

CANADIAN AND ENGLISH SALT

By C. C. James, B. A., Professor of Chemistry at the Ontario Agricultural College.

Common salt consists of sodium chloride (97 per cent to 98 per cent), water, calcium sulphate or gypsum (1 1/2 per cent to 2 1/2 per cent), calcium chloride, magnesium chloride, with traces of sand, clay, iron and dirt. The gypsum should not exceed 1 1/2 per cent to 2 per cent; in excess it makes the salt difficultly soluble and produces a slime. The chlorides of magnesium and calcium are very soluble, give a bitter taste, and attract moisture from the air.

To determine whether there is ground for the prejudice that has existed against Canadian salt, I have carefully analyzed five samples of Canadian salt and four of Liverpool. No. 10 is added, being a sample sent in by a chemist. It was dirty, difficultly soluble, impure, and in every way unfit for use. These are all samples of fine dairy or table salt procured for the Ontario Creamery by Prof. Robertson, who is testing them in his making.

Table with 11 columns: Brand, No. of Samples, and various chemical analyses (Total, Residue, Calcium sulphate, Calcium chloride, Calcium and Magnesium Chloride, Water, Sodium chloride, Other salts, and Purity).

The "residue" in the above table is the insoluble or difficultly soluble portion. The average impurity of the five Canadian salts is 2.200 per cent; the average impurity of the four Liverpool salts is 2.203 per cent. There is a marked difference between the various English brands and between the English and Canadian, and the average of the latter is a little ahead of the average of the former.

By means of fine sieves each sample was divided into four classes; these were weighed, and an estimate made of the uniformity and fineness of the different brands. Taking 100 as the maximum of uniformity and fineness, the salts were arranged in the following order: No. 6, 88; No. 4, 87; No. 7, 86; No. 1, 84; No. 2, 83; No. 2, 72; No. 3, 69; No. 3, 68; No. 5, 54; (1) Liverpool, (2) Canadian, (3) Liverpool, (4) Canadian, (5) Liverpool, (6) Canadian, (7) Liverpool, (8) Canadian, (9) Canadian. In this respect the Liverpool salts are a little ahead, being on the average a little more uniform than the others.

On the average the Liverpool salts are a little more readily soluble than the Canadian. The purer a salt the more thoroughly it dissolves, but not necessarily the more quickly. The rapidity of solution depends upon the shape of the grain as well as upon its size; the more soluble salts are flat, thin, disc-shaped; the more insoluble are compact and cubical in grain. No. 1 for instance is quite pure and small in grain, but very difficultly soluble; it is gritty in feel; No. 6, the purest and finest, stands fourth. In choosing a salt, the attention should be paid to the shape of the grain; for a quick pickle the flat grain is preferable, and for dry curing and slow pickle the compact grain. The best Canadian salts are slow in solution, the best Liverpool a little more rapid. Too often Canadian salts have been condemned because a slowly dissolving salt has been used where a rapidly dissolving salt was required; for instance, in the salting of butter for immediate use, Dealers and users of salt seem to pay too little attention to this important question of solubility.

In the salting of food for immediate use, butter and pork for example, also in the case of vegetable pickling, the rapidly dissolving salt are best. In the dry curing of meat, the making of a lasting pickle, the salting of dairy products to be stored for sometime, a more slowly dissolving salt is preferred. For table use a fine salt of uniform grain, clean and white, dry and quickly dissolving is required. Such a salt as the latter is required also for butter making, and there seems to be lacking just such a salt among the Canadian brands. The best Canadian salts are either too hard in grain or too large for this immediate use. If such a brand were available, Canadian salt would have no fear of competition with Liverpool salt.

The strength of the brine is often measured by a hydrometer, or salometer, and the purity of a sample of salt thereby determined. But this is not an absolute test of the true value of a salt; the soluble impurities may be heavier than the pure salt, and thus an impure salt may produce a heavier brine than a purer salt. For ordinary purposes however the hydrometer can be used in determining the proper strength of a brine. A first-class salt should be pure white in color. The Liverpool salts have a faint bluish tinge; two of the Canadian salts, from the same locality, have a faint reddish cast. These colors are perhaps due to the shells of animals deposited in or beside the salt brines. Enough of the red coloring matter was obtained to determine it to be due to the presence of iron. A very decided red or blue cast should condemn a salt for use. One packer gave as his experience that a dark salt colored the outside of the meat dark also.

A first-class salt should be: 1st, clean; 2nd, white; 3rd, comparatively dry; 4th, uniform in grain; 5th, quite thoroughly soluble in water; 6th, scale-like in grain for quick, and compact for slow solution.

