

**CIHM
Microfiche
Series
(Monographs)**

**ICMH
Collection de
microfiches
(monographies)**



Canadian Institute for Historical Microreproductions / Institut canadien de microreproductions historiques

© 1998

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming are checked below.

- Coloured covers / Couverture de couleur
- Covers damaged / Couverture endommagée
- Covers restored and/or laminated / Couverture restaurée et/ou pelliculée
- Cover title missing / Le titre de couverture manque
- Coloured maps / Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black) / Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations / Planches et/ou illustrations en couleur
- Bound with other material / Relié avec d'autres documents
- Only edition available / Seule édition disponible
- Tight binding may cause shadows or distortion along interior margin / La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure.
- Blank leaves added during restorations may appear within the text. Whenever possible, these have been omitted from filming / Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.
- Additional comments / Commentaires supplémentaires:

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- Coloured pages / Pages de couleur
- Pages damaged / Pages endommagées
- Pages restored and/or laminated / Pages restaurées et/ou pelliculées
- Pages discoloured, stained or foxed / Pages décolorées, tachetées ou piquées
- Pages detached / Pages détachées
- Showthrough / Transparence
- Quality of print varies / Qualité inégale de l'impression
- Includes supplementary material / Comprend du matériel supplémentaire
- Pages wholly or partially obscured by errata slips, tissues, etc., have been refilmed to ensure the best possible image / Les pages totalement ou partiellement obscurcies par un feuillet d'errata, une pelure, etc., ont été filmées à nouveau de façon à obtenir la meilleure image possible.
- Opposing pages with varying colouration or discolourations are filmed twice to ensure the best possible image / Les pages s'opposant ayant des colorations variables ou des décolorations sont filmées deux fois afin d'obtenir la meilleure image possible.

This item is filmed at the reduction ratio checked below /
Ce document est filmé au taux de réduction indiqué ci-dessous.

| | | | | | | | | | | | | | | | | | | | | |
|-----|-----|--|--|-----|-----|--|--|-----|-----|--|--|-----|-----|--|--|-----|-----|--|--|-----|
| | | | | | | | | | | | | | | | | | | | | |
| 10x | 14x | | | | 18x | | | | 22x | | | | 26x | | | | 30x | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | 12x | | | 16x | | | | 20x | | | | 24x | | | | 28x | | | | 32x |

The copy filmed here has been reproduced thanks to the generosity of:

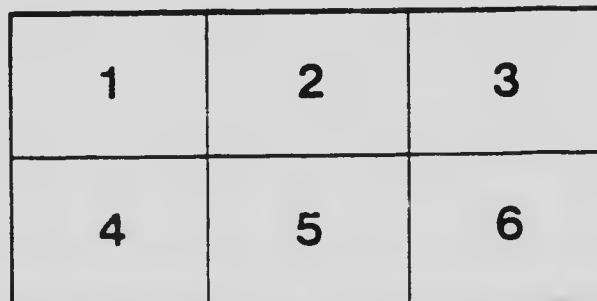
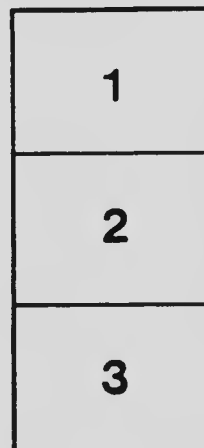
National Library of Canada

The images appearing here are the best quality possible considering the condition and legibility of the original copy and in keeping with the filming contract specifications.

Original copies in printed paper covers are filmed beginning with the front cover and ending on the last page with a printed or illustrated impression, or the back cover when appropriate. All other original copies are filmed beginning on the first page with a printed or illustrated impression, and ending on the last page with a printed or illustrated impression.

The last recorded frame on each microfiche shall contain the symbol \rightarrow (meaning "CONTINUED"), or the symbol ∇ (meaning "END"), whichever applies.

Maps, plates, charts, etc., may be filmed at different reduction ratios. Those too large to be entirely included in one exposure are filmed beginning in the upper left hand corner, left to right and top to bottom, as many frames as required. The following diagrams illustrate the method:



L'exemplaire filmé fut reproduit grâce à la générosité de:

Bibliothèque nationale du Canada

Les images suivantes ont été reproduites avec le plus grand soin, compte tenu de la condition et de la netteté de l'exemplaire filmé, et en conformité avec les conditions du contrat de filmage.

Les exemplaires originaux dont la couverture en papier est imprimée sont filmés en commençant par le premier plat et en terminant soit par la dernière page qui comporte une empreinte d'impression ou d'illustration, soit par le second plat, selon le cas. Tous les autres exemplaires originaux sont filmés en commençant par la première page qui comporte une empreinte d'impression ou d'illustration et en terminant par la dernière page qui comporte une telle empreinte.

Un des symboles suivants apparaîtra sur la dernière image de chaque microfiche, selon le cas: le symbole \rightarrow signifie "A SUIVRE", le symbole ∇ signifie "FIN".

Les cartes, planches, tableaux, etc., peuvent être filmés à des taux de réduction différents. Lorsque le document est trop grand pour être reproduit en un seul cliché, il est filmé à partir de l'angle supérieur gauche, de gauche à droite, et de haut en bas, en prenant le nombre d'images nécessaire. Les diagrammes suivants illustrent la méthode.

MICROCOPY RESOLUTION TEST CHART

(ANSI and ISO TEST CHART No. 2)



4.5

5.0

5.6

6.3

7.1

8.0

9.0

10

11.2

12.5

14

16

18

20

22.5

25

28

32

36

40



APPLIED IMAGE Inc

165 East Main Street
Rochester, New York 14609 USA
(716) 482-0300 - Phone
(716) 288-5984 - Fax

LABORATORY
OF THE
INLAND REVENUE DEPARTMENT
OTTAWA, CANADA

BULLETIN No. 252

GROUND CLOVES
A STUDY.

LABORATORY
OF THE
INLAND REVENUE DEPARTMENT
OTTAWA, CANADA.

BULLETIN No. 252

GROUND CLOVES
A STUDY.

OTTAWA, March 14, 1913.

WM. HIMSWORTH, Esq.,
Acting Deputy Minister, Inland Revenue.

SIR,—I have the honour to present you a report upon 141 samples of Ground Cloves. The samples were purchased by our Inspectors on the open market, throughout Canada, chiefly of retail grocers who are the usual purveyors of the article.

Cloves are found in the retail trade both in the unground and in the ground state. The form of this spice is so distinctive that, when sold in the unground condition it admits of no sophistication, except that it may have had its essential oil less removed by an extraction process. The demand for this oil (*Eugenol*) of artificial vanillin is very considerable, and doubtless accounts for the amount of exhausted cloves on the market.

We have made two extensive inspections of cloves in these laboratories. The first is reported in Bulletin 73 (October, 1900). This is chiefly a study of whole cloves, and was undertaken in consequence of complaints received from a reputable English house, concerning the importation of exhausted cloves into Canada. Nineteen samples of whole cloves and twenty-two of ground cloves were submitted to analysis; and the results were such as to demonstrate the need of defining limits, particularly as regards the content of volatile oil, for the legally genuine article.

The following conclusion was reached as a result of the work reported in Bulletin 73:—

‘No sample of Cloves claiming to be of good quality, should yield less than 14 per cent of volatile oil when assayed by the methods which are herein described. If total volatile matter is determined by treatment with petroleum ether, before drying at 98° C., the minimum volatile matter found should be at least 16 per cent by weight.’

38695—1½

The Committee upon Food Standards of the United States (Circ. 19, Department of Agriculture, Washington, June, 1906) recommends the following standards for Cloves:—

'The dried flower buds of *Caryophyllus Aromaticus*, which contain not more than 5 per cent of clove stems; not less than 10 per cent Volatile Ether Extract; not less than 12 per cent quercitannic acid; not more than 8 per cent total ash; not more than 0.5 per cent ash insoluble in hydrochloric acid; not more than 10 per cent crude fibre.'

The volatile Ether Extract mentioned in this definition is not strictly identical with volatile oil, for the reason that it is determined on the cloves after drying by a method which involves a considerable, and an unknown loss of volatile oil. The limit of 10 per cent for volatile Ether Extract named in the United States definition is certainly too low to apply to volatile oil.

In July and August of 1907, a collection of 145 samples of ground Cloves was made and is reported in Bulletin 173. It was found possible to classify only 52 per cent of this collection as undoubtedly genuine. On the other hand, the absence of legally established limits made it impossible to declare adulteration except in cases where foreign matters were present.

