Hundreds of Ways to Save

There is important information in this book for the men and women of every household and farm. Please see that all have a chance to read it.

INDEX

GREENWICH LYE is the Greatest Money, Labor, Time and Health-Saving Product That the American Household Buys Today.

AS a cleansing and germ killing agent the use of GREENWICH LYE means a cleaner home, a healthier home and a happier home—and a home that costs less to maintain.

On the farm the actual profit-producing power of GREENWICH LYE, in addition to its other uses, has made it practically indispensable.

Laboratory and Practical Tests have proven that 1 Heaping Teaspoonful of GREENWICH High Test LYE in ½ gallon of water will destroy Typhoid Germs almost instantly. GREENWICH LYE is seven times as effective as pure Carbolic Acid against the germs responsible for Typhoid Fever and Summer Complaint, and against germs responsible for Contagious Abortion in Cattle and Bacillary White Diarrhea in Chickens.

The Favorite Brand for All Sanitation Purposes

Economize by Using GREENWICH LYE for Household Cleaning, Water Softening and Soap Making.

One can of GREENWICH LYE will do the work of many cans of prepared cleansing powders and water softening compounds. Use GREENWICH LYE carefully and according to directions and you will make a great saving in your soap and cleaning bill. See pages 36 and 37.

Ask your grocer for GREENWICH LYE by name. No substitute has ever been found for it.

NOTE—The recipes and directions contained in this booklet have been thoroughly tested. Complete satisfaction will be obtained only when GREENWICH LYE is used. Avoid failures by insisting on GREENWICH LYE.

The Favorite Brand of the World's Best Soap Makers

GREENWICH LYE For Soap Making

Soap making is easy, profitable and interesting. Make your own toilet, laundry and abrasive soaps and soap flakes with your own clean waste fats and GREENWICH LYE.

Toilet Soap--Laundry Soap

Made at Home at a Cost of

1 CENT A BAR

Tallow and lard make the best soap or use fats that have no cooking value, such as meat fryings, cracklings, meat trimmings and other refuse fat.

WARNING—You must have fat or grease to make soap. Lean meat scraps will not make soap.

THE FIRST STEP in Soap Making Is to PROPERLY PREPARE THE FAT

(See Next Page)

How to Prepare Fats for Soap Making

FATS CAN BE TREATED IN 3 CLASSES

Class 1. Fat rendered from tallows, meat trimmings, rinds and other meat scraps.

Class 2. Meat fryings and other refuse fats.

Class 3. Cracklings.

Class 1 is ready for soap making.

Class 2 should be washed by adding an equal amount of water and bringing it to the boiling point. Remove from fire, stir, add cold water (1 qt. to 1 gal. of the hot liquid). The cold water precipitates foreign substances. The clean fat comes to the top. Remove the fat when it is firm.

NOTE—Some fats may require a second washing. Wash a very rancid fat at least once.

Class 3

(a) Pressed Cracklings

(b) Unpressed Cracklings

(a) To remove fat from Pressed Cracklings

(1) To every 4 lbs. or 1 gallon of pressed cracklings add 1 level tablespoonful of GREENWICH LYE and water to twice the depth of the cracklings.

(2) Cover and boil 1 hour.

(3) Remove from fire and when it stops boiling pour cold water over it and proceed as in Class 2.

NOTE—16 pounds (approximately 4 gals.) can be boiled in the wash boiler at one time. Fat should be removed from the cracklings after butchering and stored until ready to make soap.

(b) To remove fat from Unpressed Cracklings

Treat same as (a) except use 1 level teaspoonful of GREENWICH LYE instead of 1 tablespoonful to 4 lbs. of cracklings.

Mrs. Robinson's recipe for Making Soap from Unpressed Cracklings will be found on page 12. This recipe has been used by many people for years.

GREENWICH LYE makes the best quality soap.

SOAP MAKING

The Easy Way with GREENWICH LYE

Make clean fats into soap by the following recipe:

1 can GREENWICH LYE
2½ pts. Cold Water
6 lbs. fat (tallow, lard or combinations of tallow and lard)

Yield—9 lbs. soap for toilet, laundry or soap flakes.

Dissolve GREENWICH LYE in water (never use aluminum container). Stir until dissolved and let cool to correct temperature. (See temperature chart, page 9.) Melt fat to a clear liquid and let it cool gradually. Stir from time to time to prevent the crystals of fat reforming. Cool until the fat offers resistance to the spoon or see temperature chart page 9. Pour the GREENWICH LYE solution into the fat in a thin, **steady stream with slow, even stirring.** (Rapid addition of lye solution or hard stirring is liable to cause a separation.) A honey-like texture is formed which in about 10 to 20 minutes becomes thick with all the lye incorporated into

the fat. Pour this mixture into a wooden box that has been soaked in water and lined with clean cotton cloth dipped in water and wrung nearly dry and placed in a protecting pan. Cover with a board or cardboard and then with a rug or blanket to retain the heat while it is texturing out. Let it remain undisturbed for 24 hours—when it can be cut and lifted from the mold.

To remove it from the mold lift it by the ends of the overhanging cotton lining. Cut into bars by wrapping the soap cake once with a fine wire or string, crossing ends and pulling. Place soap so air can reach it, but avoid drafts and cold. In 10 to 14 days it is ready for use. Aging improves soap.

NOTE—Do not let soap freeze the first two weeks.

Boiling Soap or Reclaiming Soap

If an exceedingly rancid fat is used, or salt is in the fat, a curdled soap or a separation will result. In that case cut or shave the soap into a kettle, add the lye that has separated out (never throw it away) and about 5 pints of water. Melt with gentle heat and occasional stirring. Then raise the heat and boil gently. It should become thick and syrupy. If it does not, add more water, 1 pint at a time, and continue boiling until it becomes ropy or hairy when dropped from the spoon. Pour into mold and cover.

Separation—If too cold or too hot a temperature is used, or soap is stirred too vigorously or not thoroughly mixed, a separation may occur. If separation occurs reclaim as above.

NOTE—Do not be afraid of adding too much water because it can be boiled off.

Butchers can turn waste grease into fine, easily salable soap with GREENWICH LYE.

Measurements

Accurate measurements are essential to success. Six pounds of fat are necessary to neutralize 1 can of pure GREENWICH LYE. This makes an all-purpose soap. Six pounds fat is the equivalent of 6¾ pts. or 13½ standard measuring cups of liquid fat.

Temperature Chart

Correct temperature assures success. The following temperature chart will be a guide: (A Dairy or Floating Thermometer may be used.)

Temperature	Ingredients
97° F. to 100° F.	Soft rancid fat
75° F. to 80° F.	GREENWICH LYE solution.
80° F. to 85° F.	Sweet lard or other soft fats.
70° F. to 75° F.	GREENWICH LYE solution
100° F. to 110° F.	Lard and tallow (half and half)
80° F. to 85° F.	GREENWICH LYE solution
120° F. to 130° F.	All tallow
90° F. to 95° F.	GREENWICH LYE solution

In hot weather or in a hot room if the soap mixture remains greasy, set it in a pan of cold water and continue stirring until thick, when it is ready to pour.

NOTE—Avoid hardening of the mixture on the sides and bottom of the pan.

Variations in Soap Making

Floating Soap—When the soap mixture is thick enough fold air into it as eggwhite would be folded into a cake mixture.

To Perfume Soap—If perfume is desired the following oils are recommended, preferably the synthetic or imitation: Sassafras (4 tsp.), Lavender (2 tsp.), Citronella (2 tsp.), Bergamont (2 tsp.), Wintergreen (2 tsp.), Lemon (1 tsp.), Cloves (1 tsp.), Almond (1 tsp.), Rose Geranium (½ tsp.).

NOTE—Your druggist has or can secure these for you.

Soap readily absorbs odors. It should be stored in a clean, dry place. It can be inexpensively perfumed by placing with it the leaves or petals of a favorite flower, or other perfume if the above has not been added to the mixture.

NOTE—Never use an alcohol perfume in soap. It will disappear and the alcohol is liable to cause separation.

To Color Soap—The following colors are water soluble, non-poisonous and they will not fade:

Yellow—Fluorescein (5 grains in 1 oz. water)
Green—Naphthol Green (b) (4 grains in 1 oz. water)
Red—Rhodamine (B) (1 grain in 1 oz. water)

NOTE—Your druggist has or can secure these colors for you. They will cost ½c to 1c per lb. of soap. Do not use alcohol preserved colors as they fade and may cause separation of the mixture.

Detergents—Ammonia added to soap as a cleansing aid is lost by the action of the lye on it, hence has little or no value in the soap.

Borax—Borax will quicken the sudsing action of soap. Two tablespoonfuls dissolved in the GREENWICH LYE solution (1 can lye) while cooling is sufficient.

Glycerine—For extremely sensitive or dry skin the addition of glycerine may be desirable—6 ozs. to the recipe.

Recipes for Making Various Kinds of Soaps with Greenwich Lye

1. All Tallow Soap — One can of Greenwich Lye; Mutton or Beef Tallow 6 lbs.; Water 3¼ pts.; Lye Solution 90°F.; Fat 130° F. Substitution of one pound of tallow with lard, cocoanut or olive oil will improve a tallow soap.

2. Castor Oil Soap — One can of Greenwich Lye; Castor Oil 3 lbs.; Lard 3 lbs.; Water 2½ pts.; Lye solution 80° F.; Fats 125°F. Castor Oil used by itself makes a hard, poor lathering soap. It is used in small quantities with other fats to make soap firmer.

3. Cocoanut Oil Soap — One can of Greenwich Lye; Cocoanut Oil 4½ lbs.; Water 2½ pts.; Lye Solution 70°F.; Oil 110°F. A cocoanut oil soap gives a very profuse but thin lather. Substitute tallow or lard for part of this oil for thicker lather.