On the whole I see no grounds for the prejudice against Canadian salts. There doubtless are some poor brands offered for sale, but there are also brands that are just as pure as the Liverpool, the only Liverpool brand that stands much ahead being partly shut out on account of its price. Many of the leading packers of Toronto are returning to the use of Canadian salt. The only matter of doubt is as to its use in butter. This should be given a fair and unprejudiced trial, and manufacturers should endeavor to fully meet the want in this direction by producing a salt pure in composition, fine and uniform in grain, and quick in solution.

Always Required - A good cathartic medicine. National Pills will not disappoint you. Caution to married women: Man is like a lump of ice - the warmer you make it for him, the faster he runs away. Freeman's Worm Powders are safe, sure and speedy to remove worms from children or adults.

"You appear worried about something." "Yes, my affairs are in a bad condition. Your creditors are both crying you?" "The old ones? No, it is the difficulty of getting any more in the future that is troubling me."

Lu's Sulphur Soap should be found with every toilet. It is cleansing and fond.

Butcher (to young housekeeper) - I have nothing left, mum, but a hind quarter of lamb and liver. Young housekeeper - Very well. You may send a small hind quarter of liver.

Dr. Low's Pleasant Worm Syrup is a safe and reliable worm remedy for all worms afflicting children or adults.

"How to Send a Boy to Sea" is the name of a new book. One good way is to work him on the farm from daylight to dark 365 days in the year, and then thrash him with a trunk strap when he asks for a half-holiday in leap year.

The most deadly foe to all malarial diseases is Ayer's Sarsaparilla, a combination of vegetable ingredients, of which the most valuable is used in no other preparation. This remedy is an absolute specific, and succeeds when other remedies fail.

Smith - I saw you carrying home a couple of nice looking watermelons last night. How much did they cost you? Brown - I don't know yet. The doctor is up at the house now.

The curative power of Ayer's Sarsaparilla is too well known to require the special aid of any suggestive or nervous certificate. Witnesses of its marvelous cures are today living in every city and hamlet of the land.

There is more nutriment in bran soaked and brewed than most people suppose. It is excellent food for winter, when the cornmeal for winter, when heat is required. In hot weather the bran or meal should not ferment more than twelve hours or it will become too acid and cause inflammation of the stomach and bowels and then there will be a score about "hog cholera."

In Great Britain the question of Home Rule is commanding attention. To the man with a cold in the head or chest the safest way to ensure Home Rule over a cold is to have on hand a bottle of Dr. Harvey's Red Pine Gum. For sale at J. Wilson's Prescription drug store.

In the history of medicines no preparation has received such universal commendation for the alleviation it affords and the permanent cure it effects in kidney diseases as Dr. Van Buren's Kidney Cure. Its action in deep distressing complaints is simply wonderful. Sold by J. Wilson.

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To the Wool Growers of the Surrounding Country: We wish to say that we are prepared to take your wool in exchange for goods, or work it for you into any of the following articles, viz: Blankets - White, Grey or Horse, Shirtings - Grey or Check, Cloths - Tweeds or Full Cloths, Flannels - White, Grey, Colored, Union, Plain or Twill, Sheetings - Broad or Narrow, Stocking Yarn - White, Grey, Colored or in Colors, Carpet Warps made to order.

Our facilities for this work cannot be surpassed. We will cut and make up to do the day it is brought in, if required. Custom Spinning and Reeling, or Spinning on the Cap, coarse or fine, hard or soft twist, as required.

We are in a position to do all kinds of custom work, usually done in a full set customer mill, and we will guarantee to do for you fully equal, if not a little better than any in our surroundings.

A call respectfully solicited.

E. McCANN, East End Woollen Mills, Goderich May 18th, 1885.



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For "worn-out," "run-down," debilitated school teachers, milliners, seamstresses, housekeepers, and overworked women generally, Dr. Pierce's Favorite Prescription is the best of all restorative tonics. It is not a "Cure-all," but admirably fulfills a singleness of purpose, being a most potent Specific for all those Chronic Weaknesses and Diseases peculiar to women. The treatment of many thousands of such cases, at the Invalids' Hotel and Surgical Institute has afforded a large experience in adapting remedies for their cure, and Dr. Pierce's Favorite Prescription.

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PRICE \$1.00, FOR \$5.00. Send 10 cents in stamps for Dr. Pierce's Large Treatise on Diseases of Women (160 pages, 24 illustrations). Address, WOMAN'S DISPENSARY MEDICAL ASSOCIATION, 605 Main Street, Buffalo, N. Y.

Pierce's LITTLE PILLS. ANTIBILIOUS AND CATHARTIC. SICK HEADACHE, Bilious Headache, Bloating, Constipation, and Bilious Attacks, Colic, Flatulency, and all the ailments arising from a disordered Liver.

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Every Boy and Girl should Learn SHORTHAND. THE PHONOGRAPHIC ALPHABET.