Although the work reported in Bulletins 73 and 173 furnishes material for a tentative scheme of assaying cloves, it was felt that some points needed further elucidation, and the present report is the result. The following conclusions seem to be justified as a study of the whole:—

1. The total ash of cloves, free from stems should not exceed 6 per cent.
2. Presence of stems considerably increases the Ash.
3. Ash insoluble in hydrochloric acid is very low in clove buds, not exceeding two or three-tenths of one per cent.
4. Addition of stems notably increases the acid-insoluble Ash.
5. The volatile oil of cloves is the most important character, and is at the same time the component which gives the spice its value as a condiment. Determination of volatile oil is complicated by the fact that any moisture (normally 6-7 p.c.) comes off with the oil; and attempts to dry the clove, necessarily result in loss of volatile oil.
6. The best way of drying cloves would appear to be the use of sulphuric acid in vacuo. The point at which the oil comes off in notable amount being indicated by discolouration of the acid.
7. The volatile oil of cloves should not be less than 14 per cent by weight of the cloves, and may reach 19 per cent.
8. The total volatile matter of cloves, consisting of water and volatile oil should not be less than 16 per cent, and may reach 25 per cent of the weight of the cloves.
9. The fixed oil of cloves, determined by extraction on the properly prepared sample should be about 10 per cent of the weight of the cloves, when estimated by loss. This component seems to be more variable than the others, and to be less affected by the commercial treatment of the clove for Eugenol.

On account of their high content in oil, manufacturers find it difficult (some say impossible) to grind cloves without addition of something to take up the excess of oil. For this purpose, Pimento (all-spice) seems the most in use; but clove-stems, and possibly certain starches, may be employed. The use of pimento, or other suitable matter, for such purpose does not constitute adulteration, provided that the article be sold as a compound or mixture. (R.S. 1906, Chap. 133, Sec. 24a).

Over one hundred samples of the present collection contain pimento, in amounts varying from a small percentage to apparently 30 or 40 per cent of the sample. This consideration with the fact that the cost of pimento is only about one-half the cost of the cloves, makes it evident that not only must the fact of admixture be

declared, but a statement of the amount of each ingredient as well, in order that the public be properly informed as to the article supplied.

If we accept as normal such samples as contain not less than 14 per cent of volatile oil, 78 samples of this collection will be classed as normal. Among these, however, there are great differences in quality as may be seen below:—

| | |
|--|-------------|
| 14 to 15 p.c. volatile oil in. | 27 samples. |
| 16 to 17 " " | 19 " |
| 18 to 19 " " | 22 " |
| 20 or more p.c. " | 10 " |

It would therefore appear reasonable to require a minimum of at least 14 per cent volatile oil for ground cloves. Many samples herein marked 'normal' exhibit large admixture of pimento starch; and since pimento contains from 3 to 6 per cent of Eugenol, it might be possible for a mixture of cloves having 20 per cent oil with pimento having 5 per cent oil, to contain 40 per cent of pimento and still yield 14 per cent of Essential Oil on analysis.

The following scheme of standards for Ground Cloves is suggested as consistent with the knowledge we possess of the commercial article:—

1. *Cloves*.—The flower-buds of *Caryophyllus Aromaticus*, L., containing not more than (5) per cent of Clove stems; dried but not otherwise treated.

2. *Ground Cloves*.—Cloves, reduced to powder by grinding, without addition of other matters; and possessing the following characters:—

| | Per cent. |
|--|-----------|
| (a) Total ash, not exceeding. | 8 |
| (b) Sand, not exceeding. | 0.5 |
| (c) Moisture, not exceeding. | 10 |
| (d) Volatile Oil, not less than. | 14 |
| (e) Tannic Acid, not less than. | 12 |
| (f) Crude fibre, not more than. | 10 |

3. *Ground Cloves, compound or mixture*.—Cloves reduced to powder by grinding, in admixture with not more than 50 per cent of a harmless substance or substances of a stated nature.

The work now recorded will form the basis of recommendations for standardization of this article with as little delay as possible.

I beg to recommend publication of this as Bulletin No. 252.

I have the honour to be, Sir,

Your Obedient Servant,

A. MCGILL,

Chief Analyst.

| Date of Collection. | Nature of Sample. | No of Sample. | Name and Address of Vendor. | Cost. | | Inspector's Report. (Is not an expression of opinion). |
|---------------------|-------------------|---------------|-----------------------------|-----------|--------|---|
| | | | | Quantity. | Cents. | |

DISTRICT OF NOVA SCOTIA—

| 1912. | | | | | | |
|-----------|------------------------|-------|---------------------------------------|-------|-----|-------|
| Sept. . . | Ground Cloves. | 46841 | Wentzell's, Ltd., Halifax, N.S. | 1 lb. | 25 | ..... |
| " 13 | " | 46842 | Jno. P. Mott & Co., Halifax, N.S. | 1 " " | nil | ..... |
| " 13 | " | 46843 | Nat. Drug & Chem. Co., Halifax, N.S. | 1 " " | 25 | ..... |
| " 16 | " | 46841 | Morrison & Williams, Halifax, N.S. | 1 " " | 22 | ..... |
| " 17 | " | 46845 | Bauld Bros., Ltd., Halifax, N.S. | 1 " " | 18 | ..... |
| " 17 | " | 46846 | A. L. Doyle & Co., Halifax, N.S. | 1 " " | 21 | ..... |
| " 17 | " | 46847 | Jas. Scott & Co., Halifax, N.S. | 1 " " | 30 | ..... |
| " 18 | " | 46848 | R. B. Seeton & Co., Halifax, N.S. | 1 " " | 24 | ..... |
| " 19 | " | 46849 | W. H. Schwartz, & Sons, Halifax, N.S. | 1 " " | 20 | ..... |
| Oct. 7 | " | 46850 | Payzant & King, Halifax, N.S. | 1 " " | 30 | ..... |

DISTRICT OF PRINCE EDWARD ISLAND—

| | | | | | | |
|---------|------------------------|-------|--|-------|----|-------|
| Sept. 6 | Ground Cloves. | 46267 | R. T. Maddigan & Co., Charlottetown, P.E.I. | 1 lb. | 30 | ..... |
| " 6 | " | 46268 | J. G. Jamieson, Charlottetown, P.E.I. | 1 " " | 48 | ..... |
| " 7 | " | 46269 | A. Gates & Co., Charlottetown, P.E.I. | 1 " " | 30 | ..... |
| " 9 | " | 46270 | Coffin & Co., Charlottetown, P.E.I. | 1 " " | 30 | ..... |
| " 10 | " | 46271 | The 2 Mac's, Charlottetown, P.E.I. | 1 " " | 30 | ..... |
| " 10 | " | 46272 | The McKinnon Drug Co., Charlottetown, P.E.I. | 1 " " | 40 | ..... |
| " 13 | " | 46273 | W. W. Walker, Charlottetown, P.E.I. | 1 " " | 30 | ..... |
| " 12 | " | 46274 | J. G. Pasmore, Charlottetown, P.E.I. | 1 " " | 48 | ..... |
| " 14 | " | 46275 | Reddin Bros., Charlottetown, P.E.I. | 1 " " | 30 | ..... |
| " 17 | " | 46276 | George Forbes, Vernon River Bridge. | 1 " " | 24 | ..... |

GROUND CLAVES.

| Results of Analysis. | | | | | | | | | | | No. of Sample. | Remarks and Opinion of Chief Analyst. |
|----------------------|-----------------|---------------------------|------|--------|------------|------------|---------|--------------|----------------------------|--|----------------|---------------------------------------|
| Ash. | | Volatile matter at 100°C. | | | Fixed oil. | Total oil. | Tannin. | Crude Fibre. | Microscopical Examination. | | | |
| Total. | Acid Insoluble. | Moisture. | Oil. | Total. | | | | | | | | |

R. J. WAUGH, INSPECTOR.

| | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|-------|-----------------------|--|
| p. c. | p. c. | p. c. | p. c. | p. c. | p. c. | p. c. | p. c. | p. c. | p. c. | | | |
| 6.35 | 0.30 | 5.90 | 17.75 | 23.65 | 3.80 | 21.55 | ..... | ..... | A few stems... | 46841 | Normal. | |
| 5.35 | 0.20 | 5.45 | 16.75 | 22.20 | 3.75 | 20.50 | ..... | ..... | " | 46842 | " | |
| 5.80 | 0.15 | 5.85 | 16.95 | 22.80 | 3.85 | 20.80 | ..... | ..... | A few stems and large amount of starch (Pimento). | 46843 | " | |
| 5.35 | 0.15 | 3.90 | 13.20 | 17.40 | 3.95 | 17.45 | ..... | ..... | A few stems and starch (Pimento). | 46844 | Low in essential oil. | |
| 5.45 | 0.20 | 5.50 | 14.35 | 19.85 | 4.40 | 18.75 | ..... | ..... | Stems and a little starch (Pimento). | 46845 | Normal. | |
| 5.90 | 0.20 | 4.90 | 13.95 | 18.75 | 4.20 | 18.15 | ..... | ..... | Numerous stems. | 46846 | " | |
| 5.90 | 0.20 | 4.45 | 15.90 | 20.35 | 4.50 | 20.40 | ..... | ..... | A few stems... | 46847 | " | |
| 6.00 | 0.10 | 4.05 | 16.20 | 20.25 | 4.35 | 20.55 | ..... | ..... | A few stems and a little starch (Pimento). | 46848 | " | |
| 5.60 | 0.20 | 4.25 | 17.95 | 22.20 | 4.65 | 22.60 | ..... | ..... | Stems and starch (Pimento). | 46849 | " | |
| 6.00 | 0.15 | 4.05 | 17.75 | 21.80 | 4.45 | 22.20 | ..... | ..... | Numerous stems and large amt. of starch (Pimento). | 46850 | " | |