4. Cottonseed Oil Soap — One can of Greenwich Lye; Cottonseed Oil 5¾ lbs.; Water 3 pts.; Lye Solution 135°F.; Oil 135°F. This oil is a little more difficult to saponify and the Lye should be added in small portions at a time, obtaining complete saponification before the further addition of Lye. The resulting product will be a rather soft soap. Harder soap can be obtained by substituting part of the cottonseed oil with tallow. (See "Liquid Soap".)

5. Fish Oil Soap — One can of Greenwich Lye; Fish Oil 4½ lbs.; Water 3 pts.; Lye Solution 80°F.; Oil 100°F. Stir well for about 10 minutes and then allow to stand with occasional stirring until combination is complete, then transfer to the molds. This soap is used as a basis for sprays in connection with insecticides and fungicides. This subject is treated in another part of this booklet.

6. Glycerine Soap — To make a Glycerine soap add about 6 oz. of Glycerine to any soap shortly after the Lye solution has been added.

7. Imitation Castile Soap — A very high grade soap which in many respects is superior to Castile Soap can be made as follows: Olive Oil 24 oz.; Tallow (good grade) 38 oz.; Cocoanut Oil 24 oz.; Fats 90°F.; One can Greenwich Lye; Water 2 pts. Cooled to 90° F.

8. Linseed Oil Soap — One can of Greenwich Lye; Linseed Oil 5¾ lbs.; Water 4 pts.; Lye Solution 90°F.; Oil 100°F. Add the Lye solution in small quantities at a time and get good combination before further addition. This makes a soft

soap. A hard soap cannot be made by using linseed oil by itself. This soap is recommended for washing automobiles and furniture.

9. Olive Oil Soap — One can of Greenwich Lye; Olive Oil 5¾ lbs.; Water 2 pts.; Lye Solution 80°F.; Oil 90°F. Add the Lye solution in small quantities at a time and give quite a long stirring. Do not pour into the molds until of quite a thick consistency. It is preferable to substitute one or two pounds of this oil with tallow.

10. Sulphur Soap — One can of Greenwich Lye; Cocoanut Oil 4½ lbs.; Water 2½ pts.; Potassium Sulfide ¼ oz. dissolved in ¾ oz. of water; Lye solution 100°F.; Oil 90°F. Add the potassium sulfide solution shortly before pouring. Amount of water can be cut down to 1½ pts. if a hard soap is desired.

11. Tar Soap — A lard or tallow soap is made up in the regular manner and allowed to stand with occasional stirring until it has become quite thick. Eight ounces of wood tar is then added and worked in.

This will require considerable stirring and beating of the mass to prevent small lumps from forming.

12. Cracklings — This recipe, for making hard soap from scraps of bacon rinds and refuse grease, was submitted by Mrs. J. T. Robinson, who has used it for many years with great success.

We recommend it and wish to pass it on in Mrs. Robinson's own words.

"First, I prepare my soap the day before. Pour two gallons of water into an iron kettle, and empty three cans of Greenwich Lye into it. Let cool an hour, or longer won't matter. Then place on the stove and throw in fifteen pounds of scraps. Let this boil until every particle of the meat is dissolved. Add about two gallons more of water from time to time to keep from boiling over, then set aside to cool until the next day.

"Next, skim off the white crust which has formed on top, leaving the sediment in the bottom. After throwing away the sediment and brown jelly, and washing kettle, put all back into the kettle again and place on stove and boil two hours. Then add hot or boiling water until soap becomes the consistency of thick honey when dropped from the stick, being careful not to add too much water (which would require more boiling). Then pour into molds or boxes. Covering it while cooling adds to its quality. This makes a good hard white soap, suitable for washing or scrubbing."

13. Greenwich Abrasive Soap — Follow recipe for making soap, page 7. When mixture thickens add, gradually,

5 to 6 pounds of pumice stone, emery dust or Tripoli powder and stir until the mixture is thoroughly blended or all the lye incorporated. Pour into mold and cover. Yield: 14 to 15 lbs.

Use the following recipe for making a wonderful general-purpose Abrasive Soap Paste. This soap paste is easily made with Greenwich Lye. It is pleasant to use, very effective and will save you money. Use it in your daily household cleaning to scour sinks, washbowls and bathtubs. It will save you the expense of scouring and cleaning powders.

As a mechanic's hand soap it is unexcelled. It can be rubbed on the hands, worked in well and all the soil will be removed.

14. Greenwich Abrasive Soap Paste—Shave 3 lbs. home-made soap and melt it in 3 pints of water. Add 3 ozs. of light mineral oil. When this is thoroughly blended allow it to cool to a thick consistency and work in 5 lbs. of pumice stone or Tripoli powder. Keep in a can (lb. coffee cans) or glass jar. Cover tightly to prevent paste drying out. Yield: 11 lbs.

For use in washing machines and for washing dishes, Greenwich Lye hard soap converted into Jelly Soap is convenient and economical to use. It is very easy to convert the Hard Soap into Jelly Soap by the following recipe:

15. Jelly Soap—Cut one pound of hard soap into fine shavings and add one gallon of water. Boil for about 10 minutes, then transfer to a suitable vessel to cool. Keep covered to prevent drying out.

Keep the soap in a covered receptacle and it is always ready for instant use on wash day or for cleaning. Jelly Soap melts in hot water immediately and thick cleansing suds are made quickly.

16. Soft Soap—Lard 3 lbs.; Rosin 2½ lbs. Dissolve one can of Greenwich Lye in 2 pts. of water and add to the melted lard and rosin; let stand until the next day. Then add 3 pts. of water and heat, gently stirring until a good homogeneous mass is obtained.

17. Liquid Soap—Cottonseed Oil 4 lbs.; Cocoanut Oil 1¼ lbs.; Glycerine 3 pts.; Alcohol 6½ pts.; water 7 pts. Dissolve 1 can of Greenwich Lye in a mixture of 3½ pts. each of alcohol and water and heat to 125°F. Have the oils at 150°F. and add a few ounces of the Lye solution, stirring slowly and evenly. When saponification is about complete, add a few ounces of Lye solution with continued stirring and repeat until all the Lye solution is in.

Cottonseed Oil is sometimes rather hard to saponify, i. e., to make it unite with the Lye, and slight separation of oil might occur after the above procedure if the Lye has been

added too rapidly. In this case, allow it to stand 24 to 48 hours with occasional stirring. When a perfect mixture is obtained with no separation of oil, add the glycerine and the remaining alcohol and water. Allow to stand for a couple of days and if any sediment settles out, filter or syphon off the clear liquid. Then color and perfume as desired.

18. Soap Flakes or Chips can be made by flaking a 3 day old soap with a soap chipper. Stir occasionally while drying.

19. Soap Powder or Washing Powder — Cut home-made soap into fine shavings. Dry in warm oven (150°). When thoroughly dry, pulverize it. If Borax has been added to the soap in making, the sudsing quality will be somewhat increased.

Notes on Soap Making

1. **Never use aluminum utensils** (lye acts upon them). For small batches of soap, enameled or granite ware is suitable and for larger batches, an iron kettle may be used.
2. Have all grease pure and clean.
3. Measure accurately.
4. Be careful about temperature and method of handling.
5. Separation is caused by too much heat, too much cold, rough handling or salt in the fat. Stir slowly and evenly.
6. Coldness makes a hard, brittle soap.
7. Excess lye makes a coarse, flinty soap that will crumble when shaved.
8. Soap should have a smooth, velvety texture that curls when shaved.
9. Soap should have a clean, wholesome odor.
10. An all-purpose soap must be free of excess lye. Test —Taste the soap when aged. It should not bite the tongue.
11. Use the all-purpose soap for toilet soap, a shampoo for washing prints, lingerie, hose and other delicate fabrics.
12. The following fats (for soap making) are listed in the order of their desirability: Tallow, lard, and their combinations, olive oil, and other vegetable oils.
13. Mineral oils will not make soap.

14. Poultry fat should be combined with other fats, as soap made from it alone is soft and spongy.

15. Soap made from lard or soap that has been boiled requires longer aging before it becomes hard and ready for use.

16. Aging always improves soap.

17. If, when boiling soap, the mass becomes like mucilage, add a very little salt in small portions until it returns to its semi-fluid condition.

18. There need never be a failure in soap making. If separation occurs after the soap is poured it can be reclaimed by boiling. (See page 8.)

19. Make the fat into soap as it accumulates and let the soap age rather than allow the fat to get too old and rancid. Soap improves with age.

20. Instead of storing rinds and meat scraps extract the fat, store in a tightly covered container and keep in a cool, dry place.

21. The purpose of adding salt to soap is to separate the pure, clean soap from any foreign substance in it. When salt is added, the soap should be boiled in water to a high temperature and let cool, when the clean soap will be on top and a dark layer of impurities on the bottom. Adding salt is not necessary if the fat is pure and clean.

22. All tallow soaps require more water. (See recipe, Page 11.)

Important Warning

Recipes in this book have been thoroughly tested with the famous GREENWICH LYE by our research department. For success Greenwich High Test Lye should be used. We cannot guarantee results unless GREENWICH, the prize soap making lye, is used.

WE WISH TO SERVE YOU !

If you have trouble at any time in making soap, stop and consider whether you have made an error in the proportions of lye, fat and water, or in the temperatures used. If this does not explain your trouble, send us a few ounces of your grease or soap for our chemists' examination and include formula and directions used. Also, be explicit in the type of trouble encountered.

GREENWICH LYE for Sanitation

Sanitation Saves and Helps Make Money on the Farm

Germ diseases cause the loss of human life and live stock. Experiments by our Research Department and Practical Tests have proven that even dilute solutions of GREENWICH High Test LYE are most effective in destroying disease producing germs. GREENWICH LYE was proved to be seven times as strong as carbolic acid in destroying disease germs. County agents as well as the Agricultural Colleges realize that GREENWICH LYE is an efficient, odorless and easily used disinfectant. **Each year millions of dollars are saved through the use of GREENWICH LYE as a disinfectant, and more millions of dollars are lost to the farmers who do not know of this efficient and economical method of cleaning and disinfecting.**

GREENWICH LYE, of known purity for generations, is growing more popular each year and is a constant helpful aid to those who know it.

