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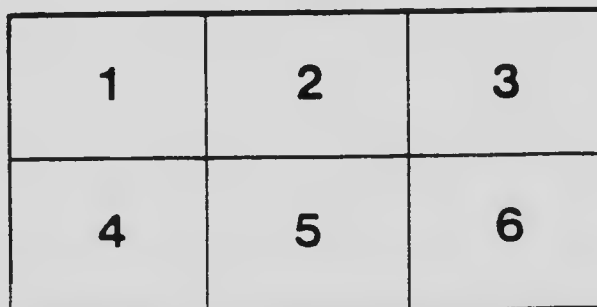
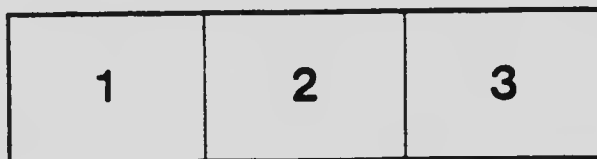
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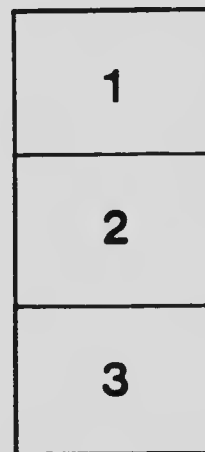
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LABORATORY
OF THE
INLAND REVENUE DEPARTMENT
OTTAWA, CANADA

BULLETIN No. 273

GELATIN

LABORATORY
OF THE
INLAND REVENUE DEPARTMENT
OTTAWA, CANADA
BULLETIN No. 273
GELATIN

OTTAWA, February 6, 1914.

Wm. HIMSWORTH, Esq.,

Deputy Minister, Inland Revenue.

SIR,—I have the honour to hand you a report on 161 samples purchased as gelatin, by our inspectors, during June and July of last year.

This is the first systematic examination of gelatin which we have made.

Gelatin as an article of food differs from ordinary glue only in the care employed in its manufacture. Both are the product of treating the so-called collagens of bones, tendons, cartilage, &c., with boiling water.

It goes without saying that in the manufacture of gelatin only carefully selected materials should be employed; no portion of the animal which is filthy or diseased or otherwise disgusting should be used.

The present investigation deals only with gelatin sold as such. It is to be remembered that gelatin enters largely into the various jelly powders, crystals and blocks sold for making domestic jelly; also into tinned and potted jellied meats, and as a stiffener in ice cream.

By the use of known methods of refining, bleaching, &c., it is possible to make a very attractive article of gelatin from the most objectionable raw material. Nor does it follow that analytical processes applied to the finished article must certainly discover the nature of the original substances used. For this reason the inspection of all gelatin factories should be insisted upon; and the Meat Inspection Act administered by the Department of Agriculture covers this point.

Gelatin has a certain food value, although by no means equal to that of the true proteins. Hutchinson says (*Food and Dietetics*, p. 76), "A quart of jelly (containing about 2 per cent of gelatin) would only be able to spare the proteid of 2½ ounces of meat."

Glue is legitimately made from every kind of waste animal matter containing collagens; but although the processes involved in manufacture prevent the likelihood of any living germs remaining in the product, it violates every sense of refinement to imagine such material being used as the source of edible gelatin; for this reason it is desirable to distinguish between glue and gelatin. That commercial gelatin

may be an objectionable food substance has been proven many times. I may cite the following from the experience of the federal laboratories of the United States:—

Notice of Judgment—

No. 1127.—Filthy, putrid material—642 packages destroyed.

No. 1128.—Filthy, putrid material—270 packages destroyed.

No. 1365.—Filthy, putrid material—5 barrels destroyed.

No. 2062.—Glue, sold as gelatin—fine, \$40.

No. 2295.—Contained 14 to 15 parts arsenic and 230 parts zinc per million—bond for \$500.

No. 2629.—Contained arsenic, 13 parts per million—bond given for \$500.

The *British Pharmacopœia* describes gelatin as follows (Edit. 1898):—

GELATIN.

The air-dried product of the action of boiling water on such animal tissues as skin, tendons, ligaments and bones.

Characters and Tests.—In translucent and almost colourless sheets or shreds. A solution in 50 parts of hot water is inodorous, and solidifies to a jelly on cooling. Gelatin is insoluble in alcohol (90 per cent) and ether. It dissolves in acetic acid. Its aqueous solution yields a precipitate with solution of tannic acid, but not with solution of other acids, nor with solution of alum, solution of lead acetate, or test-solution of ferric chloride.

E. J. Parry (Foods and Drugs, Vol. 1, page 414), says:—

From the food point of view, the following are the essentials of a good gelatin:

1. When soaked in cold water for four hours and then made into a jelly by heating with water, it should yield no offensive odour. If it has an objectionable smell, it should at once be rejected as unfit for food.

2. If in aqueous solution, it yields an appreciable precipitate, with the reagents named by the B.P. it is to be regarded as of inferior quality as containing excess of chondrin, resulting from the decomposition of hyaline cartilage.

3. Its ash should contain no heavy metals, such as copper, which is sometimes present to the extent of 1 grain per lb., and not more than 10 parts of iron per 100,000.

4. It should not contain more than 5 parts of SO_2 per 100,000. This is determined by distilling a 5 per cent solution of the gelatin, oxidizing the distillate with bromine water and precipitating the SO_2 formed, by BaCl_2 . Excess of SO_2 due to the use of SO_2 as a bleaching agent may cause action to be set up with the metal of the tins in which the product is frequently packed, and consequent discolouration of the product, due to the formation of metallic sulphides.