WM. A. WEEKS, INSPECTOR.

| | | | | | | | | | | | |
|------|------|------|-------|-------|------|-------|-------|-------|--|-------|----------------------------|
| 5.90 | 0.20 | 6.55 | 14.80 | 21.35 | 2.85 | 17.65 | ..... | ..... | A few stems... | 46267 | Normal. |
| 5.60 | 0.20 | 6.05 | 18.10 | 24.15 | 3.25 | 21.35 | ..... | ..... | " | 46268 | " |
| 5.50 | 0.10 | 6.70 | 17.40 | 24.10 | 3.30 | 20.70 | ..... | ..... | Starch (Pimento). | 46269 | " |
| 6.00 | 0.25 | 6.75 | 15.95 | 22.70 | 3.20 | 19.15 | ..... | ..... | Numerous stems and starch (Pimento). | 46270 | " |
| 5.80 | 0.20 | 6.45 | 15.80 | 22.25 | 3.80 | 19.60 | ..... | ..... | A few stems... | 46271 | " |
| 5.55 | 0.15 | 6.85 | 13.35 | 20.20 | 3.55 | 16.90 | ..... | ..... | A few stems and a little starch (Pimento). | 46272 | Low in essential oil. |
| 5.25 | 0.15 | 7.20 | 12.20 | 19.40 | 3.60 | 15.80 | ..... | ..... | Stems and starch (Pimento). | 46273 | " |
| 6.30 | 0.50 | 7.20 | 14.40 | 21.60 | 2.85 | 17.25 | ..... | ..... | A few stems, traces of starch (Pimento). | 46274 | Normal. |
| 4.10 | 0.10 | 4.45 | 8.60 | 13.05 | 3.15 | 11.75 | 10.27 | 11.5 | Large amt. of starch (Pimento). | 46275 | Very low in essential oil. |
| 5.90 | 0.25 | 6.50 | 15.50 | 22.00 | 3.15 | 18.65 | ..... | ..... | A few stems... | 46276 | Normal. |

| Date of Collection. | Nature of Sample. | No. of Sample. | Name and Address of Vendor. | Cost. | | Inspector's Report. (Is not an expression of opinion). |
|---------------------|-------------------|----------------|-----------------------------|-----------|--------|---|
| | | | | Quantity. | Cents. | |

DISTRICT OF BRUNSWICK—

| 1912. | | | | | | | |
|-------|----|--------------------|-------|---|-------------------|----|----------------------|
| Sept. | 4 | Ground Cloves..... | 50440 | Dearborn & Co., St. John, N.B. | $\frac{3}{4}$ lb. | 18 | ..... |
| " | 4 | " | 50441 | Puddington, Wetmore & Mor- rison, Ltd., St. John, N.B. | $\frac{3}{4}$ " | 21 | ..... |
| " | 4 | " | 50442 | G. E. Barbour Co., Ltd., St. John, N.B. | $\frac{3}{4}$ " | 27 | ..... |
| " | 5 | " | 50443 | H. W. Cole, Ltd., St. John, N.B. | $\frac{3}{4}$ " | 21 | ..... |
| " | 5 | " | 50444 | McCready & Son, Ltd., St. John, N.B. | $\frac{3}{4}$ " | 18 | ..... |
| Oct. | 8 | " | 50445 | James Burgess & Son, Grand Falls, N.B. | 3 pkgs | 30 | ..... |
| " | 8 | " | 50446 | Jas. F. McCluskey, Grand Falls, N.B. | 3 " | 30 | "Purity" Brand..... |
| " | 15 | " | 50447 | Mills, Eveliegh Co., Ltd., Sussex, N.B. | $\frac{3}{4}$ lb. | 27 | "Signet" Brand..... |
| " | 16 | " | 50448 | Mrs. P. White, Moncton, N.B. | 3 pkgs | 25 | "Pyramid" Brand..... |
| " | 19 | " | 50449 | A. Normand Desbrisay, Bat- hurst, N.B. | $\frac{3}{4}$ lb. | 30 | ..... |

DISTRICT OF QUEBEC—

| | | | | | | | |
|-------|----|--------------------|-------|--|-------------------|----|-------|
| Sept. | 3 | Ground Cloves..... | 37212 | Eudore Delisle, 2 Ave Tache- reau, Quebec. | $\frac{3}{4}$ lb. | 30 | ..... |
| " | 4 | " | 37213 | O. Lacroix, 19 Rue St. Joseph, Quebec. | $\frac{3}{4}$ " | 30 | ..... |
| " | 5 | " | 37214 | W. Cantin, 133 Rue du Pont, Quebec. | $\frac{3}{4}$ " | 30 | ..... |
| " | 6 | " | 37215 | G. Gingras, 268 Rue du Roi, Quebec. | $\frac{3}{4}$ " | 30 | ..... |
| " | 9 | " | 37216 | Cantin & frère, 271 Rue St. Joseph. | $\frac{3}{4}$ " | 30 | ..... |
| " | 10 | " | 37217 | C. S. Riverin, 50 Rue de la Couronne, Quebec. | $\frac{3}{4}$ " | 30 | ..... |

GROUND CLOVES.

| Results of Analysis. | | | | | | | | | | | No. of Sample | Remarks and Opinion of the Chief Analyst. |
|----------------------|-----------------|---------------------------|------|--------|------------|------------|---------|--------------|----------------------------|--|---------------|---|
| Ash. | | Volatile matter at 100°C. | | | Fixed oil. | Total oil. | Tannin. | Crude Fibre. | Microscopical Examination. | | | |
| Total. | Acid Insoluble. | Moisture. | Oil. | Total. | | | | | | | | |

J. C. FERGUSON, INSPECTOR.

| p. c. | p. c. | p. c. | p. c. | p. c. | p. c. | p. c. | p. c. | p. c. | p. c. | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|-------|----------------------------|
| 6.20 | 0.10 | 2.95 | 11.65 | 14.60 | 5.15 | 16.80 | ... | ..... |  | A few stems and a large amt. of starch(Pimento) | 50440 | Low in essential oil. |
| 5.70 | 0.20 | 6.00 | 14.65 | 20.65 | 4.25 | 18.90 | ..... | ..... |  | Numerous stems and a little starch(Pimento) | 50441 | Normal. |
| 5.90 | 0.25 | 4.65 | 17.20 | 21.85 | 4.25 | 21.45 | ..... | ..... |  | A few stems.... | 50442 | " |
| 5.80 | 0.20 | 5.70 | 14.50 | 20.70 | 4.90 | 19.40 | ..... | ..... |  | A few stems and a little starch (Pimento). | 50443 | " |
| 6.65 | 0.20 | 2.85 | 12.25 | 15.10 | 3.50 | 15.75 | ..... | ..... |  | A few stems and a little starch (Pimento). | 50444 | Low in essential oil. |
| 6.50 | 0.20 | 3.20 | 11.00 | 14.20 | 4.45 | 15.45 | ..... | ..... |  | Numerous stems and a large amt. of starch (Pimento). | 50445 | " |
| 5.85 | 0.30 | 5.15 | 16.15 | 21.30 | 4.40 | 20.55 | ..... | ..... |  | A few stems and a large amt. of starch(Pimento) | 50446 | Normal. |
| 5.70 | 0.20 | 5.05 | 14.90 | 19.95 | 4.70 | 19.60 | ..... | ..... |  | A few stems.... | 50447 | " |
| 6.25 | 0.20 | 3.80 | 9.10 | 12.90 | 4.60 | 13.70 | 15.11 | 11.5 | | Stems and starch (Pimento). | 50448 | Very low in essential oil. |
| 6.05 | 0.15 | 4.00 | 10.30 | 14.30 | 4.85 | 15.25 | 18.13 | 11.5 | | Traces of starch (Pimento). | 50449 | " |

F. X. W. E. BELAND, INSPECTOR.

| | | | | | | | | | | | | |
|------|------|------|-------|-------|------|-------|-------|------|--|---|-------|----------------------------|
| 5.40 | 0.45 | 4.15 | 9.60 | 13.75 | 6.35 | 15.95 | 9.67 | 11.5 | | A few stems and starch(Pimento) | 37212 | Very low in essential oil. |
| 5.80 | 0.20 | 2.70 | 13.05 | 15.75 | 5.55 | 18.60 | 15.11 | 9.8 | | Numerous stems and starch (Pimento). | 37213 | Low in essential oil. |
| 3.60 | 0.40 | 4.35 | 6.90 | 11.25 | 3.45 | 10.35 | 4.23 | 13.6 | | Stems and a large amt. of starch (Pimento). | 37214 | Very low in essential oil. |
| 5.75 | 0.50 | 4.40 | 7.85 | 12.25 | 5.10 | 12.95 | 8.46 | 9.0 | | Starch (Pimento) | 37215 | " |
| 3.70 | 0.20 | 3.30 | 7.30 | 10.60 | 5.60 | 12.90 | 5.44 | 17.7 | | Stems and a large amt. of starch (Pimento). | 37216 | " |
| 3.90 | 0.15 | 4.35 | 6.95 | 11.30 | 4.50 | 11.45 | 6.04 | 21.2 | | Stems and starch (Pimento). | 37217 | " |

| Date of Collection. | Nature of Sample. | No. of Sample. | Name and Address of Vendor. | Cost. | | Inspector's Report. (Is not an expression of opinion). |
|---------------------|-------------------|----------------|-----------------------------|-----------|--------|---|
| | | | | Quantity. | Cents. | |