ROUNDWORMS IN HOGS

The Most Serious Menace to the Health and Development of Swine

IT IS impossible to estimate the millions of dollars lost annually by hog raisers through roundworm infestation in the young pigs and maturing stock. Hundreds of thousands of pigs are killed and even a larger number stunted by the infestation of these worms. The livestock farmer who keeps his hogs free from worms has won over 50 per cent of his battle.

The liver of an infested hog showing how the roundworms burrow through and feed on the delicate tissues and clog up the passages. This same condition occurs in the lungs of worm infested hogs.

A recent series of extensive experiments conducted by the Pennsylvania Salt Manufacturing Company, makers of Greenwich Lye, in cooperation with leading agricultural authorities and colleges have uncovered these startling facts: the most serious menace and losses caused by roundworms do not come from the mature worms in the intestines of the hogs, but during the early development in the life cycle of the roundworm. It is therefore more essential that the worm eggs be destroyed than to use vermifuges to eliminate the worms.

The egg of the common intestinal roundworm in swine (Ascaris lumbricoides) is cast off in the droppings and develops to a hatching stage on the surface of the soil. The eggs are so small they cannot be seen with the naked eye. These eggs are later picked up by the pig and hatch in the small intestines. Within two or three minutes after hatching, the tiny worms burrow through the intestinal walls and get into the blood stream, thence to the liver and lungs where they develop, feeding on the delicate tissues. The irritation of these worms in the lungs causes the development of a "thumpy" cough which brings up the worms from the lungs into the throat and mouth

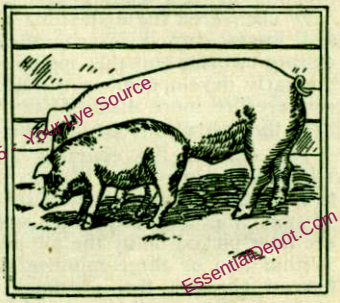
They are swallowed by the pigs and again enter the intestines. Here they continue to grow and frequently attain the size of from 15 to 17 inches in length and may live in the intestines for a period of months or even years. One female worm has been found to contain as many as 26,000,000 to 27,000,000 eggs at a time. The eggs from these worms are dropped by the infested hogs, develop again to a hatching stage in the soil, are again picked up by the same hog or other hogs and the life cycle of destruction begins all over again.

The eggs of the roundworm may remain on the surface of the soil in fertile condition for a long period of time. They seem to have great resistance to cold and heat. It is during the early stages in development of these worms in the liver and lung tissues that the greatest damage is done. It is also during this period that the greatest loss in the lives of young pigs occurs and for this reason it is absolutely essential that the eggs be destroyed before they are eaten by the young pigs and older animals. The roundworm, after being coughed up and swallowed by the pig and during its life on the intestines, does not cause any great damage to the animal, as it does not attach itself to the walls of the intestines, but gets its nourishment from the feed which the animal consumes.

So, unless the hog is very heavily infested to a point where it clogs up the intestines, the roundworms in the intestines will not cause the death of animals infested.

Owing to the fact that the tiny worm after hatching in the intestines burrows through the walls and gets through the blood stream so rapidly, it is impossible to get rid of the worms in their early development in the intestines and their chief damage is done before it is possible to eliminate them.

The recent research work conducted by the manufacturers of Greenwich Lye has also demonstrated conclusively that a strong solution of Greenwich Lye will effectively destroy the fertility of roundworm eggs.



These two pigs are about the same age. The one in front is a typical runt, showing the effects of roundworm infestation. The other pig is worm-free, normal, big and healthy.

The GREENWICH LYE Plan of Sanitation for hogs will in a large measure eliminate the roundworm menace. Follow this plan as outlined and you will not only save the lives of your young pigs, but have healthy stock that will mature more quickly and with less cost per pound for food than can possibly be achieved when hogs are worm infested.

1—Clean and scrub farrowing houses with a solution of one can of Greenwich high test Lye to ten gallons of hot water.

2—If the farrowing houses do not have wood or cement floors, saturate the soil of these houses thoroughly with this same solution.

3—Wash the sow with soap and water before putting her into clean quarters, to remove eggs adhering to udder and teats.

4—It is desirable that sows and pigs be kept in fresh pastures where hogs have not been allowed to run the previous year and kept there for at least four months.

5—Where it is necessary to use old yards or runways, plow the ground deeply and then saturate the soil around the fences, corners, posts, troughs, and wherever the soil has not been turned, using the same solution—one can of Greenwich high test Lye to ten gallons of hot water.

6—Scrape the feeding troughs thoroughly. Then scrub with same strength solution recommended for cleaning the farrowing houses.

The germs that cause "necro" necrotic enteritis, the paratyphoid infections of swine as well as the virus that causes hog cholera are all destroyed by GREENWICH LYE. Use GREENWICH LYE solutions freely and prevent these infections remaining in your premises year after year.

GREENWICH LYE Will Add 20% to Your Hog Profits

What the McLean County System Will Do

By E. T. ROBBINS
University of Illinois

Reprinted from "The Prairie Farmer" of February 19, 1927

Cheaper gains are made by "sanitation" pigs. This is probably the principal reason for the wonderful spread of the McLean County System of Swine Sanitation over the state of Illinois and into other states. The system was originated by Dr. H. B. Raffensperger of the United States Department of Agriculture, and was first tried on the farm of G. C. Johnstone, Bloomington, in the fall of 1919. During the last two years, 70 Illinois farm advisors have cooperated with me in introducing the system on farms in their counties. Four more are on the list.

Last year on 25 farms in McLean and Woodford counties careful cost-account records were kept. On eight of these farms the sanitation system was carefully followed, while on eight farms there was no attempt made to keep the pigs from getting back into the old hog lots. The sanitation farms produced 100 pounds of pork from 399 pounds of grain and other concentrates as compared with 501 pounds on the farms where the pigs were raised the old-style "wormy way." This suggests that when pigs are wormy, one ear of corn out of every five goes to feed the worms with which they are infested. That is a loss which no farmer can afford.

Reports from farm advisors and farmers indicate that sanitation pigs are more successfully vaccinated for cholera.

This year there have been almost no so-called serum breaks following vaccination in the sanitation herds. Such trouble has been common in other herds. The only disaster reported on 161

farms from which written reports have been sent to me was on one farm where the land was severely infected with germs causing necrotic sore mouth, bull nose and necrotic enteritis. On this farm 130 pigs died of sore mouth, which is more than the loss from this source on all the other 160 farms. The usual precaution to reduce the trouble from this germ is to disinfect the farrowing quarters thoroughly in addition to the usual scrubbing with lye and hot water.

Several demonstration farms had pigs raised both ways this year for comparison. The contrast was great. For example, A. H. Lightfoot, Knox county, had 52 sanitation litters numbering 310 pigs raised out of 330 saved at farrowing time. There were only 10 runts in this lot. He also had 10 sows which raised their pigs in old quarters. They only raised 30 pigs out of 42 saved at farrowing time and 20 of these were runts. Numbers considered, he had 20 times as many runts among the pigs raised the old way. By the time the pigs were four months old the pigs raised the old way averaged 40 pounds and the sanitation pigs averaged 70 pounds.

Big Increase in Profits

In a tour of demonstration farms in Jo Daviess county the men reported the amount of money which they had made this year because of the swine sanitation system. Clarence Cullen, with 25 pigs raised, reports a gain of $150. Wm. Klopf reported several hundred dollars made on 81 pigs. John Schubert, with 71 pigs raised, had a gain of $300. Ben Neuwohner raised 119 pigs and figures a gain through sanitation of $1,000. He said that a year ago he lost fully half of his pigs with worms and necrotic enteritis. This year at the time of the meeting at his farm his pigs were worth about $17 apiece, and he was sure that he had 60 more than he would have raised the old way. He also thought they had taken no more total feed this year.

Sanitation enables men on such farms to raise as many pigs as usual from a smaller number of sows. H. M. Seymour, Payson in Adams county, had 100 gilts which saved about 700 pigs at farrowing time, but only had about 375 survive after worms and necrotic infection had taken their toll. This was in 1924. Then in 1925 he tried sanitation with 2/3 as many sows. His 65 gilts saved 423 pigs at farrowing time and raised 420. This cheapened the cost of production materially.

Lambert Brothers, Ferris, Hancock county, have been leaders in their neighborhood with the system. When I visited their place last summer they showed me 73 big fat even shotes raised by nine Duroc Jersey sows, an average of eight pigs to a litter. They mentioned that their showing would have been better except for the bad March weather at farrowing time. Last year when I was there they had raised 107 pigs from 11 sows or

nearly 10 pigs to a litter. There were no runts either year and this was on a farm on which the loss from worms and necrotic infection had been severe in the past. Lambert Brothers write: "We have tried to improve our procedure and will more perfectly follow the system next year. It pays big."

More Pigs Saved

Charles Edwards, Scottville, Macoupin county, raised 224 pigs from 36 Duroc Jersey sows. Only two pigs died during the summer. There were no runts. On August 8 he sold 25 January and February pigs at a weight of 247 pounds. Of course these were sanitation pigs. A year ago he had pigs raised each way. Regarding these he said: "The sanitation pigs grew splendidly. Half of those raised the old way died during the summer and the others were of no account."