No entirely satisfactory definition of gelatin as distinguished from glue has been published. I am given to understand that the matter is being studied at Washington. It is generally accepted that the ash of high grade gelatins should not exceed 2 per cent, while 4 per cent may occur in glue without detriment to its adhesive value which, of course, is the critical datum in glue. A limit should be placed upon permissible sulphur in sulphites or sulphurous acid; but the fixing of the limiting number necessitates further consideration. Sulphurous acid is used as a bleaching agent, and probably is more largely present where highly coloured material has been used in the manufacture.

The ash is above 2 per cent in 38 samples examined and herein reported. It does not reach 3 per cent in any sample.

The sulphurous acid (SO_2) varies from a trace to 1000 parts per million. It is certain that this last figure is excessive.

The matter of standardizing gelatin as distinguished from glue will be kept in view; and the analytical results now placed on record will, it is believed, greatly assist in this work.

I would respectfully suggest the publication of this report as Bulletin No. 273.

I have the honour to be, Sir,

Your obedient servant,

A. MCGILL,
Chief Analyst.

BULLETIN No. 273

Date of Collection.	Nature of Sample.	Name and Address of Vendor.	Quantity.	Cents.	Name and Address of Manufacturer or Furnisher as given by the Vendor.	
					Manufacturer.	Furnisher.

DISTRICT OF NOVA SCOTIA -						
1912.						
July	7 Gelatin	54112 Morrison & Williams, 3 pkgs Halifax, N.S.	36		C. B. Knox Co., Montreal.	Pyke Bros., Halifax.
"	8 "	54113 Bauld Bros., Ltd., Halifax, N.S.	30		J. & G. Cox, Edinburgh, Scotland.	Edin. Mfrs.
"	9 "	54114 Wentzells, Ltd., Halifax, N.S.	30		"	"
"	16 "	54115 R. E. Harris & Sons, 3 Wolfville, N.S.	25		McLaren's, Toronto.	"
"	17 "	54116 Murphy & Demont, 3 Windsor, N.S.	30		Koeppf & Co., Germany.	Unknown.
"	17 "	54117 John Lynch & Son, Windsor, N.S.	45		C. B. Knox Co., Montreal.	Jno. Tobin & Co., Halifax, N.S.
"	23 "	54118 W. H. Stevens, Dartmouth, N.S.	30		Unknown	N. D. & C. Co., Halifax.
"	24 "	54119 Crowe Bros., Truro, N.S.	30		"	Standard Imports Co., Montreal.
"	24 "	54120 Ryan Bros., Truro, N.S.	45		C. B. Knox Co., Montreal.	Black & Co., Truro, N.S.
"	24 "	54121 Wm. Moore, Halifax, N.S.	30		J. & G. Cox, Edinburgh, Scotland.	Unknown
DISTRICT OF NORTHERN NOVA SCOTIA AND CAPE BRETON -						
Aug.	7 Gelatin	53702 A. A. McDonald, New Glasgow, N.S.	30		Chas. B. Knox Co., Johnston, N.Y.	"
"	7 "	53705 The 2 Bakers Co., New Glasgow	30		"	"
"	7 "	53711 D. C. McKay, New Glasgow, N.S.	30		"	"
DISTRICT OF NEW BRUNSWICK -						
June	20 Gelatin	50611 W. A. Saunders, St. John, N.B.	45		C. B. Knox Co., Montreal.	"
"	23 "	50612 M. E. Grass, St. John, N.B.	39		J. & G. Cox, Edinburgh, Scotland.	"
July	8 "	50613 The Verxa Grocery Co., Fredericton, N.B.	25		Litster Pure Food Co., Ltd., Toronto.	"
"	9 "	50614 E. A. Burden, Woodstock, N.B.	30		Pure Gold Mfg. Co., Ltd., Toronto.	"
"	10 "	50615 D. R. Bedell, Andover, N.B.	36		J. & G. Cox, Edinburgh, Scotland.	"
"	11 "	50616 H. N. Dickinson, Perth, N.S.	45		Chas. B. Knox Co., Montreal.	"
"	22 "	50617 W. B. McKay Co., Ltd., Sussex, N.B.	30		Standard Imports, Ltd.	"

GELATIN.

Results of Analysis.									
Inspector's Report. (Is not an expression of Opinion).	Ash.	Sulphites Parts per 100,000 (SO ₂).	Gelatining power of a 5 p.c. Solution.	Odour of a 5 p.c. Solu- tion exposed to air 21 days.	Reaction with			Remarks.	No. of Sample.
					Litmus Paper.	Lead Sulphate Solution (Sp. gr. 1.26).	5 p.c. Alum Solu- tion.		
							5 p.c. Ferric Chloride Solution		

R. J. WAUGH, INSPECTOR.

p.c.		Pos- itive	Nor- mal	Acid	Neg- ative	Neg- ative	Neg- ative		
1 17	29								
2 30 Trace		"	"	"	"	"	"		54112
2 55 "		"	"	"	"	"	"		54113
2 55 "		"	"	"	"	"	"		54114
1 05	29	"	"	"	"	"	"		54115
1 25	7	"	"	"	"	"	"		54116
1 42	19	"	"	"	"	"	"		54117
Sold as sheet gelatin.	1 37	5	"	"	"	"	"	Coloured red with a vegetable dye.	54118
"	1 77	13	"	"	"	"	"		54119
"	1 22	21	"	"	"	"	"		54120
"	1 80	16	"	"	"	"	"		54121

MOSES DELOREY, TEMPORARY INSPECTOR.

1 12	29	"	"	"	"	"	"		53702
1 25	16	"	"	"	"	"	"		53705
1 25	27	"	"	"	"	"	"		53711

JNO. C. FERGUSON, INSPECTOR.

