

from not less than five (5) grains of the vanilla bean (the dried cured fruit of *Vanilla planifolia*.)

Vanilla extract has been the subject of extended work by these laboratories on three (3) occasions, and the conclusions reached are stated in Bulletin No. 201 as follows:—

1. Extracts containing coumarin should be required to announce the fact either by explicit statement, or by being sold as compound or mixtures.

2. The use of alcohol is necessary in preparing an extract of vanilla, not so much to dissolve the vanillin, which is rendered more soluble by the presence of sugar, as in order to get the characteristic resins into solution. For this reason an extract cannot meet the requirements of a true vanilla bean extract unless it contains from 30 to 40 per cent of alcohol.

3. Samples containing totally more than 0.2 per cent of vanillin are presumably made not from the vanilla bean, but at least in part, from synthetic vanillin.

4. The standards above referred to will be defined with greater exactitude when our experience has furnished us with additional data such as to enable us to fix numerical limits for resins, vanillin, and other essential constituents. In the meantime it must suffice to classify on the basis of already acquired knowledge. In this regard, it must be concluded that an extract made with alcohol decidedly less than 30 per cent strength (volume) is deficient in the resinous matters of vanilla bean.

Where vanillin is decidedly above 0.200 per cent, the extract is to be regarded as artificial, as containing synthetic vanillin.

Where coumarin is present, as well as vanillin, the extract should be sold as a mixture or compound.

The following synopsis in which classifications is based upon the above considerations is interesting:—

Year.	Bulletin.	Total samples.	Genuine.	Mixture.	Artificial.	Percentage genuine.
1903	89	21	0	20	1	0
1909	91	77	7	37	33	9
1912	95	80	13	40	27	16

Of those classified as genuine, 2 samples of the collection of 1912 contained decidedly less than 30 per cent alcohol, and these should probably be designated as *doubtful* rather than as genuine.

It is satisfactory to note that the percentage of genuine samples found on the Canadian market is decidedly on the increase; and it is hoped that, on our next inspection, we shall find still more notable increase. Perhaps the most important advantage to be looked for, as a result of having legal standards for the article, is the correct labelling of vanilla extract. After this date, it will be possible to declare adulteration in the case of extracts which are offered under the name of Vanilla Extract, which being in reality prepared from synthetic vanillin, in whole or in part, or containing coumarin. Such extracts are not forbidden, and for many purposes they may be regarded as satisfactory; but it will be necessary that they should be correctly labelled, and thus be offered for what they really are.

I beg to recommend the publication of this report as Bulletin No. 245.

I have the honour to be, Sir,
Your obedient servant,

A. MCGILL,
Chief Analyst.