L. C. Schertz, Roanoke, Woodford county, lost nearly all of his pigs from worms the last year before he tried the sanitation plan. This year with sanitation he raised 102 pigs with only two runts. They were farrowed in April by 13 Duroc Jersey sows. Wm. Krug, El Paso, Woodford county, has already become famous because of the wonderful high-yielding Krug corn originating on his place. This year with sanitation he raised 180 Chester White pigs from 28 sows. Some pigs died during the April storms, but only two died afterwards. There were no runts in the herd.

These results and comments indicate the practical nature and profitable possibilities with the swine-sanitation system. By following this plan to avoid losses from worms and necrotic infection, farmers are raising pigs successfully on farms where fully half of them had been lost in the past.

Dairymen Find Greenwich Lye a Great Aid in Sanitation

Stamp Out Bovine Abortion

Agricultural College and Government authorities, as well as veterinarians agree that cleanliness is the first essential in maintaining healthy, disease-free cattle. Bovine abortion is spread by the discharges from infected cattle. GREENWICH LYE is the most practical disinfectant for destroying these disease germs.

After laboratory and practical tests in which GREENWICH LYE was used it was found that a 1-140 solution in either hot or cold water acted as an efficient disinfectant when applied liberally to the floors, stanchions and walls of stables. A solution of this strength is easily prepared by dissolving one thirteen-ounce can of lye in 14 gallons of water. Surfaces heavily coated with foreign material of any kind must be scraped and then thoroughly scrubbed with the lye solution. A coarse spray from either a hand or power sprayer gave satisfactory results when thus applied.

NOTE — Do not use wire brushes for scrubbing as wires may become separated and prove harmful to cattle if eaten in their feed.

Feed Troughs can be kept sweet and clean with GREENWICH LYE. Wash out with a solution of two rounded tablespoonfuls of GREENWICH LYE to each gallon of water. If trough is of wood; if of iron, use one heaping tablespoonful.

Drains and Sink Pipes are thoroughly cleaned by flushing with a bucket of hot water to which has been added four heaping tablespoonfuls of GREENWICH LYE. Flush every few days and preserve a strictly sanitary condition.

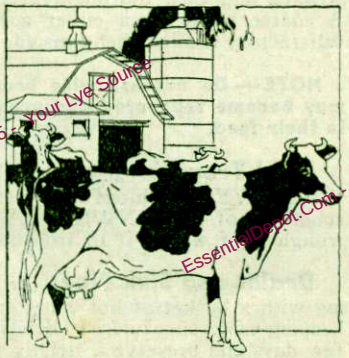
Dairy Utensils —Churns, Bottles and Crocks are kept sweet and clean by simply washing them in a solution of GREENWICH LYE — one level teaspoonful to a gallon of water.

The lye unites with the grease and butter fat to form a soft soap which readily dissolves. Rancidity and sourness cannot exist where GREENWICH LYE wash solution has been used and your milk containers come out clean and bright with little rubbing.

Cream Separator Parts that are hard to clean can be readily cleaned with GREENWICH LYE. In the inside of the gear well the coating formed by the oil and thin milk that leaks in, can be cut by a solution of GREENWICH LYE so it can be cleaned out easily with hot water. (Caution: Never use lye on aluminum ware.)

Care of Silos — When silos are out of use they readily become infested with bugs. It is therefore desirable before refilling to clean out the inside and spray or wash down with a GREENWICH LYE solution. The solution is easily made by adding one can of Lye to 10 gallons of water. To keep animals in good health it is necessary that they be fed clean uncontaminated feed.

Preventing Growth of Horns — This is very desirable in dairy stock, and eliminates the inhumane method of dehorning. Also, if horn is kept from growing, the head is better shaped. The best way to do this is as follows: When the calf is from three to five days old clip the hair from around the horn buttons and apply vaseline to the hide around same, being careful not to get any on the button. Put ½ can of GREENWICH LYE in a little less than a cup of water, heat gently, stirring well, then add ¼ cup of kerosene, stirring continuously. Apply a little of this solution to each horn button allowing to dry before applying again. Make three or four applications. A small piece of cotton or rag on a little stick is best to use, being careful not to get any on the calf's head or your hands.



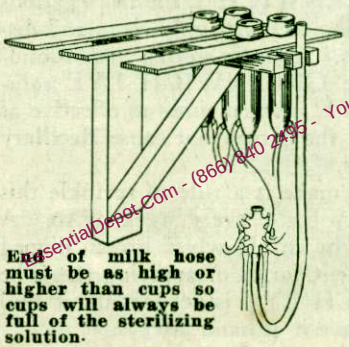
Caring for Milking Machines

This Method Saves You Money and Labor and Insures Sanitary Milk

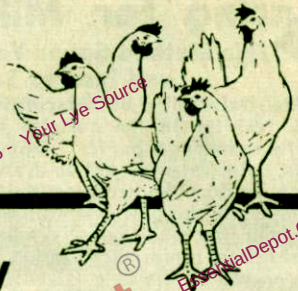
The University of Wisconsin has suggested the use of high test lye in the care of milking machines that do not contain aluminum parts. Immediately following the milking, clean, cold water should be drawn through the units. This can be easily done by dropping the teat cups into a pail of clean water while the power is still on. The next step is to remove the milk fat which closely adheres to the rubber parts and causes their rapid deterioration. *If the machine does not contain aluminum parts, a* GREENWICH LYE solution can be used to convert this fat into a soft soap which readily dissolves in the dilute lye solution.

The proper solution is most easily made by dissolving one can of GREENWICH High Test Lye in one gallon of water. An iron or granite kettle is suitable for this purpose, but **aluminum should never be used.** When dissolved, this lye stock solution should be transferred to a gallon bottle and kept tightly stoppered, and labeled for safety, as it will gradually lose its strength if exposed to the air. A small glass (about 6 ounces) of this lye stock solution added to a gallon of water makes the proper solution to remove the fat from the machine. This solution should be "milked" through the machine immediately following the water rinse.

The machine is now ready for chemical sterilization. For this, B-K has been found efficient for all dairy equipment. The milking machine is placed in a rack and dilute B-K solution is used to fill the inflations and tubing. This will almost instantly destroy all of the undesirable bacteria and prevent the milking machine from acting as a breeding place for germs which would injure the quality of the milk. Wholesome, sanitary milk can be produced with a minimum amount of labor and expense by the proper use of GREENWICH LYE solution to remove the fat from the milking machine and to keep the milk house in a sanitary condition, combined with B-K to destroy the undesirable bacteria in the milking machine and other dairy equipment.



End of milk hose must be as high or higher than cups so cups will always be full of the sterilizing solution.



Better Poultry Sanitation Increases Profits

Poultry Raisers find GREENWICH LYE invaluable in promoting cleanliness. Every poultry fancier knows that fowls thrive best in clean, well-ventilated places which are free from germ-laden atmosphere. Poultry experts say that a flock must be kept in sanitary surroundings to pay. Keeping the roosts, nests, brooder house, floors and runway sprayed with GREENWICH LYE solution will be of great value in promoting the health and productiveness of your fowls.

Use this method to rid your poultry houses of Lice and Mites

Dissolve one can of GREENWICH LYE in 14 gallons of water and use this solution to thoroughly clean and disinfect your poultry houses. Disease germs and roundworm eggs cannot survive GREENWICH LYE solutions. GREENWICH LYE is seven times as effective as pure Carbolic Acid against the germs that cause Bacillary White Diarrhea in chickens.

Scientific poultry raisers make it a rule to sprinkle this solution around the poultry house every week or so. A hand spray, sprinkling can or an old whisk broom dipped in the solution are convenient forms of applying it. The cost of pure GREENWICH LYE is very small, it will pay you big dividends to have it at hand always.

Lye Treatment for Tapeworms in Chickens

JOHN E. GUBERLET, University of Washington

Treatment Should Be Given as Follows:

One level teaspoonful of the pure GREENWICH LYE for 20 adult chickens. This should be mixed with 1 pint of oats and 1 pint of wheat and cooked for two hours in enough water to cover. The mixture is allowed to cool and is fed to the birds when they are hungry. Be sure that each bird gets its share. The birds should be allowed plenty of water, as the lye is somewhat irritating to the intestines and they will consume a great quantity of water. This will remove the larger percentage of tapeworms, but in all probability will not remove all of them. Administrations of the above mixture will serve to check the worms and help to keep them under control, at least, to prevent them from being harmful to the birds. The treatment should not be repeated for two or three weeks. Along with the treatment, strict sanitary measures should be practiced. Scrubbing with a GREENWICH LYE solution would be very beneficial. Use one can of GREENWICH LYE to five gallons of water. The premises, especially the roosting places and houses, should be kept scrupulously clean, and all droppings must be cleared away daily. All droppings should be put into fly-proof containers, or treated in such a way that flies will not feed upon them. This is important because the worm eggs are deposited in the droppings. If flies are allowed to feed upon the droppings some of the worm eggs may be swallowed by the flies. In some species of tapeworms the eggs hatch within the bodies of the flies and there undergo certain changes in their development. Later, some of the infected flies are eaten by the chickens and thus the life cycle of the tapeworm is completed, and it will grow to maturity in the intestine of the bird.

Sheep Dip

Dissolve 2 ounces of GREENWICH LYE in a pint of water and slowly add 5 ounces of white arsenic. Heat if necessary and when the arsenic is dissolved, add 3 ounces of soda ash or washing soda, 6 ounces of rosin soap and 4 ounces of sulphur.

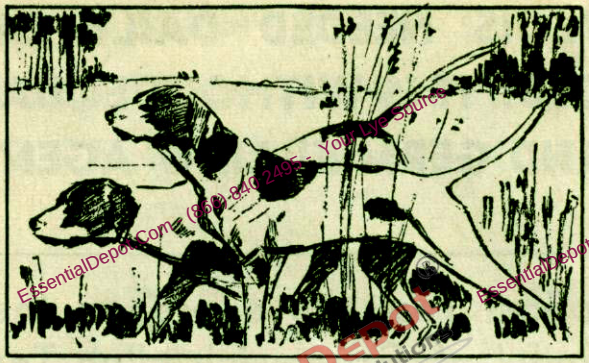
After boiling, strain and dilute the liquid up to 14 gallons.