DISTRICT OF QUEBEC—

| 1912. | | | | | | |
|----------|-----------------------|-------|--|--------------------|----|-------|
| Sept. 11 | Ground Cloves | 37218 | Myrand & Pouliot, 70 Rue de la Couronne, Quebec. | $\frac{3}{4}$ lb.. | 30 | ..... |
| " 12 | " | 37219 | Arthur Drolet, 714 Rue St. Valier, Quebec. | $\frac{3}{4}$ " .. | 30 | ..... |
| " 13 | " | 37220 | A. Rinfret, 414 Rue St. Valier, Quebec | $\frac{3}{4}$ " .. | 30 | ..... |
| " 16 | " | 37221 | Hamel & Bedard, 728 Rue St. Valer, Quebec. | $\frac{3}{4}$ " .. | 30 | ..... |

DISTRICT OF ST. HYACINTHE—

| | | | | | | |
|----------|-----------------------|------|------------------------------------|--------------------|----|-------|
| Sept. 16 | Ground Cloves | 1454 | Paul Rajotte, St. G. de Grant-ham. | $\frac{3}{4}$ lb.. | 30 | ..... |
| " 17 | " | 1455 | Laperrière & fils, Pierreville... | $\frac{3}{4}$ " .. | 19 | ..... |
| " 17 | " | 1456 | J. E. Turbide, Yamaska East.. | $\frac{3}{4}$ " .. | 15 | ..... |
| " 18 | " | 1457 | A. Casabon, Sorel | $\frac{3}{4}$ " .. | 27 | ..... |
| " 20 | " | 1458 | J. B. Carrean, St. Aime | $\frac{3}{4}$ " .. | 15 | ..... |
| " 25 | " | 1459 | L. Gosselin, Henryville. | $\frac{3}{4}$ " .. | 28 | ..... |
| " 26 | " | 1460 | W. A. Reynolds, Frelighsburg. | $\frac{3}{4}$ " .. | 22 | ..... |
| " 27 | " | 1461 | M. Lemire, Iberville. | $\frac{3}{4}$ " .. | 20 | ..... |
| Oct. 1 | " | 1462 | W. Murray & Co., Sherbrooke. | $\frac{3}{4}$ " .. | 30 | ..... |
| " 8 | " | 1463 | L. Minard, Eastman | $\frac{3}{4}$ " .. | 25 | ..... |

DISTRICT OF MONTREAL—

| | | | | | | |
|--------|-------------------------|-------|--|--------|----|-------|
| Oct. 1 | Ground Cloves | 51001 | J. H. Labraude, 141 St. Viateur st., Montreal. | 1 lb.. | 30 | ..... |
| " 1 | " | 51002 | H. Ward, 108 St. Viateur st., Montreal. | 1 " .. | 30 | ..... |

GROUND CLOVES.

| Results of Analysis. | | | | | | | | | | No. of Sample. | Remarks and Opinion of the Chief Analyst. |
|----------------------|-----------------|---------------------------|------|--------|------------|------------|---------|--------------|----------------------------|----------------|---|
| Ash. | | Volatile matter at 100°C. | | | Fixed oil. | Total oil. | Tannin. | Crude Fibre. | Microscopical Examination. | | |
| Total. | Acid Insoluble. | Moisture. | Oil. | Total. | | | | | | | |

Concluded.

| p. c. | p. c. | p. c. | p. c. | p. c. | p. c. | p. c. | p. c. | p. c. | p. c. | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------------------------------------|-------|----------------------------|--|
| 5.80 | 0.50 | 4.50 | 15.35 | 19.85 | 4.35 | 19.70 | 18.13 | 10.0 | Stems and traces of starch (Pimento). | 37218 | Normal. | |
| 3.80 | 0.20 | 2.80 | 9.25 | 12.05 | 6.90 | 16.15 | 4.83 | 15.5 | Stems and starch (Pimento). | 37219 | Very low in essential oil. | |
| 5.45 | 0.10 | 3.05 | 18.10 | 21.15 | 4.45 | 22.55 | 18.73 | 9.2 | A few stems... | 37220 | Normal. | |
| 5.15 | 0.25 | 4.75 | 19.25 | 24.00 | 4.30 | 23.55 | ..... | ..... | ..... | 37251 | " | |

J. C. ROULEAU, INSPECTOR.

| | | | | | | | | | | | |
|------|------|------|-------|-------|------|-------|-------|-------|---|------|----------------------------|
| 4.30 | 0.20 | 3.95 | 8.00 | 11.95 | 4.85 | 12.85 | 12.09 | 9.6 | Stems and a large amount of starch (Pimento). | 1454 | Very low in essential oil. |
| 4.55 | 0.20 | 3.60 | 11.60 | 15.20 | 5.55 | 17.15 | ..... | ..... | A few stems and starch (Pimento). | 1455 | Low in essential oil |
| 5.80 | 0.50 | 4.65 | 9.30 | 13.95 | 5.85 | 15.15 | 11.48 | 9.7 | A few stems and a large amount of starch (Pimento). | 1456 | Very low in essential oil. |
| 5.90 | 0.40 | 4.50 | 9.30 | 13.80 | 4.50 | 13.80 | 14.50 | 19.5 | Stems and starch (Pimento). | 1457 | " |
| 7.95 | 0.50 | 3.05 | 7.65 | 10.70 | 5.00 | 12.65 | 10.88 | 18.2 | A few stems and a large amount of starch (Pimento). | 1458 | " |
| 4.05 | 0.10 | 4.05 | 7.75 | 11.80 | 6.85 | 14.60 | 7.25 | 18.5 | " .. | 1459 | " |
| 5.80 | 0.30 | 4.95 | 14.70 | 19.65 | 4.35 | 19.05 | ..... | ..... | " .. | 1460 | Normal. |
| 5.50 | 0.35 | 5.15 | 18.95 | 24.10 | 4.70 | 23.65 | ..... | ..... | Numerous stems. | 1461 | " |
| 6.10 | 0.45 | 3.00 | 12.55 | 15.55 | 5.10 | 17.65 | ..... | ..... | A few stems and a large amount of starch (Pimento). | 1462 | Low in essential oil. |
| 6.60 | 0.35 | 4.25 | 13.55 | 17.80 | 4.75 | 18.30 | ..... | ..... | A few stems and a little starch (Pimento). | 1463 | " |

J. J. COSTIGAN, INSPECTOR.

| | | | | | | | | | | | |
|------|------|------|-------|-------|------|-------|-------|-------|--------------------------------------|-------|----------------------------|
| 3.65 | 0.35 | 4.00 | 8.75 | 13.35 | 5.35 | 14.10 | 9.06 | 10.6 | Stems and a little starch (Pimento). | 51001 | Very low in essential oil. |
| 6.20 | 0.50 | 6.35 | 15.35 | 21.70 | 3.00 | 18.35 | ..... | ..... | Numerous stems. | 51002 | Normal. |

| Date of Collection. | Nature of Sample. | No. of Sample. | Name and Address of Vendor. | Cost. | | Inspector's Report. (Is not an expression of opinion.) |
|------------------------------|--------------------|----------------|---|--------------------|--------|---|
| | | | | Quantity. | Cents. | |
| DISTRICT OF MONTREAL— | | | | | | |
| 1912. | | | | | | |
| Oct. 1 | Ground Cloves..... | 51003 | E. Tessier, 70 Laurier ave. W., Montreal. | 1 lb.. | 30 | ..... |
| " 4 | " | 51004 | T. J. Collins, St. Agathe de Monts. | $\frac{3}{4}$ lb.. | 30 | ..... |
| " 7 | " | 51005 | W. Biltcliffe, 350 Victoria ave., Westmount. | $\frac{3}{4}$ " .. | 30 | ..... |
| " 8 | " | 51006 | R. Bernard, 91 Lagauchetière st. E., Montreal. | $\frac{3}{4}$ " .. | 30 | ..... |
| " 8 | " | 51007 | S. Dionne, 140 Dorchester E., Montreal. | $\frac{3}{4}$ " .. | 30 | ..... |
| " 10 | " | 51008 | E. Dufour, Joliette, P.Q. | $\frac{3}{4}$ " .. | 30 | ..... |
| " 16 | " | 51009 | Z. Lapointe, 54 Villeneuve st., Montreal. | $\frac{3}{4}$ " .. | 30 | ..... |
| " 11 | " | 51010 | Lewis Reese, 393 Church ave., Verdun, P.Q. | $\frac{3}{4}$ " .. | 30 | ..... |
| DISTRICT OF OTTAWA— | | | | | | |
| Aug. 30 | Ground Cloves..... | 50252 | McCuaig, Cheney & Co., Vank- leek Hill. | $\frac{3}{4}$ lb.. | 30 | Labelled pure ground cloves. |
| " 31 | " | 50253 | A. Meighan & Bro., Perth, Ont. | 3 pkts | 30 | Labelled pure ground cloves, A. Meighan & Bro., Perth, Ont. |
| Sept. 4 | " | 50254 | A. S. Moreland, Ottawa..... | 3 " | 30 | ..... |
| " 4 | " | 50255 | Geo. Agar, Ottawa..... | 3 " | 30 | ..... |
| " 4 | " | 50256 | N. A. McCagg, Ottawa..... | 3 " | 30 | ..... |
| " 4 | " | 50257 | Alex. Phillips, Ottawa..... | $\frac{3}{4}$ " .. | 30 | ..... |
| " 5 | " | 50258 | J. B. Bedard, Hull, P.Q..... | $\frac{3}{4}$ " .. | 30 | ..... |
| " 6 | " | 50259 | Jas. McDougall, Brockville ... | $\frac{3}{4}$ " .. | 30 | ..... |
| " 7 | " | 50260 | John Whitley, Prescott..... | $\frac{3}{4}$ " .. | 30 | ..... |
| " 18 | " | 50261 | E. H. Tallman, Merrickville... | $\frac{3}{4}$ " .. | 30 | ..... |