Knox Sparkling No. 1 Gelatin.	1 00	33	"	"	"	"	"		50611
"	2 20	3	"	"	"	"	"		50612
Lit-ters	1 25	Trace	"	"	"	"	"		50613
"	1 12	20	"	"	"	"	"		50614
Cox's Instant Powder.	2 50	16	"	"	"	"	"		50615
Knox's Sparkling No. 1.	1 42	27	"	"	"	"	"		50616
"	1 45	None.	"	"	Neu- tral.	"	"		50617

BULLETIN No. 273—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.

DISTRICT OF NEW BRUNSWICK—

1913.							
July 23	Gelatin	50618	Rod. McLean, Moncton, N.B.	3 pkgs	36	J. & G. Cox, Edinboro, Scot.	
" 23	"	50619	J. T. Ryan, Moncton, N.B.	3 "	45	Standard Imports, Ltd., Montreal.	
" 24	"	50620	George Stables, New castle, N.B.	3 "	45	Chas. B. Knox Co., Montreal.	

DISTRICT OF QUEBEC—

June 18	Gelatin	51069	P. Legare, Charlebourg, Quebec	3 pkgs	36	Geo. Mills, Edinboro, Scot.	N. Turcot et Cie.
" 19	"	56110	A. Lachance, Limoilou	3 "	30	Standard Imports, Ltd., Montreal.	Quebec Preserving Co.
" 19	"	56111	G. Lapointe	3 "	30	Unknown	Gaynor & Garret
" 19	"	56112	"	3 "	30	"	Gaynor & Frere.
" 20	"	56113	W. Cantin, 135 Rue du Pont, Quebec	3 "	36	Standard Imports, Ltd., Montreal.	Joseph & Son...
" 20	"	56114	"	3 "	36	"	"
" 20	"	56115	H. St. Cyr, 35 Rue du Pont, Quebec	3 "	30	"	W. Brunet.
" 20	"	56116	"	3 "	36	"	"
" 26	"	56117	Arthur Drolet, 714 Rue St. Valier, Quebec	3 "	30	"	Turcot & Frere..
" 26	"	56118	"	3 "	36	Geo. Mills, Edinboro, Scot.	"

DISTRICT OF EAST QUEBEC—

June 23	Gelatin	53316	O. Carboneau, Bertier	3 pkgs	30	Unknown	
" 23	"	53318	G. E. O. Roy, Bertier	3 "	30	T. & G. Co., Gelatin Wks., Edinboro.	
" 23	"	53319	"	3 "	30		Unknown
" 23	"	53320	Z. Roi, St. Francois, Co. Montmagny.	3 "	30	Packed for Standard, Montreal.	
" 24	"	53322	L. G. Fournier, Montmagny.	3 "	20	Unknown	
" 24	"	53327	A. N. Normand, Montmagny.	3 "	30	Standard Imports, Montreal.	
" 24	"	53331	J. Fournier, St. Thomas, P.Q.	3 "	30		Turcot & Frere, Quebec.

GELATIN.

Results of Analysis.							Remarks.	No. of Sample.	
Inspector's Report. (Is not an expression of Opinion.)	Ash.	Sulphites Parts per 100,000 (SO ₂).	Gelatining power of a 5 p. c. Solution.	Odour of a 5 p. c. Solu- tion Exposed to air 2 days.	Reaction with				
					Litmus Paper.	Lead Subacetate Solution (Sp. gr. 1.26).			5 p. c. Alum Solu- tion.

Concluded

	p. c.								
Cox's.....	2 25	3	Posi- tive.	Nor- mal.	Acid.	Neg- ative.	Neg- ative.	Neg- ative.	50618
The Lady Charlotte.	1 40	None.	"	"	Neu- tral.	"	"	"	50619
Knox's Sparkling ..	1 12	22	"	"	Acid	"	"	"	50620

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

.....	2 50	trace.	"	"	"	"	"	"	37069
.....	1 27	4	"	"	Neu- tral	"	"	"	56110
.....	1 47	4	"	"	"	"	"	"	56111
.....	1 50	4	"	"	"	"	"	"	56112
.....	1 39	None.	"	"	"	"	"	"	56113
.....	1 55	"	"	"	"	"	"	"	56114
.....	1 10	"	"	"	"	"	"	"	56115
.....	1 60	8	"	"	"	"	"	"	56116
.....	1 52	6	"	"	"	"	"	"	56117
.....	2 37	5	"	"	Acid.	"	"	"	56118

ALP PELLETIER, INSPECTOR

.....	1 42	1	"	"	Neu- tral.	"	"	"	53316
Sparkling,	1 85	trace.	"	"	Acid.	"	"	"	53318
.....	1 37	None.	"	"	Neu- tral	"	"	"	53310
.....	1 37	"	"	"	"	"	"	"	53320
.....	1 25	6	"	"	"	"	"	"	53322
.....	1 40	trace.	"	"	"	"	"	"	53327
.....	1 35	1	"	"	"	"	"	"	53331

BULLETIN No. 273—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher as given by the Vendor.	
				Manufacturer.	Furnisher.
				Quantity.	Cost.

DISTRICT OF EAST QUEBEC—

1913.						
July	2	Gelatin	53344 R. Lesperance, Mont- magny.	3 pkgs	30	Whitehead & Turner, Quebec
	3	"	53349 F. T. Caron, Cap St. Ignace.	3 "	30	Unknown
	3	"	53351 J. Z. Guimond, Cap St. Ignace.	3 "	30	Turcot et frere, Quebec.