GREENWICH HIGH TEST PURE LYE IS NEEDED DAILY ON EVERY FARM AND IN EVERY HOUSEHOLD. IT IS WITHOUT EQUAL AS AN ECONOMICAL CLEANSING AND GERM KILLING AGENT

The Superiority of this Lye is maintained by constant Chemical Test and Research.

Laboratory and Practical Tests have proven that one heaping teaspoonful of Greenwich High Test Pure Lye dissolved in ½ gallon of water will destroy typhoid germs almost instantly. Greenwich Lye is seven times as effective as pure carbolic acid against the germs responsible for typhoid fever and summer complaint.

THINK OF IT! WITH GREENWICH LYE AND COLD WATER YOU CAN MAKE AN EFFICIENT DISINFECTANT FOR LESS THAN 1c A GALLON. YOU CAN'T AFFORD TO TAKE A CHANCE ON INFERIOR LYE. DEMAND GREENWICH LYE



Care of Dogs

A man who has a high grade dog knows his value and wants to keep him in good condition.

Owners of Bird Dogs especially know that even a dog of the finest strain is not a good dog if he is not a healthy dog. To keep dogs healthy and in good trim it is essential that their kennels are kept clean and sanitary.

Dissolve 1 can of GREENWICH LYE in 10 gallons of water and wash the dog's kennel frequently to keep it free from vermin and disease. An old broom or stiff brush can be used to apply the GREENWICH LYE solution.

The GREENWICH LYE solution will destroy the round-worm eggs and the flea larvae as well as the germs of infectious diseases. Recent work has shown that GREENWICH LYE solutions are especially effective in destroying filterable viruses. Distemper is caused by a filterable virus. GREENWICH LYE sanitation will destroy all distemper infection that may be lurking on the premises.

When a new dog is brought in keep him separated from your other dogs for a week. Each day scrub his kennel, as directed above, to prevent any contagion attacking your other dogs. Distemper, which is so much feared by dog fanciers, can be properly controlled by this method.

Remember, the biggest thing in keeping your dogs healthy is proper sanitation that will destroy infectious disease germs.

NOTE — Do not use wire brushes for scrubbing as wires may become separated and prove harmful to the dogs if eaten in their feed.

Gleason's Mange Dip for Dogs

As recommended by MR. WM. G. DAVIS (National Capitol Field Trail Club) Washington, D. C.

1. Ingredients:

1 Can GREENWICH LYE — 4 bars soap
5 pounds flowers of sulphur — 40 gallons soft water (rain water best)

2. Mixing:

Bring about 8 or 10 gallons of the water to a boil, then add 1 can of GREENWICH LYE and the sulphur, boiling gently for one full hour, stirring all the while to prevent the sulphur from sticking to the container and scorching.

Pour the mixture into a 50-gallon barrel. Then chip up the soap and dissolve in a bucket of hot water and add to the batch, filling the barrel up to within 8 or 10 inches of the top with clear water.

AFTER COOLING THE DIP IS READY FOR USE.

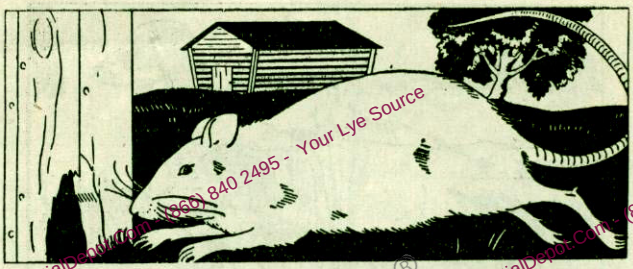
3. Dip the dogs every week or ten days to keep vermin under control, but twice a week is recommended at first in bad cases.

4. Applying:

Grasp both hind feet with the left hand, pass right hand under the body and grab the left foreleg. Lift dog up and lower gently into the barrel hind quarter first, then slip left hand up and grasp front legs and with right hand under muzzle immerse up to the root of the ears, being careful not to get solution in eyes or ears. The lye will irritate sensitive membranes in dogs as in humans.

This dip will be found to have excellent healing properties if it gets into any cuts and sores on the hands of the user.

Any rust proof container of suitable size may be substituted for the barrel mentioned above.



Rid Your Premises of Those Destructive Disease-Carrying Rats with Greenwich Lye

Rats on the farms of this country eat and destroy millions of dollars' worth of grain and property annually.

Rats have also been responsible for carrying dangerous disease germs from one farm to another and have been the direct cause in many cases for the spread of epidemics of disease among cattle, hogs and poultry in different sections of the country, causing great losses to farmers.

There is a simple and effective way to stop these losses and rid the house and farm buildings of these wasteful and dangerous rodents.

Pour a can of Greenwich Lye down the rat-hole and use the empty can to stop up the hole.

Rats do not stay on a farm where they are badly treated. The GREENWICH LYE will burn their feet and nose, and in a very short time you will find that all the rats have left your farm or house. Try this new method of driving away rats—and tell your neighbors about it too.

The Daily Household Uses of Greenwich Lye are Many

Look through the following suggestions and see the great number of ways in which GREENWICH LYE will lighten your daily cleaning.

Kitchen Utensils—(Never use on aluminum ware.) Pots, Kettles and Spiders that have been used for cooking greasy foods; also foods which leave disagreeable odors or tastes. Fill with water and add a teaspoonful of GREENWICH LYE to each quart of water and let boil a few minutes, then rinse with clean water.

For burned grease in boilers or pans—Fill with just enough water to cover the burnt part and add one teaspoonful of GREENWICH LYE to approximately each quart of water used. Let stand or boil for a few minutes, pour out and clean in the usual manner.

Dish Washing—Add one or two tablespoonfuls of GREENWICH LYE WASHING FLUID to the dish-washing water. It softens the water and cuts the grease.

Glassware is made shining and bright when a little GREENWICH LYE WASHING FLUID is added to the water.

Musty Cellars—Cellars can be kept in a sweet, sanitary condition by periodically washing the floor and side walls with a GREENWICH LYE solution. Use one can of GREENWICH LYE in 10 gallons of water. This is the easiest, cheapest and most effective method of maintaining a sanitary cellar.

Cleaning Bottles—Make a solution of 4 tablespoonfuls of GREENWICH LYE in a gallon of hot water. Wash the bottles in this solution and rinse them thoroughly with clean hot water. If there is a sediment caked in the bottom of the bottle allow the GREENWICH LYE solution to stand in the bottle until the sediment is loosened and will come out when the solution is shaken in the bottle.

NOTE — Be sure to thoroughly rinse bottles in clean hot water before refilling.

Silverware that has become stained can be made to look like new when suspended for a few seconds in a solution of 1 ounce of GREENWICH LYE to a pint of water. Rinse off immediately and dry. It will increase the efficiency of the solution to fasten a piece of aluminum (a broken spoon or piece of any aluminum utensil) to the piece of silver to be cleaned with a small copper wire. By means of the wire, suspend the two in the solution until tarnish disappears, rinse off and dry immediately. Use an old pan, glass or stoneware dish, never use an aluminum pan with lye.

(**Caution:** Do not get the solution on your hands.)

Burners from oil stoves and lamps which have become fouled with soot and oil, also gas stove burners which have become clogged from allowing food to boil over can be cleaned by boiling in a solution of two tablespoonfuls of GREENWICH LYE to each gallon of water.

Porcelain, Washbowls, Sinks, Bathtubs, etc.— Dissolve 4 tablespoonfuls of GREENWICH LYE to each gallon of water used. Clean with brush or swab and flush down the drain.

Tiling — To remove dirt and grease without hard work, use from 2 to 4 tablespoonfuls of GREENWICH LYE WASHING FLUID to one quart of hot water or dissolve one heaping teaspoonful of GREENWICH LYE in 2 gallons of water.

Scrubbing Floors — Use one heaping tablespoonful of GREENWICH LYE in two gallons of water. Grease stains are easily removed by using a little stronger solution.

Toilets —To remove stains or odors from toilet bowls and urinals, sprinkle in a little GREENWICH LYE, allow a few minutes to dissolve, then clean with swab or brush. The so-called disinfectants that merely kill an odor by their perfume are wrong in principle. GREENWICH LYE attacks and cleans away the deposits of noxious substance that cause the odor. Keep your toilet room clean, odorless and sanitary the easy way with GREENWICH LYE.

Refrigerators—Wash the inside of the refrigerator with a solution of one teaspoonful of GREENWICH LYE dissolved in two gallons of hot water. Flush same through the drain but do not allow any to stand on the galvanized parts. For continued health in the family the refrigerator must be kept absolutely clean. Washing it this way every week will keep it clean.

Drain Pipes—It is easier and cheaper to keep drain pipes open than to pay to have them opened by a plumber. Pipes entirely stopped up are a job for a plumber. It's an easy job for GREENWICH LYE, however, to keep the drain pipes clear and free from grease by simply cleaning them each week with a solution of 1 heaping tablespoonful of GREENWICH LYE in two quarts of hot water. A slow running drain pipe is an annoyance and makes extra effort for you. Use this cheap, satisfactory way of always having a free-running drain.

Greenwich Lye the Perfect Drain Pipe Cleaner

Thawing Frozen Drain Pipes—When drain pipes become frozen remove as much water as possible from pipe and slowly shake enough GREENWICH LYE to make drain hot to the touch. As pipe cools add more GREENWICH LYE until it is clear.

Garbage Cans, Slop Jars, Etc.—These usually dirty receptacles can be kept clean and sweet by washing regularly with GREENWICH LYE. Put about one gallon of hot water in the can when empty and add one or two heaping tablespoonfuls of GREENWICH LYE. Tip the can so solution will slowly cover all of the inside, swab with an old mop or broom and rinse with clear water. For garbage cans that are not emptied often, sprinkle each day with a little GREENWICH LYE. This will do away with the oder and flies.