GROUND CLOVES.

| Results of Analysis. | | | | | | | | | | | No. of Sample. | Remarks and Opinion of the Chief Analyst. |
|----------------------|-----------------|----------------------------|-------|--------|------------|------------|---------|--------------|---|-------|----------------|---|
| Ash. | | Volatile matter at 100° C. | | | Fixed oil. | Total oil. | Tannin. | Crude Fibre. | Microscopical Examination. | | | |
| Total. | Acid Insoluble. | Moisture. | Oil. | Total. | | | | | | | | |
| p.c. | p.c. | p.c. | p.c. | p.c. | p.c. | p.c. | p.c. | p.c. | | | | |
| 4.60 | 0.15 | 6.75 | 11.35 | 18.10 | 4.80 | 16.15 | ..... | ..... | A few stems and starch (Pimento). | 51003 | Low | essential oil. |
| 4.50 | 0.10 | 7.15 | 10.65 | 17.30 | 4.05 | 14.70 | ..... | ..... | Stems and starch (Pimento). | 51004 | " | " |
| 5.55 | 0.45 | 3.80 | 11.55 | 15.35 | 5.20 | 16.75 | ..... | ..... | A few stems.... | 51065 | " | " |
| 4.90 | 0.20 | 3.75 | 8.50 | 12.25 | 3.70 | 12.20 | 10.88 | 12.0 | A large amount of starch (Pimento). | 51006 | Very low in | essential oil. |
| 4.85 | 0.10 | 3.85 | 11.40 | 15.25 | 5.19 | 16.50 | ..... | ..... | Stems and starch (Pimento). | 51007 | Low in | essential oil. |
| 4.55 | 0.10 | 3.75 | 12.80 | 16.55 | 6.75 | 19.55 | ..... | ..... | " .. | 51008 | " | " |
| 5.00 | 0.15 | 3.70 | 9.49 | 13.10 | 4.35 | 13.75 | 13.90 | 16.8 | Stems and a large amount of starch (Pimento). | 51009 | Very low in | essential oil. |
| 5.60 | 0.20 | 4.10 | 12.25 | 16.35 | 6.20 | 18.45 | ..... | ..... | " .. | 51010 | Low in | essential oil. |

J. A. RICKEY, INSPECTOR.

| | | | | | | | | | | | | |
|------|------|------|-------|-------|------|-------|-------|-------|---|-------|-------------|-----------------------------|
| 5.35 | 0.45 | 4.90 | 10.00 | 14.90 | 4.50 | 14.50 | ..... | ..... | Stems and a large amt. of starch (Pimento). | 50252 | Low in | essential oil. |
| 5.50 | 0.20 | 6.35 | 16.80 | 23.15 | 3.10 | 19.90 | ..... | ..... | A few stems.... | 50253 | Normal. | " |
| 5.45 | 0.20 | 6.35 | 16.70 | 23.05 | 3.20 | 19.90 | ..... | ..... | A few stems and starch (Pimento). | 50254 | " | " |
| 5.55 | 0.20 | 6.60 | 15.35 | 21.95 | 3.30 | 18.65 | ..... | ..... | Stems and starch (Pimento). | 50255 | " | " |
| 5.75 | 0.40 | 6.85 | 16.75 | 23.60 | 3.25 | 20.00 | ..... | ..... | " .. | 50256 | " | " |
| 5.45 | 0.60 | 6.50 | 11.50 | 18.00 | 2.90 | 14.40 | ..... | ..... | " .. | 50257 | Low in ess. | oil; high in insoluble ash. |
| 7.25 | 0.10 | 3.65 | 8.65 | 12.30 | 4.20 | 12.85 | ..... | ..... | " .. | 50258 | Very low in | essential oil. |
| 6.70 | 0.25 | 2.30 | 12.50 | 15.40 | 3.40 | 15.90 | 16.92 | 10.8 | Stems & a small amt. of starch (Pimento). | 50259 | Low in | essential oil. |
| 6.15 | 0.15 | 6.65 | 11.65 | 18.30 | 3.15 | 14.80 | ..... | ..... | A few stems and a small amt. of starch (Pimento). | 50260 | " | " |
| 6.55 | 0.40 | 6.80 | 11.30 | 18.20 | 3.20 | 14.50 | ..... | ..... | Numerous stems | 50261 | " | " |

| Date of Collection. | Nature of Sample. | No. of Sample. | Name and Address of Vendor. | Cost. | | Inspector's Report. (Is not an expression of opinion). |
|---------------------|-------------------|----------------|-----------------------------|-----------|--------|---|
| | | | | Quantity. | Cents. | |

DISTRICT OF KINGSTON—

| 1912. | | | | | | |
|-------|----|--------------------|--|--------------------|----|-------|
| Sept. | 3 | Ground Cloves..... | 50751 J. Campbell, Kingston..... | $\frac{3}{4}$ lb.. | 30 | ..... |
| " | 9 | " | 50752 H. C. Hampton, Belleville.... | $\frac{3}{4}$ " .. | 30 | ..... |
| " | 9 | " | 50753 S. R. Artis, Belleville..... | $\frac{3}{4}$ " .. | 30 | ..... |
| " | 9 | " | 50754 Wallbridge & Clark, Belleville. | $\frac{3}{4}$ " .. | 30 | ..... |
| " | 9 | " | 50755 C. Hilton, Belleville..... | $\frac{3}{4}$ " .. | 30 | ..... |
| " | 10 | " | 50756 The Thompson, Macdonald Co., Cobourg. | $\frac{3}{4}$ " .. | 30 | ..... |
| " | 10 | " | 50757 T. P. Harvey & Son, Cobourg.. | $\frac{3}{4}$ " .. | 30 | ..... |
| " | 10 | " | 50758 W. D. Sephens, Port Hope.... | $\frac{3}{4}$ " .. | 35 | ..... |
| " | 10 | " | 50759 F. Rosevear, Port Hope..... | $\frac{3}{4}$ " .. | 30 | ..... |
| " | 11 | " | 50760 J. Hill, Peterboro..... | $\frac{3}{4}$ " .. | 30 | ..... |

DISTRICT OF TORONTO—

| | | | | | | |
|-------|----|--------------------|--|--------------------|----|--|
| Sept. | 13 | Ground Cloves..... | 51441 T. H. Coffin, Grange ave. and Denison st., Toronto. | $\frac{3}{4}$ lb.. | 30 | Vendor said it was in- cluded in stock when purchased. |
| " | 16 | " | 51442 Wm. Black, 1960 Queen st. east, Toronto. | $\frac{3}{4}$ " .. | 27 | ..... |
| " | 16 | " | 51443 Fred Hammer, 581 King st. west, Toronto. | $\frac{3}{4}$ " .. | 30 | ..... |
| " | 17 | " | 51444 C. Barrett, 964 Bloor st. west. Toronto. | $\frac{3}{4}$ " .. | 25 | ..... |
| " | 17 | " | 51445 T. W. Cole, 156 Dundas st., Toronto. | $\frac{3}{4}$ " .. | 30 | ..... |
| " | 20 | " | 51446 Towns & Nonis, Aurora..... | $\frac{3}{4}$ " .. | 30 | ..... |
| Oct. | 2 | " | 51447 O. W. Robbins, 164 Locke st. south, Hamilton. | $\frac{3}{4}$ " .. | 30 | ..... |
| " | 2 | " | 51448 John Forth, Queen & Charlton ave., Hamilton. | $\frac{3}{4}$ " .. | 30 | ..... |

GROUND CLOVES.