DISTRICT OF THREE RIVERS—

June	20	Gelatin	58920 Camille Barrette, Joliette	1 lb.	40	L. Chaput & Cie, Montreal.
"	23	"	58926 Louis Enos, St. Felix de Valois.	1 "	45	Jos. Dufresne, Joliette.
"	23	"	58927 Ernest Asselin, St. Felix de Valois.	20 lea- ves	23	"
"	24	"	58928 Williams, Three Rivers.	1 "b.	75	Lymans, Ltd., Montreal.
"	30	"	58929 Arthur Lacerte, Yamachi- che.	1 "	50	L. Chaput & fils, Montreal.
"	30	"	58930 Bourret et fils, Louisville.	1 "	50	"
"	30	"	58931 Isaac Guiguere, Louisville	1 "	27	Huden Hebert, Montreal.
July	2	"	58932 G. A. De Lamirande, Louisville.	10 ozs.	32	"
"	2	"	58933 Phébas Auger, Louisville.	12 "	40	"
"	2	"	58934 J. T. Hogue, Louisville.	1 lb.	50	"
June	25	"	58976 I. R. D. Dumont, Three Rivers.	1 "	60	Lymans, Ltd., Montreal.

DISTRICT OF EASTERN TOWNSHIPS—

July	15	Gelatin	1612 Dean & Lacey, Sher- brooke.	3 pkgs	45	Chas. B. Knox & Co., Montreal.
"	15	"	1613 Baille Normandier & Cie, West Shefford.	3 "	35	J. & G. Cox, Edin- burgh.
"	16	"	1614 Biron & Blonin, Sher- brooke East.	2 R.	30	C. O. Genest & fils, Sherbrooke
"	17	"	1615 La Cie Lafond Enrignes- tree, Weedon.	4 "	55	Unknown
"	23	"	1616 Avaril & Nadeau, Beauce Junction.	3 pkgs	30	"
"	29	"	1617 C. Ostigny, Rougemont.	2 "	20	L. Chaput fils & Cie, Montreal.

Date of Collection		Nature of Sample.	Name and Address of Vendor.	Quantity.	Cost.	Name and Address of Manufacturer or Furnisher as given by the Vendor.	
		No. of Sample.			Cents.	Manufacturer.	Furnisher.
DISTRICT OF EASTERN TOWNSHIPS—							
1913.							
July 30	Gelatin	1618	J. Dauphinais, St. Hilaire.	3 pkgs	36		L. Chaput et fils & Cie, Montreal
Aug. 1	"	1619	E. Beandry, La Providence, St. Hyacinthe.	7 oz.	19		O. Demers
" 1	"	1620	R. O. Brodeur, St. Hyacinthe	1 lb.	15		Eug. Lahine
" 1	"	1621	S. Bourgeois & Cie, Inc., St. Hyacinthe	3 pkgs	43	Chas. B. Knox & Co., Johnstown, N.Y.	
DISTRICT OF MONTREAL—							
July 9	Gelatin	58726	Romeo Thonin, 2654 Notre Dame west, Montreal.	3 pkgs	60		Hudon Hebert
" 9	"	58727	W. Royal, 2542 Notre Dame west, Montreal.	3 "	76		Unknown
" 10	"	58728	A. Gravel, 1671 St. James west, Montreal.	3 "	30		Bergeron, Whissell Co., Montreal.
" 10	"	58729	A. Jolicœur, 1707 St. James st., Montreal.	3 "	25	Pure Gold Mfg. Co., Ltd., Toronto.	
" 22	"	58730	F. Langlois, River Beau-dette.	3 "	30	Standard Imports, Ltd., Montreal.	
" 22	"	58731	Joseph Sauve, River Beau-dette.	3 "	45	Chas. B. Knox & Co., Montreal.	
" 23	"	58732	E. Guenette, St. Polycarpe.	3 "	30	Standard Imports, Ltd., Montreal.	
" 23	"	58733	T. Boyer, St. Polycarpe.	1 lb.	60		L. Chaput & fils, Montreal.
" 24	"	58734	S. Brunet, Coteau Landing.	3 pkgs	29		Laporte Martin, Montreal.
" 24	"	58735	J. Aumais, Coteau Landing.	1 lb.	50		
DISTRICT OF VALLEYFIELD—							
July 4	Gelatin	58021	L. E. Choquette, Farnham.	3 pkgs	38		
" 15	"	58022	J. A. N. Bourassa, Valleyfield	1 lb.	80		L. Chaput fils & Cie, Ltd., Montreal.
" 15	"	58023	Primeau frere, Valleyfield.	3 pkgs	30		
" 21	"	58024	Theodore Auty, Lancaster, Ont.	5 "	75	Chas. B. Knox & Co., Montreal.	
" 22	"	58025	J. Boyle, Alexandria.	3 "	30	Pure Gold Mfg. Co., Ltd.	
" 26	"	58026	Adam Miller, Huntingdon.	3 "	39		
" 26	"	58027	Jno. Snaill, Huntingdon.	3 "	36		

GELATIN.

Inspector's Report. (Is not an expression of Opinion).	Results of Analysis.						Remarks.	No. of Sample.
	Ash.	Sulphites Parts per 100,000 (SO ₂).	Gelatinizing power of a 5 p. c. Solution. (Colour of a 5 p. c. Solu- tion exposed to air 2 days).	Reaction with				
				Litmus Paper.	Lead Sulphacetate Solution (Sp.gr. 1.28).	5 p. c. Alum Solu- tion.		

