80° Cels.), it must be kept at this temperature for 2 hours.

Place then the vessel in cold water and let the milk cool down to 86° F. (30° Cels.), after which empty the whole contents of the *freshly* opened bottle into it and mix thoroughly.

8. The stirring ladle and thermometer are then taken out, and the vessel covered with fine muslin (first scalded and wrung) so as to permit the fresh air to come in contact with the milk, which must be kept at 80° F. (28° Cels.) by placing the vessel in a vat, with water of regulated temperature, until the milk becomes thick, which usually takes place after 14—25 hours according to temperature, season and the quality of the milk.

9. When the souring of the milk is ripe, the vessel is placed for cooling in a vat with cold water. Before using this for further propagation, the top layer should be skimmed off.

This soured milk, which we may call the Day-Ferment (durable but 1 or 2 days) must be stirred and should now have a pure sour taste and be slightly gritty in substance, but this will dis-appear in the subsequent treatment.

B. *How has the Day-Ferment to be used?*

10. Take a quantity of pure skim milk in the proportion of one part of milk to 10 parts of the cream at disposal for ripening and heat it to 176° F. (80° Cels.) for 2 hours, then cool down to 86° F. (30° Cels.). When at this temperature add the Day-Ferment produced before and hitherto preserved in ice-cold water, in the proportion of $1^1/_2$ part of the Day-Ferment to 10 parts of the skim milk. (If the requisite quantity of the Day-Ferment should not be large enough for the cream to be soured, you must either *plant it out as before once more* or use greater number of Gallons of milk and more cultures than previously mentioned.)

Mix the same and cover the vessel with muslin after which place it in good packing or in water to be kept at a temperature of 80° F. (28° Cels.) in the same way as the day before until it thickens, which usually takes about 6—10 hours. When sufficiently sour cool down in water to 55° F. (12° Cels.) and keep it at this temperature undisturbed covered with muslin until it is required for use. The top layer must be skimmed off before using it and the acid stirred.

Examples.

11. Supposing 600 lbs of cream is to be ripened, 60 lbs of skim milk would be required to be taken and to this skim milk 9 lbs of the Day-Ferment would have to be added. This would produce 69 lbs of Day-Ferment, 60 lbs of which would be required for the 600 lbs of cream to be ripened and the remaining 9 lbs would be used for the propagation of the next day's requirement.

12. The cream to be ripened should after separation be cooled down to 68° F. (20° Cels.) and then put into a large vessel of wood, and the Day-Ferment added in the proportion already given, as soon as possible and should be thoroughly stirred and left for the next day for churning.

13. The cream must not be over ripened. When it is sufficiently ripe, it should be churned. If you are not ready to churn, the ripened cream must be cooled down to 50° F. (10° Cels.). When ready the temperature must be raised again to the proper temperature for churning.

14. In case the temperature of the new or skim milk during the process of developing the Day-Ferment has been allowed to get below 80° F. (28° Cels.,) and the milk consequently will not thicken in about the time mentioned, it will be necessary at once to put the vessel into water of 80° F. (28° Cels.) *without* stirring or disturbing it, when the thickening will take place in an hour or two, and it will then be necessary to watch it, so that it may be cooled down to 55° F. (12° Cels.) directly it is sufficiently thick, as before instructed.

15. The quantity of Ferment required for a given quantity of average cream we mentioned above, but no absolute rule can be laid down, as the proper proportion will depend largely on the condition of the cream. For instance, where milk is supplied by one person, under the purest possible conditions, less Ferment will be required, than where milk is produced and delivered by many persons under the usual conditions, as in the latter case, greater opposition of impure organisms will render a larger proportion of Ferment necessary.

S. Barnekow's Tech. Chem. Laboratory,
Malmö, Sweden.

Malmö 1895,
Skånska Lithografiska Aktiebolaget.

BARNEKOW'S

Lactic Acid Ferments

dry — fluid.

Butter Color,

concentr. — double concentr.

— Cheese Color, —

concentr. — double concentr.

Cheese Rennet:

a) Cheese Rennet Extract.
b) Cheese Rennet Powder.
c) Cheese Rennet Tablets.