| Results of Analysis. | | | | | | | | | | No. of Sample. | Remarks and Opinion of the Chief Analyst. |
|----------------------|-----------------|---------------------------|------|--------|------------|------------|---------|--------------|----------------------------|----------------|---|
| Ash. | | Volatile matter at 100°C. | | | Fixed oil. | Total oil. | Tannin. | Crude Fibre. | Microscopical Examination. | | |
| Total. | Acid Insoluble. | Moisture. | Oil. | Total. | | | | | | | |

JAS. HOGAN, INSPECTOR.

| p. c. | p. c. | p. c. | p. c. | p. c. | p. c. | p. c. | p. c. | p. c. | p. c. | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|----------------------|
| 5.95 | 0.30 | 3.85 | 18.40 | 22.25 | 4.00 | 22.40 | ..... | ..... | ..... | ..... | 50751 Normal. |
| 4.45 | 0.70 | 6.00 | 4.50 | 10.50 | 0.10 | 4.60 | ... | ..... | ..... | Not cloves, All-spice. | 50752 Is not cloves. |
| 6.40 | 0.50 | 4.55 | 16.15 | 20.70 | 3.80 | 19.95 | ..... | ..... | ..... | A few stems.... | 50753 Normal. |
| 6.95 | 0.45 | 4.50 | 14.00 | 18.50 | 3.40 | 17.40 | ..... | ..... | ..... | " | 50754 " |
| 7.40 | 0.35 | 3.10 | 14.40 | 17.50 | 4.65 | 19.05 | 15.11 | 9.6 | ..... | " | 50755 " |
| 6.05 | 0.20 | 3.90 | 19.80 | 23.60 | 3.70 | 23.50 | ..... | ..... | ..... | " | 50756 " |
| 5.30 | 0.15 | 3.10 | 21.10 | 24.60 | 4.40 | 25.50 | ..... | ..... | ..... | A few stems and a little starch (Pimento). | 50757 " |
| 5.60 | 0.20 | 3.40 | 21.75 | 25.15 | 4.45 | 26.20 | ..... | ..... | ..... | " | 50758 " |
| 5.80 | 0.25 | 4.40 | 15.30 | 19.70 | 4.00 | 19.30 | ..... | ..... | ..... | A few stems and starch (Pimento). | 50759 " |
| 6.40 | 0.40 | 4.00 | 18.65 | 22.65 | 4.30 | 22.95 | ..... | ..... | ..... | " | 50760 " |

H. J. DAGER, INSPECTOR.

| | | | | | | | | | | | |
|------|------|------|-------|-------|------|-------|-------|-------|-------|--|--|
| 4.95 | 0.15 | 4.70 | 9.65 | 14.5 | 3.10 | 12.75 | 10.27 | 15.0 | ..... | Numerous stems and a large amt. of starch (Pimento). | 51441 Very low in essential oil. |
| 6.95 | 0.60 | 6.45 | 13.55 | 20.00 | 2.85 | 13.40 | ..... | ..... | ..... | Stems..... | 51442 Low in essential oil; high insoluble ash |
| 7.25 | 0.50 | 6.30 | 11.90 | 18.20 | 4.15 | 16.05 | ..... | ..... | ..... | A small amt. of starch (Pimento). | 51443 Low in essential oil. |
| 6.40 | 0.30 | 6.65 | 12.80 | 19.45 | 2.70 | 15.50 | ..... | ..... | ..... | Stems and a large amt. of starch (Pimento). | 51444 " |
| 6.65 | 0.45 | 4.25 | 8.65 | 12.90 | 2.80 | 11.45 | 12.69 | 15.8 | ..... | " | 51445 Very low in essential oil. |
| 6.75 | 0.20 | 6.75 | 12.15 | 18.90 | 2.70 | 14.85 | ..... | ..... | ..... | Stems..... | 51446 Low in essential oil. |
| 5.20 | 0.45 | 3.50 | 11.45 | 14.95 | 5.25 | 16.70 | ..... | ..... | ..... | " | 51447 " |
| 5.85 | 0.25 | 5.85 | 16.60 | 22.45 | 4.80 | 21.40 | ..... | ..... | ..... | Stems and traces of starch (Pimento). | 51448 Normal. |

| Date of Collection. | Nature of Sample. | No. of Sample. | Name and Address of Vendor. | Cost. | | Inspector's Report. (Is not an expression of opinion.) |
|---------------------|-------------------|----------------|-----------------------------|-----------|--------|---|
| | | | | Quantity. | Cents. | |

DISTRICT OF TORONTO—

| | | | | | | |
|------|----------------------|-------|--|-------------------|----|-------|
| 1912 | | | | | | |
| Oct. | 3 Ground Cloves..... | 51449 | J. J. Lynch, 185 Park st., Hamilton. | $\frac{3}{4}$ lb. | 23 | ..... |
| " | 3 " | 51450 | R. D. Saul, 124 James st., north, Hamilton. | $\frac{3}{4}$ " " | 23 | ..... |

DISTRICT OF WINDSOR—

| | | | | | | |
|------|----------------------|-------|---------------------------------------|--------------------|----|------------------------------------|
| Oct. | 2 Ground Cloves..... | 48152 | A. Duncan & Co., Wyoming.. | $\frac{3}{4}$ lb.. | 30 | ..... |
| " | 3 " | 48162 | R. Wanless & Co., Sarnia. | $\frac{3}{4}$ " " | 30 | Todhunter's pure select cloves. |
| " | 4 " | 48171 | R. H. Davis, Strathroy..... | $\frac{3}{4}$ " " | 60 | ..... |
| " | 7 " | 48174 | G. A. Curtis, Simcoe..... | $\frac{3}{4}$ " " | 60 | ..... |
| " | 7 " | 48176 | R. Edmunds, Simcoe..... | $\frac{3}{4}$ " " | 45 | ..... |
| " | 7 " | 48178 | Oscar R. Hauselman, Simcoe.. | $\frac{3}{4}$ " " | 38 | ..... |
| " | 7 " | 48179 | G. J. Imeson, Simcoe..... | $\frac{3}{4}$ " " | 30 | ..... |
| " | 7 " | 48182 | L. F. Aiken, Simcoe..... | $\frac{3}{4}$ " " | 45 | ..... |
| " | 7 " | 48184 | G. O. Werrett, Simcoe..... | $\frac{3}{4}$ " " | 45 | ..... |
| " | 8 " | 48186 | Ray P. Colburn, Tillsonburg.. | $\frac{3}{4}$ " " | 30 | ..... |
| " | 8 " | 48188 | Imrie & Stewardson, Tillson- burg. | $\frac{1}{2}$ " " | 30 | ..... |

DISTRICT OF MANITOBA—

| | | | | | | |
|-------|-----------------------|-------|--|--------------------|----|-------|
| Sept. | 17 Ground Cloves..... | 48701 | R. Seymour, Sargent ave., Winnipeg. | $\frac{3}{4}$ lb.. | 30 | ..... |
| " | 17 " | 48702 | MacKenzie & Reeve, Winni- peg. | $\frac{3}{4}$ " " | 30 | ..... |

GROUND CLOVES.

| Results of Analysis. | | | | | | | | | | No. of Sample. | Remarks and Opinion of the Chief Analyst. |
|----------------------|-----------------|----------------------------|------|--------|------------|------------|---------|--------------|----------------------------|----------------|---|
| Ash. | | Volatile matter at 100° C. | | | Fixed oil. | Total oil. | Tannin. | Crude Fibre. | Microscopical Examination. | | |
| Total. | Acid Insoluble. | Moisture. | Oil. | Total. | | | | | | | |

Concluded.

| p.c. | p.c. | p.c. | p.c. | p.c. | p.c. | p.c. | p.c. | p.c. | p.c. | | |
|------|------|------|-------|-------|------|-------|-------|-------|---|-------|---------|
| 6.25 | 0.20 | 5.10 | 19.10 | 24.20 | 4.50 | 23.60 | ..... | ..... | A few stems ... | 51449 | Normal. |
| 5.80 | 0.50 | 5.00 | 18.80 | 23.80 | 5.30 | 24.10 | ..... | .. | A few stems and traces of starch (Pimento). | 51450 | " |

JNO. TALBOT, INSPECTOR.