Concluded.

	p. c.								
.....	2.02	3	Posi- tive.	Normal.	Acid.	Neg- ative.	Neg- ative.	Neg- ative.	1618
.....	0.60	51	"	"	"	"	"	"	1619
.....	1.82	6	"	"	"	"	"	"	Coloured red with an aniline dye. 1620
.....	1.17	32	"	"	"	"	"	"	1621

D. J. KEARNEY, INSPECTOR.

.....	1.45	54	"	"	"	"	"	"	58726
.....	1.95	76	"	"	"	"	"	"	Coloured red with a vegetable dye. 58727
Cox's	2.55	10	"	"	"	"	"	"	58728
Pure Gold Jelly.....	0.57	6							Jelly Powder, Artifi- cial Lemon flavour. Colour'd yellow with aniline dye. Sugar. 58729
Lady Charlotte.....	1.52	None.	Posi- tive.	Normal.	Neu- tral Acid.	Neg- ative.	Neg- ative.	Neg- ative.	58730
Knox.....	1.00	17	"	"	"	"	"	"	58731
Lady Charlotte.....	1.20	None	"	"	"	"	"	"	58732
.....	1.70	45	"	"	"	"	"	"	58733
Cox's	2.45	2	"	"	"	"	"	"	Coloured red with an aniline dye. 58734
.....	2.55	21	"	"	"	"	"	"	58735

J. J. COSTIGAN, ACTING INSPECTOR.

Cox's Instant Pow- dered.	2.52	1	"	"	"	"	"	"	58021
.....	0.80	7	"	"	"	"	"	"	58022
Lady Charlotte.....	1.87	trace.	"	"	Neu- tral Acid.	"	"	"	Coloured red with an aniline dye. 58023
.....	1.07	"	"	"	"	"	"	"	Coloured red with a vegetable dye. 58024
.....	1.42	53	"	"	"	"	"	"	58025
Knox Sparkling.....	1.10	13	"	"	"	"	"	"	58026
Cox's Instant Pow- dered.	2.62	13	"	"	"	"	"	"	58027

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.

DISTRICT OF OTTAWA—

1913.							
June 24	Gelatin	59106	The Anderson Langstaff Co., Kemptville.	3 pkgs	45	Chas. B. Knox Co., Johnstown, N.Y.	H. N. Bate & Sons, Ottawa.
" 28	"	59107	The Mackay Bros., Ltd., Renfrew.	3 "	45	J. & G. Cox, Edinboro, Scot.	Hudon Hebert & Cie, Montreal.
July 4	"	59108	Cherry & Craig, Ottawa.	3 "	30	Unknown	Castle & Co., Ottawa.
" 4	"	59109	F. H. Gilchrist, Ottawa.	3 "	45	Chas. B. Knox, Montreal.	"
" 11	"	59110	Wall & Co., Ottawa.	3 "	30	Pure Gold Mfg. Co., Ltd., Toronto.	Mfrs.
" 11	"	59111	" " "	"	30	Unknown	Unknown
" 11	"	59112	Jos. P. Valiquette, Dalhousie St., Ottawa.	1 lb.	18	"	S. J. Major, Ottawa.
" 11	"	59113	" " "	1 lb.	18	Standard Imports, Ltd., Montreal.	"
" 11	"	59114	A. E. Rea & Co., Ltd., Ottawa.	1 lb.	38	Jas. Chalmers Son, Wilkesville, N.Y.	Unknown
" 11	"	59115	" " "	1 lb.	38	J. & G. Cox, Edinboro, Scot.	"

DISTRICT OF KINGSTON—

June 23	Gelatin	57311	J. Gilbert, Kingston.	3 pkgs	45	Cox's, Edinboro, Scot.	"
" 23	"	57320	P. A. Haffner, Kingston.	3 "	45	C. B. Knox Co., Montreal.	"
" 23	"	57321	J. Cullen, Kingston.	3 "	30	" " "	"
" 25	"	57322	J. H. P. Young, Belleville.	3 "	45	Knox Co., Montreal.	"
" 25	"	57323	Thompson Bros., Belleville.	3 "	45	" " "	"
" 25	"	57324	Estate H. Crozier, Cobourg.	3 "	38	Cox	"
" 26	"	57325	H. Bradshaw, Peterboro.	3 "	45	Knox	"
" 26	"	57326	L. F. Lallico, Peterboro.	3 "	45	"	"
" 26	"	57327	P. S. White, Peterboro.	3 "	45	"	"
" 26	"	57328	W. H. Hamilton, Peterboro.	3 "	45	"	"

GELATIN.

Inspector's Report. (Is not an expression of Opinion).	Results of Analysis.					Remarks.	No. of Sample.
	Ash.	Sulphites Parts per 100,000 (SO ₂).	Gelatinizing power of a 5 p.c. Solution.	Odour of a 5 p.c. Solu- tion exposed to air 2 days.	Reaction with		
					Litmus 1 per.		

J. A. RICKEY, INSPECTOR.

	p.c.								
Knox Sparkling No. 1.	1.35	27	Posi- tive.	Nor- mal.	Acid..	Neg- ative.	Neg- ative.	Neg- ative.	59106
Cox's Guaranteed Absolutely Pure.	2.00	13	"	"	"	"	"	"	59107
Lady Charlotte.....	1.32	None.	"	"	Neu- tral.	"	"	"	59108
Knox	1.40	38	"	"	Acid..	"	"	"	59119
Pure Gold Quick Gel- atin.	1.07	35	"	"	"	"	"	"	59110
Lady Charlotte.....	1.27	None.	"	"	Neu- tral.	"	"	"	59111
C. C. F. Brand	1.65	54	"	"	Acid..	"	"	"	59112
Fleur de Leys Brand	2.45	49	"	"	"	"	"	"	59113
Chalmers	1.37	29	"	"	"	"	"	"	59114
Cox's Instant Pow- dered.	2.64	Trace.	"	"	"	"	"	"	59115

JAS. HOGAN, INSPECTOR

	2.62	6	Posi- tive.	Nor- mal.	Acid..	Neg- ative.	Neg- ative.	Neg- ative.	57319
	1.27	54	"	"	"	"	"	"	57320
	1.22	25	"	"	"	"	"	"	57321
	1.22	2	"	"	"	"	"	"	57322
	1.29	29	"	"	"	"	"	"	57323
	2.12	5	"	"	"	"	"	"	57324
	2.75	3	"	"	"	"	"	"	57325
	1.25	32	"	"	"	"	"	"	57326
	1.22	48	"	"	"	"	"	"	57327
	1.20	21	"	"	"	"	"	"	57328

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and address of Manufacturer or Furnisher as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.