Removing Paint—See directions page 52.

Plenty of Soft Water on Wash Day

It requires more soap and work to wash clothes in hard water than in soft.

GREENWICH LYE softens the hardest water and saves soap and work.

Water varies in hardness. It is, therefore, essential for best results to know the proper amount of lye to use to obtain softened water.

Test the Water You Use

Take 5 gallons of water, add a small measured quantity of GREENWICH LYE. Start with a level teaspoonful. After this has stood overnight, test the water in this manner: Try to make a suds with your soap. If curds form not enough lye has been added. Add just enough more GREENWICH LYE to reach the point where suds and not curds are obtained.

Preparing for Wash Day

It requires three to four hours to soften cold water. It is better to fill the tubs the night before and add the required amount of GREENWICH LYE. The next morning the softened water may be taken off and the sediment thrown away.

Hot (not boiling) water can be softened more quickly (5 to 10 minutes). The lye will bring the precipitate to the top and it can be skimmed off; or, if the precipitate is at the bottom, the clear water may be drawn off. Stirring will hasten the precipitation.

Use Softened Water for Rinsing and Bluing

If softened water is used all the soap is rinsed out and the clothes are soft and white.

WARNING — An excess of lye will injure silks and woolens. Follow the Test for Softening Water given above.

How to Make Greenwich Lye Washing Fluid

Obtain the following:

1 can GREENWICH LYE
2 oz. powdered borax
1 oz. ammonium carbonate
1 gal. water

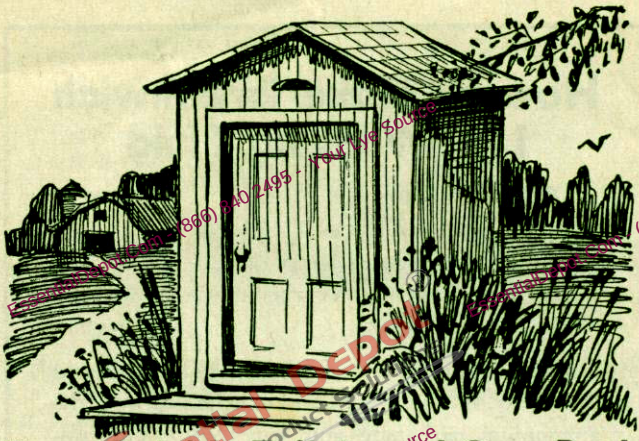
Dissolve the can of GREENWICH LYE and the borax in the water and when cool add the ammonium carbonate and stir well. The ammonium carbonate can be obtained at any drug store. Let settle and pour off the clear part into a jug or glass bottle and label, "GREENWICH LYE WASHING FLUID." The above will soften the hardest water.

A bottle of GREENWICH LYE WASHING FLUID is a familiar sight in many kitchens where the housewife finds it an ever ready aid in softening water for such cleaning purposes as washing dishes, scrubbing floors, cleaning refrigerator, etc.

It lightens work and saves the soap.

Make up a batch today. You will have an efficient and inexpensive water softener.

CAUTION — Keep the bottle out of reach of children. Put label on at once.



Keep Outside Toilets and Cess Pools Sanitary with Greenwich Lye

You can protect yourself, your family and your neighbors from typhoid fever, dysentery and hookworm by keeping outside toilets in a sanitary condition with GREENWICH LYE.

Some Rules for Maintenance

Adopted by a State Board of Health

1. That portion of the privy and privy building which houses the body discharges should be maintained at all times in such a state of repair as to exclude flies.

2. If the pit should cave in at any time, it should be promptly repaired.

3. A can of concentrated GREENWICH LYE should be added, when required, to keep the material in the pit from becoming acid and producing objectionable odors. This will also help to decompose the organic material and increase the time the pit may be used.

4. See that no light is entering the pit through small holes or cracks. An inspection for light is an excellent test for fly tightness.

Suggestion—According to amount of use, sprinkle a can of GREENWICH LYE into vault once every week or two. You will be pleased with the good condition resulting. Do not sprinkle where it may come in contact with the body.

Greenwich Lye Best for Keeping Drains Open

Drain Pipes—Greenwich Lye has been known for more than 50 years as the best method of keeping drain pipes open. Pipes that are entirely stopped up are a job for a plumber. You can save yourself the cost of a plumber and have the satisfaction of always having a free-flowing drain by using this simple method. Once each week use a heaping tablespoonful of Greenwich Lye in 2 quarts of hot water. Allow your sink to drain and slowly pour this solution down the drain pipe. This solution unites with the grease and fat coating the drain pipe and forms a soft soap which quickly dissolves. This same easy method should be used to keep lavatory sink and bath tub drain pipes open and free running. Grease caking in the pipes gathers foreign matter, causing stoppage. The Greenwich Lye solution used each week will keep pipes entirely clear and free from stoppage.

Do not wait until a drain is clogged. Keep them open and sanitary by using Greenwich Lye once each week.

Drive Out Insects, Roaches and Vermin

Here is a simple way to get rid of insects, roaches and bed bugs. Dissolve a heaping teaspoonful of GREENWICH LYE in one gallon of water. Wash out thoroughly all cracks and crevices where they are to be found. Repeat this at frequent intervals and the pests will be completely driven out.

WARNING — This treatment should not be used on varnished or painted woodwork as lye will remove paint or varnish.

Make Gas Stove Burners Efficient by Cleaning with Greenwich Lye

Gas stove burners that burn a yellow flame do not produce maximum heat. Thoroughly boil the burner in a solution of 2 heaping tablespoonfuls of GREENWICH LYE to a gallon of water. This will remove the accumulated carbon and restore a clear blue flame.

Hotels will find GREENWICH LYE indispensable in the kitchen for removing grease from the floors, walls, and tables and washing dishes—in the laundry for softening water—cleaning chamber ware, mirrors, windows, floors, woodwork, etc., throughout. A can of GREENWICH LYE dissolved in a gallon of hot water will remove obnoxious odors, keep the urinals clean and prevent clogging.

Make Good Paste Quickly

Dissolve a teaspoonful of GREENWICH LYE in one-half pint of water. In another bowl or jar mix one pint water with 2 ounces cornstarch or flour. Mix slowly and stir thoroughly until there are no lumps. Then pour the GREENWICH LYE solution into this mixture and stir well until thick.

Professional bill-posters use these same proportions for making large quantities of paste.

Greenwich Lye Kills Dandelions and Plantain in 24 Hours

Easy Method—Exterminates the Weed and Roots

FOR many years a method has been sought that would permanently rid lawns of Dandelions, Plantains and other weeds. Digging them out, a method used by most people, is seldom successful, for not only is it a back-breaking process, but it is almost impossible to dig up all of the roots. That part of the root which is left in the soil soon begins to sprout again.

Within the last two years, the manufacturers of GREENWICH LYE have, by practical and scientific tests, found a way of permanently killing these weeds with GREENWICH LYE, without destroying the grass or injuring the soil.

This method is quick and sure.

DIRECTIONS

To KILL Dandelions, Plantains and all weeds that ruin lawns, simply place a quarter of a teaspoonful of GREENWICH LYE dry on the crown of each plant. In a few hours the weeds are killed and the lye has disappeared. Grass seed can be planted 24 hours after applying GREENWICH LYE.

With GREENWICH LYE you are assured of success. Look for the Lion on the Label.

Actual tests on Dandelion and Plantain extermination have shown that in the same length of time 2¼ times as many Dandelions can be killed by the GREENWICH LYE method as can be removed by digging them out.

Greenwich Lye keeps Fruit Trees Healthy and Productive

IN maintaining the healthfulness of orchards the fruit farmer has many enemies to contend with, such as bugs, larvae and various fungi growths. Sprays and washes are considered the most effective means of combat. Here you will find GREENWICH LYE an invaluable aid. Many of the standard insecticides and fungicides require lye in their preparation. Their formulas are based on pure lye and it is therefore very essential that you are not adding some inactive ingredients which would lower the efficiency of the mixture. By always specifying GREENWICH LYE you are assured of the most uniform, high-test lye on the market.

Mosses and Lichens may be removed from trees by a solution of one can of GREENWICH LYE in 2¼ gallons of water. This may be sprayed on while the trees are dormant or applied locally with a swab at any time.

Peach Tree Borers—The above solution used as a wash on the bark of peach trees in late summer will destroy the eggs of borers and penetrate the burrows of the young worms, bringing about their death.

Sulphur Spray—Is effective as a dormant treatment for San Jose scale. It should not be used as a summer-time spray. Dissolve 6 cans of GREENWICH LYE in two gallons of water. Then add 5 pounds of fine sulphur in small portions at a time with stirring; when the sulphur is all dissolved, dilute to 25 gallons.

Fruit and Vegetable Growers require large amounts of soap for use in mixing with spray materials to make them

spread or stick. Fish-oil soap made with GREENWICH LYE gives the greatest satisfaction because of the freedom with which it mixes with spray materials, as well as for its own insecticidal value.

Florists and Truck Gardeners have trouble in controlling plant lice, worms, bugs, etc., because it is difficult to make the spray materials stick to the leaves. Many insecticides and fungicides are of an oily nature which makes it impossible to mix with water. By first making a soap with GREENWICH LYE, these oils may be incorporated in an emulsion form and diluted with water to a consistency desired for spraying.

Fish-Oil Soap—The method of making up this soap is described under "Soap," Formula No. 5.