| | | | | | | | | | | | |
|------|------|------|-------|-------|------|-------|-------|-------|--|-------|-----------------------|
| 5.35 | 0.10 | 4.75 | 16.85 | 21.60 | 4.25 | 21.10 | ..... | ..... | Stems and a large amt. of starch (Pimento). | 48152 | Normal. |
| 4.70 | 0.20 | 5.40 | 19.80 | 25.20 | 4.15 | 23.95 | ..... | ..... | Starch (Pimento). | 48162 | " |
| 6.10 | 0.15 | 4.50 | 14.30 | 18.80 | 3.60 | 17.90 | ..... | ..... | A few stems and a little starch (Pimento). | 48171 | " |
| 5.90 | 0.20 | 4.10 | 15.90 | 20.00 | 4.30 | 20.20 | ..... | ..... | Numerous stems and a large amt. of starch (Pimento). | 48174 | " |
| 6.95 | 0.40 | 4.65 | 11.55 | 16.20 | 4.25 | 15.80 | ..... | ..... | Numerous stems | 48176 | Low in essential oil. |
| 4.65 | 0.15 | 4.75 | 20.15 | 24.90 | 4.10 | 24.25 | ..... | ..... | A few stems ... | 48178 | Normal. |
| 4.65 | 0.10 | 3.85 | 17.75 | 21.60 | 4.40 | 22.15 | ..... | ..... | A few stems and a large amt. of starch (Pimento). | 48179 | " |
| 5.35 | 0.20 | 4.20 | 16.60 | 20.80 | 4.55 | 21.15 | ..... | ..... | A few stems and a little starch (Pimento). | 48182 | " |
| 5.60 | 0.30 | 3.70 | 18.50 | 22.20 | 4.20 | 22.70 | ..... | ..... | " | 48184 | " |
| 4.80 | 0.30 | 3.20 | 10.65 | 13.85 | 5.35 | 16.00 | ..... | ..... | Stems and a large amt. of starch (Pimento). | 48186 | Low in essential oil. |
| 4.90 | 0.10 | 4.10 | 15.65 | 19.75 | 5.80 | 21.45 | ..... | ..... | A few stems and starch (Pimento). | 48188 | Normal. |

A. C. LARIVIÈRE, INSPECTOR.

| | | | | | | | | | | | |
|------|------|------|-------|-------|------|-------|-------|-------|-----------------|-------|-----------------------|
| 5.55 | 0.15 | 6.35 | 18.45 | 24.80 | 2.70 | 21.15 | ..... | ..... | A few stems ... | 48701 | Normal. |
| 6.65 | 0.40 | 3.65 | 13.45 | 17.10 | 3.40 | 16.85 | 21.15 | 9.7 | " | 48702 | Low in essential oil. |

| Date of Collection. | Nature of Sample. | No. of Sample. | Name and Address of Vendor. | Cost. | | Inspector's Report. (Is not an expression of opinion). |
|---------------------|-------------------|----------------|-----------------------------|-----------|--------|---|
| | | | | Quantity. | Cents. | |

DISTRICT OF MANITOBA-

| | | | | | | |
|----------|------------------|-------|---|---------|-----|-------|
| 1912. | | | | | | |
| Sept. 17 | Ground Cloves... | 48703 | Conley & Yost, Winnipeg.... | ¾ lb.. | 30 | ..... |
| " 19 | " | 48704 | C. A. Whitman, Emerson..... | ¾ " | 20 | ..... |
| " 20 | " | 48705 | Campbell Bros. & Wilson, Win- nipeg. | 3 tins. | nil | ..... |
| " 20 | " | 48706 | The Dyson Co., Winnipeg..... | ¾ " | " | ..... |
| " 20 | " | 48707 | White Star Mfg. Co., Winni- peg. | 3 tins. | " | ..... |
| " 20 | " | 48708 | Gold Standard Mfg. Co., Win- nipeg. | ¾ lb.. | " | ..... |
| " 23 | " | 48709 | P. Nelson, Winnipeg..... | 3 tins. | 30 | ..... |
| " 23 | " | 48710 | W. H. Morgan, Winnipeg.... | ¾ lb.. | 30 | ..... |

DISTRICT OF NELSON-

| | | | | | | |
|---------|------------------|-------|---|---------|----|-------|
| Sept. 3 | Ground Cloves... | 49688 | Union Cash Grocery, Nelson, B.C. | 3 tins. | 40 | ..... |
| " 3 | " | 49691 | Bell Trading Co., Nelson, B.C. | ¾ lb.. | 30 | ..... |
| " 6 | " | 49703 | G. B. Armstrong, Merritt, B.C. | 3 tins. | 45 | ..... |
| " 6 | " | 49708 | Merritt Merc. Co., Merritt, B.C. | ¾ lb.. | 30 | ..... |
| " 6 | " | 49714 | Merritt Ind. & Co-op. Society, Merritt, B.C. | 3 tins. | 30 | ..... |
| " 9 | " | 49722 | L. C. Masson, Revelstoke, B.C. | 3 " | 45 | ..... |
| " 9 | " | 49727 | Bourne Bros., Revelstoke, B.C. | ¾ lb.. | 40 | ..... |
| " 23 | " | 49748 | C. A. Warren, Golden, B.C.... | 3 tins. | 40 | ..... |
| " 23 | " | 49756 | H. G. Parson, Ltd., Golden, B.C. | 3 " | 30 | ..... |
| " 23 | " | 49761 | C. R. Lumber Co., Golden, B.C. | 3 " | 45 | ..... |

GROUND CLOVES.

| Results of Analysis. | | | | | | | | | | No. of Sample. | Remarks and Opinion of the Chief Analyst. | |
|---------------------------------|-----------------|---------------------------|-------|--------|------------|------------|---------|--------------|---|----------------|---|--------------|
| Ash. | | Volatile matter at 100°C. | | | Fixed oil. | Total oil. | Tannin. | Crude Fibre. | Microscopical Examination. | | | |
| Total. | Acid Insoluble. | Moisture. | Oil. | Total. | | | | | | | | |
| <i>Concluded.</i> | | | | | | | | | | | | |
| p. c. | p. c. | p. c. | p. c. | p. c. | p. c. | p. c. | p. c. | p. c. | p. c. | | | |
| 7.70 | 0.80 | 3.85 | 10.70 | 14.55 | 6.10 | 16.80 | ..... | .. | A few stems and a small amount of starch (Pimento). | 48703 | Low in essential oil, high insoluble ash | |
| 7.15 | 0.30 | 6.40 | 19.10 | 25.50 | 2.85 | 21.95 | ..... | ..... | " " | 48704 | Normal. | |
| 4.90 | 0.25 | 6.15 | 21.35 | 27.50 | 3.75 | 25.10 | 16.92 | 8.9 | Stems..... | 48705 | " | |
| 5.15 | 0.20 | 5.70 | 12.75 | 18.45 | 4.35 | 17.10 | ..... | ..... | A few stems.... | 48706 | Low in essential oil. | |
| 5.60 | 0.10 | 6.45 | 14.40 | 20.95 | 3.10 | 17.50 | ..... | ..... | " ..... | 48707 | Normal. | |
| 5.60 | 0.10 | 5.10 | 20.15 | 25.25 | 3.35 | 23.50 | .. | ..... | " ..... | 48708 | " | |
| 7.45 | 0.60 | 3.50 | 13.55 | 17.02 | 6.15 | 19.70 | ..... | ..... | A few stems and starch (Pimento) | 48709 | Low in essential oil, high insoluble ash | |
| 5.75 | 0.10 | 6.00 | 14.05 | 20.05 | 3.45 | 17.50 | ..... | ..... | Stems and traces of starch (Pimento). | 48710 | Normal. | |
| THOS. PARKER, INSPECTOR. | | | | | | | | | | | | |
| 6.50 | 0.20 | 4.20 | 12.30 | 16.50 | 4.40 | 16.70 | ..... | ..... | Stems..... | 49688 | Low in essential oil. | |
| 4.80 | 0.10 | 4.30 | 18.60 | 22.90 | 4.85 | 23.45 | ..... | ..... | A few stems and a little starch (Pimento). | 49691 | Normal. | |
| 5.75 | 0.35 | 4.30 | 15.90 | 20.20 | 5.60 | 21.50 | .. | ..... | " " | 49703 | " | |
| . | . | . | . | . | . | . | . | . | . | | 49708 | Sample lost. |
| 4.75 | 0.20 | 4.55 | 21.50 | 26.05 | 5.45 | 26.95 | ..... | ..... | Traces of starch (Pimento). | 49714 | Normal. | |
| 5.30 | 0.30 | 5.45 | 19.25 | 25.80 | 5.10 | 24.35 | ..... | ..... | A few stems and a little starch (Pimento). | 49722 | " | |
| 3.25 | 0.10 | 4.65 | 10.50 | 15.10 | 4.25 | 14.75 | 6.65 | ..... | Stems and a very large amount of starch (Pimento). | 49727 | Low in essential oil. | |
| 5.30 | 0.30 | 4.85 | 19.10 | 23.95 | 6.20 | 25.30 | ..... | ..... | A few stems.... | 49748 | Normal. | |
| 5.25 | 0.25 | 5.30 | 20.20 | 25.50 | 3.85 | 21.05 | 16.92 | 8.3 | A few stems and a little starch (Pimento). | 49754 | " | |
| 6.70 | 0.40 | 4.45 | 12.65 | 17.10 | 4.10 | 16.75 | ..... | ..... | Stems and a little starch (Pimento) | 49751 | Low in essential oil, | |

* Sample destroyed in transit.

| Date of Collection. | Nature of Sample. | No. of Sample. | Name and Address of Vendor. | Cost. | | Inspector's Report. (Is not an expression of opinion). |
|---------------------|-------------------|----------------|-----------------------------|-----------|--------|---|
| | | | | Quantity. | Cents. | |