DISTRICT OF TORONTO—

1913.							
June 23	Gelatin.	57415	Darroch Bros., Collingwood.	3pkgs.	45		T. Long & Bros., Ltd., Collingwood.
" 24	"	57416	Whitebread Bros., Allen dale.	3 "	40		Unknown.
" 24	"	57417	J. J. Hatley, Orillia.	3 "	31		MacLarnens Imp. Cheese Co., Limited, Toronto.
" 25	"	57418	J. E. Beaton, Oshawa.	3 "	45	Plymouth Rock Gelatine Co., Boston, Mass.	Unknown.
" 27	"	57419	Puckett & Scille, Oshawa.	3 "	45	Knox, Johnston, N. Y.	
July 7	"	57420	Bruce & Sanderson, 377 Parliament St., Toronto.	3ozs.	15		James Lumbers & Co., Toronto.
" 7	"	57421	F. Giles, 282 College St., Toronto.	3pkgs.	30	MacLaren Imperial Cheese Co., Ltd., Toronto.	Unknown.
" 7	"	57422	W. B. H. Taylor, 244 Harbor St., Toronto.	3ozs.	15		T. Kinnear & Co., Toronto.
" 8	"	57423	W. Miller, 351 Broadview Ave., Toronto.	3pkgs.	38	Cox	Unknown.
" 8	"	57424	A. Provau, 134 King St. East, Toronto.	3pkgs.	45	Knox.	Unknown.

DISTRICT OF HAMILTON—

Aug. 25	Gelatin.	58830	W. H. Beattie, Windham St., Guelph.	1lb.	60	Unknown.	
" 25	"	58831	Benson Bros., 25 Windham St., Guelph.	3pkgs.	45	McLaren Ltd., Hamilton.	
" 25	"	58832	Co-operative Association, 41 Quebec St., Guelph.	3 "	45	Chas. B. Knox Co., Montreal.	
" 25	Improved Cherry Jelly	58833	J. C. Hadden, 1 Quebec St., Guelph.	3 "	25	Young Winfield Ltd., Hamilton.	
" 25	Jelly Powder	58834	Reizner & Co., 48 King St., Berlin.	3 "	30	The Lister Pure Food Co., Ltd., Toronto.	

GELATIN.

Inspector's Report (Is not an expression of opinion).	Results of Analysis.					Remarks.	No. of Sample.
	Ash.	Sulphites Parts per 100,000 (SO ₂)	Gelatining power of a 5 p.c. Solution.	Colour of a 5 p.c. Solu- tion exposed to air 2 days.	Reaction with		
					Litmus Paper.		

H. J. DAGER, INSPECTOR.

	p. c.								
.....	1.13	2	Posi- tive	Nor- mal	Acid..	Neg- ative	Neg- ative	Neg- ative	57415
Cox's.....	2.45	13	"	"	"	"	"	"	57416
Imperial Sterilized..	1.05	13	"	"	"	"	"	"	57417
Phosphated.....	2.67	6	Neg- ative	"	"	Posi- tive	"	"	57418
No. 3 Knox Improv- ed acidulated Sup- erior to phosphated	1.00	22	Posi- tive	"	"	Neg- ative	"	"	57419
Fleur de Lays Brand	1.92	10	"	"	"	"	"	"	57420
Imperial Sterilized..	1.15	16	"	"	"	"	"	"	57421
Deutelles Apperts Chapeaux de Paille Germany.	1.32	6	"	"	"	"	"	"	57422
Cox's Instant pow- dered guaranteed absolutely pure.	2.25	3	"	"	"	"	"	"	57423
Knox Sparkling, No. 1.	0.95	21	"	"	"	"	"	"	57424

D. M. CAMERON, INSPECTOR.

.....	1.57	21	Posi- tive	Nor- mal	Acid..	Neg- ative	Neg- ative	Neg- ative	58830
.....	1.40	98	"	"	"	"	"	"	58831
Knox Sparkling....	1.10	27	"	"	"	"	"	"	58832
Youngs.....	0.75	6	"	"	"	"	"	"	58833
.....	0.57	6	"	"	"	"	"	"	58834

Jelly Powder, artificial
cherry flavour, red
aniline dye and sugar
Jelly Powder, artificial
cherry flavour, yel-
low aniline dye and
sugar.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.