Rosin-Lime Sticker—Dissolve one can of GREENWICH LYE in three pints of water. In another receptacle melt four pounds of rosin with 1½ pounds of fish oil (or any animal fat). Add the lye solution to the rosin mixture slowly with stirring and continue stirring for about 15 minutes, after the lye solution has been added. Then allow to stand in a warm place for a few hours. This rosin soap is then dissolved by adding two gallons of water and applying heat. Three gallons of thick white-wash may then be added along with the Paris Green, arsenate of lead, or other **poison** desired, and the whole diluted to 30 gallons for a spray.

An optional method of preparation is to dissolve one can of GREENWICH LYE in 1½ gallons of water. In another receptacle melt the rosin and oil and add a gallon of hot water. Bring to a boil and add a half-pint of the lye solution. Continue boiling for ten to fifteen minutes and add another half-pint of lye solution. Repeat this intermittent boiling and adding until all the lye has been added. Add water occasionally to make up for evaporation. The soap is then ready for the addition of whitewash, etc., as in preceding formula.

Plant Lice cause great damage to plant life. A very effective spray for fighting these pests is made from tobacco extract as follows: First make a tar soap with GREENWICH LYE according to Formula No. 11 under "Soap." Dissolve four pounds of this soap in one quart of alcohol. In another receptacle dissolve two pounds of washing soda in two gallons of water and mix the two solutions. Then stir in 1 pint of tobacco extract.

Kerosene Emulsion is considered one of the most effective insecticides when used as a spray for controlling plant lice. It is made up as follows: Take one-half pound of GREENWICH LYE, fish-oil soap (see "Soap," Formula No. 5) and

dissolve in one gallon of boiling water. Remove from the fire and begin adding the kerosene. Add two gallons of kerosene in small portions at a time with vigorous stirring. Be sure that each portion is thoroughly incorporated before each addition. If properly made, a creamy solution results which will not separate on cooling. For use on dormant trees and vines, dilute with about 6 gallons of water. For foliage, dilute one gallon of stock with five and two-thirds gallons of water. In regions where water is hard, it should be broken by using a little GREENWICH LYE.

Proportions used in this recipe as given in Farmers' Bulletin 908, United States Department of Agriculture.

Crude Oil Spray

In districts where moss and lichens grow on fruit trees they harbor a great many injurious insects. Crude Oil Spray is very effective in combating a condition of this kind as it destroys both the moss and insects. This spray is widely used on the Pacific coast by fruit growers to destroy red spiders, mites and scale insects. In some districts the quantities used reach huge proportions which shows how effective it must be.

24 gal. Crude Oil 16° to 22° 5 cans GREENWICH LYE
20 lbs. Fish or Whale Oil Soap 176 gal. Water

How to Mix—Partly fill the spray tank with water, then add the fish or whale oil soap dissolved in 10 to 15 gallons of boiling water in which five cans of GREENWICH LYE have been dissolved.

Add the remainder of the water, or sufficient to bring the contents up to 176 gallons. Start agitator and slowly add the crude oil with continued agitation. Do not add water after the oil has been added.

This emulsion is easy to make and can be sprayed on the trees without trouble.

Proportions used in this recipe as given in Farmers' Bulletin 908, United States Department of Agriculture.

To Kill Trees—In Connection with Stumping Lands

The following method is recommended by county agents and is being successfully used in many localities. Only genuine, high-test GREENWICH LYE should be used to insure satisfactory results.

Directions

Use 2 cans of high-test GREENWICH LYE, and 1 lb. white arsenic, in 1 gallon of water. Mix all thoroughly. Let stand for a day or so. Then pour on and around tree where bark has been freshly stripped off.

REMOVING FRUIT SKINS

DISSOLVE one can of GREENWICH LYE in two gallons of water and bring nearly to the boiling point. Next place the fruit in a wire basket and lower it into the hot lye solution for about thirty seconds, then immediately remove and immerse in cold water. The skins can now be washed from the fruit. It is preferable to first try a small quantity of the fruit in order to obtain the correct time for immersion in the lye solution as overly ripe fruit will take somewhat less than thirty seconds and green fruit will take a little more.

This method of removing skins not only saves considerable time and work, but also conserves very appreciable quantities of the fruit which are lost in peeling (this method is particularly appreciated in canning season).

In the canning industry GREENWICH LYE has been used for years and is being used today. When you wish to have clean, perfect, whole fruit to can, this method will make it possible. Gratifying canning results come from keeping the fruit whole and perfect.

Greenwich Lye for Success in Canning

To insure success in canning wash all jars and lids in a strong boiling GREENWICH LYE solution—four tablespoonfuls to the gallon. Rinse your jars thoroughly and scald with clean water.

GREENWICH LYE is a powerful cleansing and disinfecting agent. When all bacteria is destroyed you are insured of minimum spoilage.

Preparing Hominy

The old and tedious method of obtaining lye from wood ashes for hulling corn has been displaced by the modern easy GREENWICH LYE.

Dissolve one can of GREENWICH LYE in 6½ gallons of water and add six quarts of corn. Bring the temperature to just below boiling and continue this heat until the hulls have started to loosen. Remove the hulls and scum from the water, adding fresh water occasionally during the heating. Finally stir up the corn well and transfer to clean, cold water. It is then rubbed until the hulls are completely loosened, changing the water several times during this operation until the corn is thoroughly cleansed and free from hulls. A very convenient method of performing this last operation is to place the corn and fresh water in a butter churn; this will remove the loosened hulls much more effectively and with less trouble than rubbing by hand. The corn is finally placed in cold water and allowed to stand over night, then washed several times with hot water until no trace of lye remains.

Preparation of Lutfisk

Place the dry lutfisk in clear, cold water, letting it stand one week and changing the water every morning. Then make a GREENWICH LYE solution, consisting of one teaspoonful of pure GREENWICH LYE to each four or five pounds of fish. Dissolve the lye in enough water to cover the fish well. Let stand in the lye solution three or four days, keeping it in a cold place. Pour off lye solution and pour clear water over the fish. Soak the fish in this clear water three or four days, changing water each morning and continuing to keep in a cold place.

Directions for Cooking

When ready to cook the lutfisk, take the amount you are going to use and put it in a cloth bag. Put into pan or kettle and pour boiling water over it. Boil for five minutes, adding salt to taste. Take the fish out of the kettle, put it on a platter and serve with brown melted butter or cream sauce.

A Famous Method for Preparing and Home-Curing Delicious Hams, Bacon

Properly cutting the fresh pork provides the choicest portions for use and plenty of fat scraps for making excellent soap with the famous GREENWICH LYE.

Cut each half into five pieces

The Shoulders—First remove the shoulder about four ribs from the head end of the carcass. Then separate the carcass into halves, being careful to split the backbone instead of removing it whole as is usually done. The shoulder can then be trimmed by removing the upper third, including about an inch of the shoulder blade. (It may appear that a great deal of the shoulder is removed, but in doing so you are preventing the piece from getting strong after curing, a not unusual failing in home-cured shoulder hams.)

The lower part of the shoulder can then be shaped like a ham, and when cured it will be difficult to distinguish it from a regular ham.

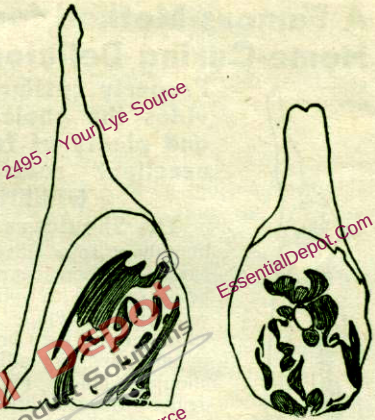
The Hams—Now remove the hams by making your cut perpendicular to the shank, about three fingers' width in front of the "aitchbone"—often called the "line" bone. By cutting this way the long point so often seen in country hams is eliminated, and with it the tendency for the ham to become strong after curing.

The Rest of the Carcass—After finishing the ham, the loin and fat back cut should be removed, separating the fat back from the loin. The loins can be converted into roasts and chops, and the fat back rendered into lard.

The next step is the removal of the spareribs from the breakfast bacon cut. Be careful to leave as much of the lean meat on the bacon as possible. The bacon is by far the more valuable cut while the spareribs are just that much fresh meat that must be used before it becomes stale.

Shoulder is removed about four ribs from head, then trimmed

Meats for seasoning —In cutting the carcass there will be many pieces left which can be used for seasoning purposes such as the butts, the jowls, certain remnants of the side cuts, and the thick bacons that do not make the best breakfast bacon. These should be sweet-cured.



Ham before and after trimming

Fat Scraps — The average carcass will yield considerable fat. These scraps should be saved. They will, when properly prepared, and mixed with the famous GREENWICH LYE, make fine, pure soap. Recipes for doing this will be found on pages 5 to 15 inclusive.

Cooling —Before proceeding with the curing it is important that the meat be **thoroughly cooled out,** driving out all of the animal heat. Otherwise the meat may spoil.

Salting —Rub each piece of meat thoroughly with salt, using plain salt or one of the commercial salts that cure and smoke-flavor the meat in one operation. If commercial salt is used follow the maker's directions carefully. If plain salt, after 48 hours pack the meat in a box or on a table with a layer of salt to each piece of meat.

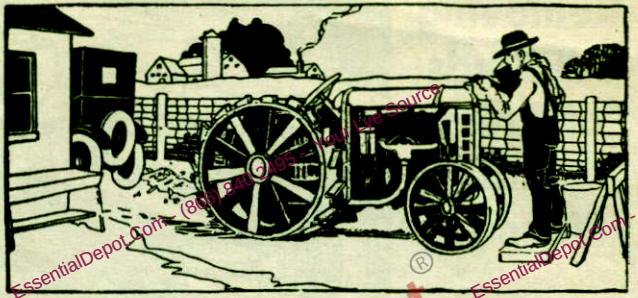
The hams and shoulders should remain in salt not longer than two curing days to the pound, allowing no piece to remain in salt for more than 28 days. (A curing day may be defined as any day in which the temperature is above freezing—the ideal temperature being 36° F.)