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1. AH. 2. EH. 3. EE. 4. AW. 5. OH. 6. OO.

DIPHTHONGS.

1. I O I. 2. O I I. 3. O U I. 4. I U I. 5. O U O. 6. U O U.

7. I U O. 8. O U O. 9. U O U.

10. I U O. 11. O U O. 12. U O U.

13. I U O. 14. O U O. 15. U O U.

16. I U O. 17. O U O. 18. U O U.

19. I U O. 20. O U O. 21. U O U.

22. I U O. 23. O U O. 24. U O U.

25. I U O. 26. O U O. 27. U O U.

28. I U O. 29. O U O. 30. U O U.

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85. I U O. 86. O U O. 87. U O U.

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Shiloh's Cough and Consumption Cure is sold by us on a guarantee. It cures Croup, Consumption. For sale by J. Wilson, Druggist.

IMPORTANT TO OWNERS OF STOCK.

Giles' Liniment Iodide Ammonia. Removes all Unpleasant Bubbles. Spinal Meningitis. Curves Lameness in Cattle. Sprung Knees. Founder, Weak Limbs. Quittor.

No stable should be without it. Railroad, mining and express companies all use Giles' Liniment, and in the great racing stables of Belmont and Lottell it has achieved wonderful success also on the management of cattle.

Write Dr. H. GILES, Box 3123, N. Y. P. O. who will, without charge, give advice on all diseases and also on the management of cattle. Sold by all druggists at 50c, and \$1.00 bottle and in quarts at \$2.00, in which there is great value. The Liniment in white wrappers is for family use; that in yellow for cattle.

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White Dutchman, Green Aledo, York, Fox Vine and Red Clover, Timothy, and other varieties of Grasses suitable for permanent pasture, Oak, Wheat, Peas, Barley, Rye, Beans, Buckwheat, and other varieties of Field and Garden Seeds of last year's growth - true to name.

A full assortment of Flour and Feed, The Celebrated Union Flour - the best in the market.

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A large amount of Money to LEND.

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ART DESIGNS IN WALL PAPER. 20,000 Rolls of the Latest Designs. Beautiful colors and at prices less than very much inferior goods. Call and see them. They are the best value in town, and must be sold.

The Latest Spring Bazaar Patterns & Fashions. AT BUTLER'S.

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The Latest Spring Bazaar Patterns & Fashions. AT BUTLER'S.

A BASEBALL

A Philological Society of Gross Bonuses in London.

I can conceive of no study for the philologist than a modern account of a game of baseball. I have I realized the worth of the English language.

"You will observe, I ran, 'that the points Whitney and Haskett and that Grasshopper pitcher's box. A ball battere and a battere ing between."

"Why do they put box? I inquired the yo bang.

"I don't know, I an ly, unless it is a man Pitchers come high."

"I know, said the w lectual curvature of tl keep the opposing play him. I read in the pa that when Radbourne box Capt. Howe hops both feet."

"Very likely, I rep tinue: Horning got a l Sutton pated a corker threw to second, doubl

"What is a base on fair girl in white lawn. I kept the opposing play him. I read in the pa that when Radbourne box Capt. Howe hops both feet."

"What did Horning doubled up? I inquired with the bang. 'Didn' much?'"

"I presume not," s lay that Donnelly tel him, and yet he went y as if nothing had b

"Dear me, it's all o representative of senti

"Then," I went on, interruption, "Was I and went out on first, 'What's a la-la'?"

"Opinion differ? I Rowe made that hom in City grounds, I b son say it was a la-la, ascertained that it was a la-la cannot agree, I able to decide."

"Kansas City now c lined," said found S he got onto him in panded himself over!

"How brutal!" ex "Why didn't he hid

"That doesn't seem fence," said the lrt

"You see how the am out of his box New York. Why, th just went for him and and left."

"Yes," said the gi "my brother told me enes were in Wash tried to pitch, and I mad, and every one o they actually laid his fifth innings."

"True," said the "George was telling that the Kansas City ing, as he called it, I were going to know him."

"It must be a terr pitcher," said the fa white. "Papa told u to any more ball n was tired of being mered."

"If you will give t ladies," I said a li will proceed with th first inning. The b muscle, and wilde in effect. After it scored Lattie was cal and kicked vigorant

"What is the ump sentimental girl.

"Oh, I know that one in white; 'he is does all the taking a all 'rats'."

"I think it very r said an amiable gi first time.

"I have no dou what's right."

"The innings clo the Kansas City,"

"That the Boston had 'Oh, wasn't that

"I hope th

"[Times.

Ladies troubled w ough Hands or F descriptions, should Park's Carbolic O the skin in perfect l and good color. I genuine, made by Price 25c. Sold at Store.

Germany has be crier pigeons in i poses. Gen. Boula inquiry.

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