DISTRICT OF WINDSOR—

1913.							
July	3	Gelatin . . .	54838 Orendorf Bros., Ridge-town.	3 pkgs.	45	Chas. B. Knox & Co., Johnstown, N. Y.	
"	3	"	54841 Ellsworth & Sons, Ridge town.	3 "	45	Chas. B. Knox & Co., Johnstown, N. Y.	
"	3	"	54846 Clark & Sons, Ridgetown.	3 "	45	Chas. B. Knox & Co., Johnstown, N. Y.	
"	7	"	54852 Harry St. Andrews, Chatham.	3 "	38		A. M. Smith & Co., London.
"	7	"	54857 Geo. A. Young, Chatham.	3 "	45		T. Kenny, Sarnia.
"	8	"	54865 D. M. Squire, Walker ville.	3 "	45		Unknown . . .
"	9	"	54867 Miller & Wiggle, Essex.	3 "	45	McIarens, Ltd., Hamilton.	
"	9	"	54869 A. Raines, Essex.	8 "	45	Chas. B. Knox, Montreal.	
"	9	"	54870 R. T. Moran, Leamington.	3 "	45		F. Smyth & Co., Windsor.
"	10	"	54873 P. Phillips, Leamington.	3 "	45		Unknown . . .

DISTRICT OF MANITOBA—

June	26	Gelatin	48911 F. Fawley, 436 Notre Dame, Winnipeg.	3 pkgs	45	Chas. B. Knox & Co., Montreal.	
"	26	"	48912 " " " "	3 "	40	Gorgie Mills, Edinboro, Scot.	
"	26	"	48913 John Dyke, William Ave., Winnipeg.	3 "	40	Chas. B. Knox, Montreal.	
"	27	"	48914 W. J. Robinson, Portage Ave., Winnipeg.	3 "	40	Gorgie Mills, Edinboro, Scot.	
July	2	"	48915 The Central Grocery, 541 Ellice, Winnipeg.	3 "	38	Chas. B. Knox, Montreal.	
"	2	"	48916 " " " "	3 "	37	Gorgie Mills, Edinboro.	
"	3	"	48917 O. Hughes, Pembina St., Winnipeg.	3 "	45	"	
"	3	"	48918 Bain's Grocery, Pembina St., Winnipeg.	3 "	45	"	
"	14	"	48919 T. A. Newman & Bro., Portage la Prairie.	3 "	45		Gorgie Mills, Edinboro, Scot.
"	15	"	48920 Greenstone Grocery, Brandon.	3 "	45		Knox & Co., Montreal.

GELATIN.

Inspector's Report. (Is not an expression of Opinion.)	Results of Analysis.						Remarks.	No. of Sample.	
	Ash.	Sulphites Parts per 100,000 (SO ₂).	Gelatinizing power of a 5 p.c. Solution.	Odour of a 5 p.c. Solu- tion exposed to air for 2 days.	Reaction with				
					Litmus Paper.	Lead Subacetate Solution (Sp. gr. 1.26).			5 p.c. Alum Solu- tion.

JNO. TALBOT, INSPECTOR.

	p.c.								
Knox Sparkling, No. 1.	1.20	29	Posi- tive	Normal.	Acid.	Neg- ative	Neg- ative	Neg- ative	54838
Knox acidulated....	1.05	21	"	"	"	"	"	"	54841
Knox Sparkling, No. 1.	1.30	33	"	"	"	"	"	"	54846
Cox's Instant powdered.	2.37	2	"	"	"	"	"	"	54852
Knox Sparkling, No. 1.	1.07	29	"	"	"	"	"	"	548
Knox Sparkling....	1.05	16	"	"	"	"	"	"	54865
McLaren's Invincible Granulated.	1.30	None.	"	"	"	"	"	"	54867
Knox Sparkling....	1.30	27	"	"	"	"	"	"	54869
	1.32	32	"	"	"	"	"	"	54870
Knox Sparkling, No. 1.	1.15	29	"	"	"	"	"	"	54873

A. C. LARIVIERE, INSPECTOR.

	1.20	48	Posi- tive	Normal.	Acid.	Neg- ative	Neg- ative	Neg- ative	48911
Cox's Powdered....	2.62	5	"	"	"	"	"	"	48912
	1.05	21	"	"	"	"	"	"	48913
Cox's Powdered....	2.10	5	"	"	"	"	"	"	48914
	1.32	33	"	"	"	"	"	"	48915
Cox's Powdered....	2.35	13	"	"	"	"	"	"	48916
"	2.52	16	"	"	"	"	"	"	48917
"	2.40	1	"	"	"	"	"	"	48918
Cox's....	2.25	14	"	"	"	"	"	"	48919
	1.55	17	"	"	"	"	"	"	48920

BULLETIN No. 273—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost		Name and Address of Manufacturer or Furnisher as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.

DISTRICT OF ROCKY MOUNTAINS—

1913.							
July	2 Gelatin	4909	L. C. Masson, Revelstoke, B.C.	3 pkgs	45	Chas. B. Knox Co., Montreal.	
"	2 "	4910	" " "	3 "	45	J. & G. Cox, Edinboro, Scot.	
"	2 "	4911	" " "	1 lb	65		W. H. Malkin & Co., Vancouver
"	16 "	4922	Trail Grocery Co., Trail, B.C.	3 pkgs	45	Chas. B. Knox & Co., Montreal.	
"	16 "	4924	Union Co-Op. Association, Rossland, B.C.	3 "	30	Pure Gold Mfg. Co., Toronto.	
"	16 "	4925	Union Co-Op. Association, Rossland, B.C.	3 "	40	J. & G. Cox, Edinboro, Scot.	
"	16 "	4933	Hunter Bros., Rossland, B.C.	3 "	30	Crosse & Blackwell, London, Eng.	
"	28 "	4942	Star Grocery, Nelson, B.C.	3 "	55	Chas. B. Knox & Co., Montreal.	
"	28 "	4941	Bell Trading Co., Nelson, B.C.	3 "	55	" "	

DISTRICT OF VANCOUVER—

July	20 Gelatin	5490	Columbia Produce Co., 2234 Granville st., Vancouver, B.C.	3 pkgs	30	Genesee Pure Food Co., Bridgeburgh, Ont.	
	30 "	5492	Fairview Dept. Stores, 2020 Granville st., Vancouver, B.C.	3 "	49	J. & G. Cox, Edinboro, Scot.	
Aug.	8 "	54903	G. H. Hodgson, Steves, ton, B.C.	3 "	15	Chas. Knox & Co., Montreal.	
"	9 "	54904	Gruchy & Carlaw, 5th Ave. and Granville st., Vancouver.	3 "	45	" "	
"	9 "	54905	London Grocery Co., 2200 Granville st., Vancouver	3 "	60	Unknown	Kelly Douglas, Vancouver.
"	9 "	54906	A. C. Bartig, 2437 Granville st., Vancouver.	3 "	60		W. H. Malkin, Vancouver.