DISTRICT OF VANCOUVER—

| 1912. | | | | | | |
|----------|--------------------|-------|--|---------|----|--|
| Sept. 20 | Ground Cloves..... | 38419 | London Grocery Co., Gran-ville St., Vancouver, B.C. | 3 tins. | 30 | This Tin contains nothing but spice of the finest quality. |
| " 20 | " | 38420 | Jardine & Dickinson, Kerrisdale, B.C. | 3 " | 25 | Guaranteed absolutely pure. |
| " 20 | " | 38421 | A. C. Bartig, 8th Ave. & Gran-ville St., Vancouver, B.C. | 3 lb... | 30 | ..... |
| " 20 | " | 38422 | Merilees Grocery, 2640 Main St., Vancouver, B.C. | 3 tins. | 25 | ..... |
| " 20 | " | 38423 | Efford Bros., 244 Broadway E., Vancouver, B.C. | 3 lb... | 30 | ..... |
| " 21 | " | 38424 | Kelly's Grocery, 2333 Main St., Vancouver, B.C. | 3 " | 30 | ..... |
| " 23 | " | 38425 | F. Filion, Carral St., Vancouver, B.C. | 3 " | 30 | ..... |
| " 23 | " | 38426 | F. Ayling, Cedar Cottage, Vancouver, B.C. | 3 " | 30 | ..... |
| " 23 | " | 38427 | Lyons Grocery, Commercial Drive Vancouver, B.C. | 3 tins. | 45 | Guaranteed to be the finest quality and full strength. |
| " 23 | " | 38428 | J. Main, Commercial Drive, Vancouver, B.C. | 3 lb... | 30 | ..... |

DISTRICT OF VICTORIA—

| | | | | | | |
|----------|------------------------|-------|---|---------|----|---------------------|
| Sept. 10 | Ground Cloves. | 49178 | Windsor Grocery Co., 817 Douglas St., Victoria, B.C. | 3 tins. | 30 | ..... |
| " 11 | " | 49179 | The West End Grocery Co., Ltd., 1002 Government St., Victoria, B.C. | 3 " | 30 | "Empress" Brand. |
| " 12 | " | 49180 | Copas & Young, 631 Fort St., Victoria, B.C. | 3 " | 25 | Anti-Combine Brand. |

GROUND CLOVES.

| Results of Analysis. | | | | | | | | | | No. of Sample. | Remarks and Opinion of the Chief Analyst. |
|----------------------|--------------------|-------------------------------|------|--------|------------|------------|---------|--------------|-------------------------------|----------------|---|
| Ash. | | Volatile matter at 100° C. | | | Fixed oil. | Total oil. | Tannin. | Crude Fibre. | Microscopical Examination. | | |
| Total. | Acid Insoluble. | Moisture. | Oil. | Total. | | | | | | | |

J. F. POWER, INSPECTOR.

| p.c. | p.c. | p.c. | p.c. | p.c. | p.c. | p.c. | p.c. | p.c. | | | |
|------|------|------|-------|-------|------|-------|-------|-------|---|-------|--------------------------|
| 5.85 | 0.30 | 5.10 | 16.00 | 21.10 | 4.05 | 20.65 | ..... | ..... | Stems and a little starch. (Pi- mento). | 38419 | Normal. |
| 4.50 | 0.15 | 4.30 | 21.70 | 26.00 | 4.05 | 25.75 | ..... | ..... | A few stems and starch. (Pi- mento). | 38420 | " |
| 5.05 | 0.20 | 5.45 | 12.25 | 17.70 | 4.75 | 17.00 | ..... | ..... | A large amount of starch. (Pi- mento). | 38421 | Low in Essential oil. |
| 4.90 | 0.20 | 4.95 | 21.35 | 26.30 | 4.00 | 25.35 | 18.73 | 8.0 | A few stems and traces of starch. (Pimento). | 38422 | Normal. |
| 5.20 | 0.20 | 3.65 | 12.85 | 16.50 | 5.05 | 17.90 | ..... | ..... | Starch. (Pimen- to). | 38423 | Low in Essential oil. |
| 5.65 | 0.25 | 4.15 | 13.20 | 17.35 | 4.80 | 18.00 | ..... | ..... | A large amount of starch. (Pi- mento). | 38424 | " |
| 6.45 | 0.20 | 4.70 | 13.15 | 17.85 | 4.70 | 17.85 | ..... | ..... | A few stems and a large amount of starch. (Pi- mento). | 38425 | " |
| 5.60 | 0.15 | 5.40 | 18.00 | 23.40 | 1.25 | 22.25 | ..... | ..... | " | 38426 | Normal. |
| 5.10 | 0.20 | 5.10 | 22.50 | 27.60 | 3.90 | 26.40 | ..... | ..... | A few stems ... | 38427 | " |
| 5.90 | 0.40 | 5.25 | 15.50 | 20.75 | 4.40 | 19.90 | ..... | ..... | A few stems and starch. (Pi- mento). | 38428 | " |

D. O'SULIVAN, INSPECTOR.

| | | | | | | | | | | | |
|------|------|------|-------|-------|------|-------|-------|-------|---|-------|---------------------------------------|
| 5.05 | 0.20 | 6.10 | 14.65 | 20.75 | 4.60 | 19.25 | ..... | ..... | A few stems and starch. (Pi- mento). | 49178 | Normal. |
| 5.35 | 0.10 | 5.40 | 19.30 | 24.70 | 4.05 | 23.35 | ..... | ..... | A few stems and a large amount of starch. (Pi- mento). | 49179 | " |
| 6.00 | 0.60 | 6.60 | 16.75 | 23.35 | 3.80 | 20.55 | ..... | ..... | Numerous stems and a little starch. (Pi- mento). | 49180 | Normal—except as to insoluble ash. |

| Date of Collection. | Nature of Sample. | No. of Sample. | Name and Address of Vendor. | Cost. | | Inspector's Report. (Is not an expression of opinion). |
|---------------------|-------------------|----------------|-----------------------------|----------|--------|---|
| | | | | Quality. | Cents. | |

DISTRICT OF VICTORIA—

| 1912. | | | | | | |
|----------|--------------------|-------|--|---------|----|------------------------|
| Sept. 16 | Ground Cloves..... | 49181 | Acton Bros., 1817 Douglas St., Victoria, B. C. | 3 tins. | 30 | "Empress" Brand..... |
| " 16 | " | 49182 | H. & K. Grocery, Victoria, B. C. | 3 lb. | 30 | " |
| " 19 | " | 49183 | Harrison & McDonald, 1218 Douglas St., Victoria, B. C. | 3 lb... | 30 | ..... |
| " 20 | " | 49184 | F. E. Plummer, 1118 Sunda St., Victoria, B. C. | 3 tins. | 30 | "St. James' Brand..... |
| " 25 | " | 49185 | Erskine & Co., 861 Johnston St., Victoria, B. C. | 3 " . | 30 | "Victoria" Brand..... |
| Oct. 15 | " | 49186 | Henry W. Driver, 856 Yates St., Victoria, B. C. | 3 " . | 30 | "Gauntlet" Brand..... |
| " 15 | " | 49187 | W. A. Jameson Coffee Co., 754 Broughton St., Victoria, B. C. | 3 lb... | 30 | ..... |

GROUND CLOVES.

| Results of Analysis | | | | | | | | | | No. of Sample. | Remarks and Opinion of the Chief Analyst. |
|---------------------|-----------------|---------------------------|----------------------|--------|------------|------------|---------|--------------|----------------------------|----------------|---|
| Ash. | | Volatile matter at 100°C. | | | Fixed oil. | Total oil. | Tannin. | Crude Fibre. | Microscopical Examination. | | |
| Total. | Acid Insoluble. | Moisture. | Moisture. | Total. | | | | | | | |

Concluded.

| p.c. | p.c. | p.c. | p.c. | p.c. | p.c. | p.c. | p.c. | p.c. | p.c. | | | |
|------|------|------|-------|-------|------|-------|-------|-------|------|--|-------|-----------------------|
| 5.40 | 0.20 | 6.15 | 18.75 | 24.90 | 3.75 | 22.50 | ..... | .... |  | A few stems and a little starch. (Pimento). | 49181 | Normal. |
| 5.50 | 0.20 | 6.20 | 18.25 | 24.45 | 3.90 | 22.15 | .. | ..... |  | Numerous stems and a little starch. (Pimento). | 49182 | " |
| 5.30 | 0.30 | 5.90 | 15.40 | 21.30 | 3.95 | 19.35 | ..... | ..... |  | Starch. (Pimento). | 49183 | " |
| 5.00 | 0.15 | 5.65 | 19.10 | 24.75 | 4.10 | 13.20 | .... | ..... |  | A few stems and a little starch. (Pimento). | 49184 | " |
| 5.10 | 0.30 | 6.10 | 14.35 | 20.45 | 4.40 | 18.75 | ..... | ..... |  | Stems and starch (Pimento). | 49185 | " |
| 5.10 | 0.20 | 6.45 | 19.60 | 26.05 | 3.70 | 23.30 | ..... | ..... |  | A few stems and traces of starch (Pimento). | 49186 | " |
| 6.75 | 0.35 | 3.60 | 13.80 | 17.40 | 5.10 | 18.60 | .... | ..... |  | Numerous stems and starch. (Pimento). | 49187 | Low in Essential oil. |

