mean. Since the A. O. C. S. sample is 200 gms. we will assume 2000 seed to be represented. The A. O. C. S. values will be multiplied by $\sqrt{2000}$ and the 10 seed values by $\sqrt{10}$. The ten seed values should be given a further correction for the small size of the sample. This correction is $\sqrt{\frac{10}{9}}$

Tabulated, the results are shown below.

The calculation of the standard deviation of the individual seed from the standard deviation for groups of 10 is not too exact, since there are only ten samples for each large sample. There is undoubted significance, however, in the fact that the standard deviation of individual seed calculated from the collaborators is greater in every case than when calculated from samples of 10.

To the author, the relationships above indicate that the sampling of the sample itself is in need of attention. The collaborator may withdraw a portion of seed from the can without proper mixing. The hulling and separating may be carried out in such a way that the 40 gms. of meats are not truly representative of the entire meats in the seed.

It is recommended that the collaborators take special precautions in sampling the samples, both initially and after the hulling operation.

Seed No.	1	2	3	4	5	6	7	8	9	10
Std. Dev. AOCS	.25	.16	.15	.11	.10	.26	.30	.08	.06	.10
Std. Dev. individual seed (above x $\sqrt{2000}$)	11.2	7.2	6.71	3.82	4.47	11.62	13.41	3.58	2.68	4.47
Std. Dev. 10	1.88	.56	1.21	.316	.135	1.52	2.87	.196	.55	.143
Std. Dev. individual seed (above x $\sqrt{\frac{10}{9}}$ x $\sqrt{10}$)	6.26	1.87	4.03	1.05	.449	5.07	9.56	.66	1.83	.478

Note on the Detection of Myristic Acid in Alfalfa Seed Oil

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IN an earlier communication on the subject of the saturated fatty acid fraction of alfalfa seed oil[1], it was reported that indications had been found for the presence herein of myristic acid and that two of the others had been identified as palmitic and stearic. The latter pair, apparently because of the peculiar quantitative relationships existing between them in this case, had been regarded by others as a single entity, or margaric acid. Our conclusion in respect to myristic acid was in part based upon the fact that replicated fractional distillations of the methyl esters of the mixed saturated acids had yielded a fraction having a molecular weight which, in *a priori* grounds, suggested a two-component mixture consisting of 65 mol-pct. myristic ester and 35 mol-pct. palmitic. The molecular weight of the regenerated fatty acids had been found to be 238.3, or that of a mixture consisting of 64.6 mol-pct. of the former and 35.4 mol-pct. of the latter.

Because of the certainty of recovering, for characterization purposes, but very small quantities of material in view of the inevitable losses to be expected in attempts at affecting a separation of the constituents of this fraction, it was obviously desirable to approach the problem of establishing identity from the simpler physical rather than the more involved chemical angle. To that end, the solidification point of the mixture was determined.

The mixture was found to have a solidification point of 46.45° C. On referring this value to the binary acid solidification point curve for myristic-palmitic acids[2], it becomes apparent that a myristic acid content of either 64.3 or 80.5 mol-pct. is indicated. Inasmuch, however, as the former value, rather than the latter, is in substantial agreement with that obtained empirically by calculation, it follows that this fact lends confirmation to the conclusions as to the composition of the fraction in question.

This acid is only a minor component of the whole number comprising alfalfa seed oil. Fractional distillation of a 27-gram portion of the methyl esters of its saturated fatty acids yielded a small quantity containing approximately 0.9 gram of this acid, equivalent to *ca* 1.28 per cent of the oil. Its occurrence in alfalfa seed oil has not been previously reported.

LITERATURE CITED
1. Schuette, H. A., and Vogel, H. A., This Journal, 16, 17 (1939).
2. Schuette, H. A., and Vogel, H. A., This Journal, 16, 209 (1939).