DISTRICT OF VICTORIA—

July	9 Gelatin	5359	Windsor Grocery Co., 817 Govt. st., Victoria, B.C.	1 lb	65	The Grove Chem. Co., Ltd., Appley Bridge Wigan, Eng.	
"	9 "	53592	H. & K. Grocery, Douglas st., Victoria, B.C.	3 pkgs	60	Chas. B. Knox Co., Montreal.	
"	9 "	53598	R. Erskine & Co., Johnston st., Victoria, B.C.	3 "	30	J. & G. Cox, Edinboro, Scot.	

GELATIN.

Inspector's Report. (Is not an expression of Opinion).	Results of Analysis.					Remarks.	No. of Sample.
	Acid.	Sulphite Parts per 100,000 (SO ₂).	Gelatining power of a 5 p. c. Solution.	Colour of a 5 p. c. Solu- tion exposed to air 2 days.	Reaction with		
					Litmus Paper.		

THOS. BAKER, INSPECTOR.

	p. c.								
Sparkling	1.35	27	Posi- tive.	Nor- mal	Acid.	Neg- ative.	Neg- ative.	Neg- ative.	49909
.....	2.55	4	"	"	"	"	"	"	49910
Argent.	2.22	Trace.	"	"	"	"	"	"	49911
Acidulated.	1.07	17	"	"	"	"	"	"	49922
.....	1.15	5	"	"	"	"	"	"	49924
.....	2.50	16	"	"	"	"	"	"	49925
Star.	1.12	66	"	"	"	"	"	"	49933
Acidulated.	1.12	38	"	"	"	"	"	"	49942
Sparkling	1.37	33	"	"	"	"	"	"	49944

J. F. POWER, INSPECTOR.

Jell O.	0.50	13							Jelly Powder. Artifi- cial strawberry flav- ouring. Red veg- table dye and sugar.	54901
Guaranteed absolu- tely pure.	2.37	6	Posi- tive.	Nor- mal	Acid.	Neg- ative.	Neg- ative.	Neg- ative.		54902
.....	1.37	29	"	"	"	"	"	"		54903
Acidulated granu- lated.	1.37	21	"	"	"	"	"	"		54904
Sheet.	0.92	None.	"	"	"	"	"	"		54905
.....	0.87	6	"	"	"	"	"	"		54906

D. O'SULLIVAN, INSPECTOR.

Silver Leaf Label. . .	1.75	109	"	"	"	"	"	"		53590
Knox Sparkling No.1	1.12	22	"	"	"	"	"	"		53592
.....	1.85	16	"	"	"	"	"	"		53598

BULLETIN No. 273—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.
DISTRICT OF VICTORIA—							
1913.							
July 15	Gelatin	53600	Henry W. Driver, 856 3/4 Yates st., Victoria, B.C.	kgs 45	45	Chas. B. Knox, Montreal.	
" 15	"	57602	M. Dyrlund, 974 Yates st., 3 Victoria, B.C.	" 30	30	J. & G. Cox, Edinburgh, Scot.	
" 16	"	57609	W. C. Goode, 541 Johnston st., Victoria, B.C.	1 lb.	75		Nat. Drug & Chem. Co., Victoria, B.C.
" 18	"	57611	The West End Grocery Co., Ltd., 1002 Govt. st., Victoria, B.C.	1 "	50		Lowenberg & Co., Victoria, B.C.
" 18	"	57614	Copas & Young, 633 Fort st., Victoria, B.C.	1 "	50		R. P. Rithet & Co., Victoria, B.C.
" 18	"	57616	Acron Bros., 1317 Douglas st., Victoria, B.C.	1 "	60	The Grove Chem. Co., Appleby Bridge Wigan, Eng.	
" 18	"	57617	Dixie H. Ross & Co., 1317 Govt. st., Victoria, B.C.	1 "	50		W. P. Downey, Montreal.

GELATIN.

Inspector's Report. (Is not an expression of Opinion).	Results of Analysis.					Remarks.	No. of Sample.	
	Ash.	Sulphate Parts per 100,000 (SO ₂).	Gelatining power of a 5 p. c. Solution.	Odour of a 5 p. c. Solu- tion exposed to air for 2 days.	Reaction with			
					Litmus Paper.			Lead Subacetate Solution (Sp.gr. 1.26).
								5 p. c. Alum Solu- tion.

Concluded

	p.c.								
Knox Sparkling No.1	1.25	16	Posi- tive.	Nor- mal.	Acid.	Neg- ative.	Neg- ative.	Neg- ative.	53600
.....	2.42	2	"	"	"	"	"	"	57602
.....	2.37	76	"	"	"	"	"	"	57609
.....	1.85	21	"	"	"	"	"	"	57611
Gelatin Argent. ...	1.82	5	"	"	"	"	"	"	57614
Silver Leaf Label...	1.65	60	"	"	"	"	"	"	57616
White Duck Brand Superior.	1.80	76	"	"	"	"	"	"	57617

