

below medium size, four years old in January, and weighs about 750 pounds.
M. C. W.

	TEMPERATURE.		MILK.		CHURNING.		RETTING.		WITNESSES.
	AIR.	COW.	P.M.	A.M.	JUNE 11 and 12.	13.	14.	15.	
June 6	6	Fair.	56	57	Dry	11	10	10	M. C. Weld.
" 7	"	"	78	102.5	16	18	18	18	Weld and H. E. Alvord.
" 8	"	"	80	102.5	18	19	19	19	Weld and Alvord.
" 9	"	9 Showers	83	102	18	18	18	18	Weld and Alvord.
" 10	"	10 Cold rain.	80	100	17	17	17	17	Weld and Alvord.
" 11	"	11 Cold fog.	83	101	21	22	22	22	Weld and Alvord.
" 12	"	12 Very foggy.	83	102.2	20	20	20	20	Weld and H. H. Fuller.
Seven days (average 83-1.7 lbs. per day)..... 507 lbs. milk.									
Oats, Crushed.....	21		21						
Linseed cake meal.....	10		10						
Peas meal.....	11 1/2		11 1/2						
Wheat Bran.....	5		5						
Total.....	47 1/2		47 1/2						

M. C. WELD,
HENRY E. ALVORD, per W.

[There are two or three obvious typographical errors in the figures as published in the *Jersey Bulletin*, which we have corrected. There is still one discrepancy that we cannot explain, viz., that 10 lbs. 12 oz. added to 12 lbs. 11 oz. of unsalted butter make only 21 lbs. 7 1/2 oz.]

WHY BUTTER IS SALTED.

If the question, "Why is butter salted?" were asked of a considerable number of persons, the most probable reply would be, "Oh, to keep it?" or, "Because every one else does." But that every one does salt butter, and the butter does not keep, together with another fact, that the poorest butter is always abundantly salted, seem to point to a conclusion that salting butter does not have nearly so much to do with its keeping qualities, as does understanding some of the conditions that influence the keeping qualities far more than the salt. Occasionally we find

a butter-maker who can make a butter so fine, and salt it so exactly, that it will steadily improve in flavor as the months and years roll on; but the average maker, salt or no salt, is forced, by the rapidly changing character of his compound of butter fats and salt, to find a market and sell fresh-made butter. It would seem if salt were a preservative of butter, that all the lessons that are published in the *COUNTRY GENTLEMAN* could better be said in one word—salt. But the experience of all makers is that there are conditions of age, temperature and practices of churning to be first taken note of, before the salting stage is reached, or else a butter will result that no age will ripen, or to which time will add no more delicate and exquisite aroma.

Occasionally one hears of a case where butter was kept for a long time, and without loss of flavor; but that it gathered new flavors, or was increased in market value, excites our curiosity. But when one does find butter of considerable age of good flavor, it will always be found that it was most skillfully made of the best materials, and kept at a very low, uniform temperature, and thoroughly excluded from the air; and that salt played second part in its keeping, is evidenced by the usually well made butter, well salted, but by neglecting to keep at a low temperature, and projected from the air, it spoils within a few days.

Butter is essentially an animal oil,—its principal parts being stearin and palmitin, the same as the tallow of the kidneys; but, in addition, it does contain liquid fats, peculiar to it, and giving butter its distinctive characteristic. That these liquid oils, minute in amounts, are liable to quicker decomposition than the other fats composing the main part of the butter, we have no direct proof; but as, in the case of the Danish exhibit of unsalted butter at the Centennial, made three years before, we may conclude that the different elements of butter are equally good keepers.

Then we must look to some other cause for butter not keeping, and for some reason why salt is not a preservative agent. In the usual store butter, we find the butter charged with abundant traces of buttermilk, and the result is, that the butter soon becomes rancid, unless it is kept at a temperature so low as to wholly arrest any chemical changes that would otherwise take place. Buttermilk contains solid matter, the largest part of which is casein or cheesy matter, together with milk sugar and the like. Casein will soon begin to ferment, if left in its natural state, unless the agency of heat is introduced to "cook" it—and all the sooner if the butter is made from acid cream. It is true we salt the curd in cheese, but the curd has been thoroughly cooked;

the digestive principle of rennet has been introduced to change its nature, and, last, it is put under great pressure, and then banded and painted with grease, to exclude the air. But with the caseous matter in the butter it is different, and having had no check put upon it, nor the gases which it will develop cooked out, the salt fails to correct it, and the butter is soon off-flavor, rancid, and lastly worthless.

So good an authority as Prof. John Voelcker says of casein "that when exposed it undergoes fermentation, which causes a partial breaking up of the fats of butter, and resolves them into their constituents—the acids, and these give rancidity * * * but when milk is scalded, the casein becomes in part insoluble, and the decomposition is longer in taking place." And, again, "the keeping of the butter is attributed to exclusion of the casein from the butter by washing with fresh water, several times repeated, and then working out the surplus moisture," giving first to scalding curd or casein to render its actions latent, and of more slow decomposition, as in the case of scalded cream, and second to thorough washing of butter from ripe cream, as the real reasons for butter keeping well, but does not mention salt once as the chief agent in making a long-keeping butter.

It is not my purpose to declare against salting butter, for in a secondary place salt has its uses in butter-making; but to try to show that good, long-keeping butter is dependent upon something else than salt to give it staying quantities. Salt may for a time disguise imperfections in butter, but between a salt taste and a genuine butter flavor there is a wide gulf; while he who depends upon salt to bridge over the period between manufacture and consumption, will often find himself without short connections.

That there is no standard for the uniform salting of butter, and all degrees of saltiness are called for by the consumer, proves that there is a great demand for salt in butter from the education of habit, rather than from the real needs in the preservation of the table fat. Butter may need salt to some extent to absorb surplus moisture, and mayhap "pickle" (as in the case of beef and pork) the membranous matter that it is asserted exists in the milk; but if the cream is churned when "ripe," not sour, and before the acids have commenced their work upon the fatty oils, and the butter is thoroughly washed from its sugar and caseous matter, the agency of salt to keep the product will become less to be relied upon—and found wanting—and the consumer more often delighted with a clear, pure butter, in contrast to a butter kept with salt, but odorous with butyric acid.

[J. G.] Western Reserve, O.
—Country Gentleman.