

COMPOSITION OF AUSTRALIAN SWEETENED CONDENSED MILK.

BY E. HOLL MILLER.

(Read at the Meeting, December 6, 1911.)

THE following two tables give the composition of samples of five different brands of sweetened condensed milk purchased in Victoria, and six purchased in New South Wales.

These figures are of some interest, as all the milks were manufactured in Australia.

TABLE I.
Purchased in Victoria.

	Brand No. 1.	Brand No. 2.	Brand No. 3.	Brand No. 4.		Brand No. 5.		
				Sample a.	Sample b.	Sample a.	Sample b.	Sample c.
Total solids ...	72·18	72·96	73·740	76·80	76·24	75·00	74·99	74·74
Fat ...	10·03	11·41	10·800	10·50	10·63	10·11	10·27	9·61
Ash ...	1·91	1·90	1·870	2·04	2·01	1·93	1·90	1·94
Solids-not-fat ...	62·15	61·55	61·940	66·30	65·61	64·89	64·72	65·13
Protein (N × 6·38)	9·68	9·20	9·300	9·69	10·12	9·69	9·00	9·05
Total sugars ...	50·56	50·45	50·700	54·59	53·48	53·27	53·82	54·14
Chlorine ...	0·19	0·18	0·188	0·18	0·24	0·23	0·22	0·23
Acidity ...	43·8°	51°	46·9°	48·6°	49·4°	46·5°	45·5°	45·6°

TABLE II.
Purchased in New South Wales.

	Brand No. 1.	Brand No. 2.	Brand No. 3.	Brand No. 4.	Brand No. 5.	Brand No. 6.
Total solids ...	75·87	67·53	76·14	74·77	71·38	75·87
Fat ...	10·68	9·41	9·28	9·81	9·93	9·05
Ash ...	2·10	1·82	2·11	1·82	1·84	2·10
Solids-not-fat ...	65·19	58·12	66·86	64·96	61·45	66·82
Protein (N × 6·38)...	10·25	9·14	9·84	8·95	9·39	9·10
Total sugars ...	52·84	47·16	59·91	54·19	50·22	55·62
Chlorine ...	0·36	0·20	0·21	0·19	0·19	0·24
Acidity ...	51°	56·8°	51·84°	44·64°	50·05°	49·75°

For analysis the whole of the contents of the tin were turned out into a basin and thoroughly mixed, and the portions required were taken from the mixed sample.

The fat was estimated by Richmond's modification of the Rose-Gottlieb method. Other constituents were estimated in the usual manner.

Tyrosin was detected in all the above samples with the exception of Nos. 1 and 3, Table I.

I have found that tyrosin makes its appearance in sweetened condensed milk between the end of the third and fourth month after manufacture. Samples six months old show distinct crystalline tufts of tyrosin, which can generally be detected on the first slide prepared, when examined under the microscope with a one-sixth inch objective.

Samples twelve months old show fairly large round crystalline feathery tufts. These tufts of crystals all approximate to the same size in the same tin of milk, and the size and number of them form a fairly good criterion of the age of the sample.