The bacon may be removed from the salt at the end of one and one-half days per pound. For example leave a ten pound piece in 15 days.

Smoking —After the meat has remained in the salt for the specified length of time, it should be removed and the salt brushed off. Wash it off in lukewarm water, hang it up and allow it to drip for several hours.

The meat is then ready for smoking.

After smoking apply warm sorghum molasses to the flesh side of the meat, using a small brush.



Directions for Cleaning Automobile or Tractor Radiators

When the water is evaporated out of the radiator the solids and impurities are left. Fresh water is added to replace the water which has evaporated and that which remains in the radiator becomes more and more foul until the small passages are entirely stopped. Then it may mean a new radiator or core and a large repair bill.

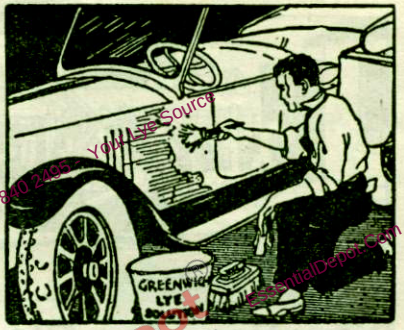
The radiator should be drained at least every two weeks; every month it should be cleaned out with a solution of GREENWICH LYE to remove the rust and sediment. **To do this dissolve one-half can of GREENWICH LYE in two and one-half gallons of water.** Drain the radiator and fill with this solution, using a funnel and being careful not to drop any on the hood or fenders. Start the engine on cars equipped with water pumps and run for three or four minutes so that the solution will reach all parts. Then drain out the solution and flush two or three times with clean water.

Drain your tractor radiator more often, depending on the use you are giving it. It should be drained at least once for every 40 hours' plowing or similar work.

You would not pour dirty water into your radiator, but when you pour clean water into the dirty water it contains, you have a radiator full of dirty water. DRAIN RADIATOR AND CLEAN WITH GREENWICH LYE REGULARLY AND SAVE A BIG REPAIR BILL.

You can get proper efficiency from your automobile or tractor only when the cooling system is operating freely. Keep the natural but harmful deposits removed from radiator and water passages by cleaning regularly with GREENWICH LYE.

Removing All Kinds of Paint and Varnish



TO remove the paint from the motor car body, tractor or farm machinery for repainting, coat with a paste made of GREENWICH LYE as follows:

Dissolve 4 heaping tablespoonfuls of cornstarch in 2 quarts of water in a wooden pail or stone crock and in another container dissolve one can of GREENWICH LYE in 1 quart of water. Pour the lye solution into the cornstarch very slowly, being careful to stir well all the time. This will make a thick paste without lumps.

Paint this on the surface from which the paint is to be removed with an old brush or swab putting it on in an even thick coat. If on the body of an auto, it is best to first remove the fenders and running boards or to cover them with a thick coat of grease. A small section should be covered with the paste at one time and should be left on until it shows signs of drying. It then can be scraped off with a putty knife, wire brush or steel wool. If running water is available, turn the water on parts treated and paint will let loose and run off like ink. When using this method allow the Lye Paste to become almost dry.

Automobile painters indorse this method of removing paint with GREENWICH LYE—they are all frank to admit that only GREENWICH LYE should be used for best results. On parts of the body where paint does not come off with the first application, a second or even a third application should be given.

Fenders or cars with enameled bodies have the enamel baked on and it is not practical to remove this without placing in a

tank of strong lye solution which is kept boiling. Wire wheels from which the paint is to be removed are best treated in this manner.

To remove paint from small parts of the tractor or farm machinery, hang them in a tub of a solution made by dissolving one can of GREENWICH LYE in each gallon of water. The paint on such parts is much easier to remove than from the auto body and with very little labor your tractor or mower can be made to look like new. This will also clean all the grease or oil from the parts and leave a clean surface to paint over. Wash well with plenty of water all parts before repainting.

Never use this remover on ALUMINUM parts or on cars with ALUMINUM bodies. All aluminum trimmings as on the running boards must be protected with a thick covering of grease.

Protect your hands with rubber gloves and remember that this remover will REMOVE PAINT, so be careful not to get it on any surface from which you do not wish to remove the paint or finish. For accidental burns see treatment on Page 54.

After all the paint is removed wash the car with plenty of water and be sure that all the remover is washed off, being careful to see that all the cracks and joints are clean. It is better not to remove the old paint from surfaces that will be hard to clean and repaint or where it will not show in the new job of painting. Before repainting the car or surface it must be dry ALL OVER. It is best to let stand at least three days or more or to use it unpainted for a few days. Any water that is held in the cracks or joints will run out when repainted and ruin the new paint and all your labor is lost.

A little care in removing the paint and attention to details in repainting will give you a bright new car that you can be proud of.

A new coat of paint on an old piece of farm machinery will make it easy to sell and bring more money.

Removing Varnish or Paint from Furniture and Woodwork

Before furniture or woodwork is repainted or varnished, for best results the old varnish or paint should be removed. When GREENWICH LYE Method is used, good results are insured, because the new coat goes on over a well prepared surface.

DIRECTIONS

Dissolve 4 heaping tablespoonfuls of cornstarch in 2 quarts of water in a wooden pail or stone crock and in another container dissolve one can of GREENWICH LYE in 1 quart of water. Pour the lye solution into the cornstarch very slowly, being careful to stir well all the time. This will make a thick paste without lumps.

Paint this on the surface from which the paint or varnish is to be removed with an old brush or swab, putting it on in an even thick coat. A small section should be covered with the paste at one time and should be left on until it shows signs of drying. It then can be scraped off with a putty knife, wire brush or steel wool. If running water is available, turn the water on parts treated and paint will let loose and run off like ink. When using this method allow the Lye Paste to become almost dry.

Professional painters indorse this method of removing paint with GREENWICH LYE—they are all frank to admit that only GREENWICH LYE should be used for best results. On parts where paint or varnish does not come off with the first application, a second or even a third application should be given.

After all the paint is removed wash the surface with plenty of water and be sure that all the remover is washed off, being careful to see that all the cracks and joints are clean. It is better not to remove the old paint from surfaces that will be hard to clean and repaint or where it will not show in the new job of painting. Before repainting the surface must be dry ALL OVER. It is best to let stand for a day or two as any water that is held in the cracks or joints will run out when repainted and ruin the new paint and all your labor is lost.

Do not use this remover on ALUMINUM parts. All aluminum trimmings must be protected with a thick covering of grease.

Protect your hands with rubber gloves and remember that this remover will REMOVE PAINT, so be careful not to get it on any surface from which you do not wish to remove the finish. For accidental burns see treatment on Page 54.

Remove Rust from Farm Implements and Plows

Rust ruins farm implements and is also costly, because implements are less efficient when covered with rust. Plow shears should be kept smooth and shining as they are hard to pull when rusty.

To clean the rust from any kind of farm implement, dissolve one can of GREENWICH LYE in five gallons of water. Apply this liberally with an old broom or brush and scrub. The rust will be removed quickly, lengthening the life of your implements and increasing their efficiency and value.

Machine Shops and Factories find GREENWICH LYE a ready means of removing gummy oil from machinery, tools, shafting, gears, etc. Wash with a solution of 1 ounce of GREENWICH LYE to a gallon of water and rinse. Factory floors cleaned as follows.

Clean Garage Floors—Save Your Tires

Garage floors become coated with grease and oil which ruin rubber tires. This unclean condition may also cause someone to be injured by slipping and falling. If the coating of grease is heavy, scrape off as much as possible with a shovel. Dissolve a can of GREENWICH LYE to every gallon of water used and apply with brush or broom. Apply brush vigorously, which creates an emulsion and makes possible the removal. If there is running hot water, several applications will be further aid. For spots of grease as on the section of floor under the car in a private garage and on floors that are inclined so much that the solution runs off, sprinkle some GREENWICH LYE from the can on the floor and scrub with an old broom and a little water.

Pointers on Using Greenwich Lye

GREENWICH LYE is a friend of man, lightening his labor and helping in the preparation of many products. Lye, like fire, however, must be handled with care or it is apt to cause injury to self and other things. If you use GREENWICH LYE carefully and follow directions you will find it an effective, ever-willing servant that will not injure even the most delicate fabric.

How to Treat Lye Burns

GREENWICH LYE is a very highly concentrated form of lye and must never be taken internally nor allowed to get on the flesh except in very dilute solution.

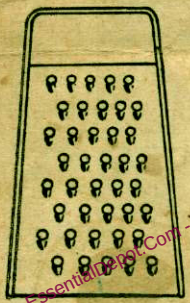
Internal—Give the patient diluted vinegar, lemon juice, citric or tartaric acid. These are later to be followed by milk, white of an egg or olive oil.

External—Strong lye will form a bad burn on the skin and a dilute lye solution will cause a bad sore where the skin is broken if it is not immediately neutralized. Wash immediately with diluted vinegar, lemon juice or other dilute acid. These applications will stop the further action of the lye and if it is not a severe burn, wrap up with olive oil, vaseline or lard. In case a bad sore results it may be treated with a few drops of 10 per cent argyrol a couple of times a day. (Argyrol can be obtained from your druggist.)

IT PAYS TO BUY GREENWICH LYE

THE HOME OF GREENWICH LYE

In this great plant at Wyandotte, Michigan, Greenwich Lye is manufactured and packed. You, the consumer, benefit, because in this great institution each operation is carefully guarded to give you the finest uniform pure high test lye



A Soap Chipper Given for Labels

Send ten (10) GREENWICH LYE labels (as much of the label as you can remove from the can) and we will send you, without additional cost, a soap chipper. You can then make your Greenwich Lye soap into high grade soap chips or beads.

Get A Valuable Thermometer for Greenwich Lye Labels

You have probably wanted a soap thermometer. Now you can get one for a fraction of the cost. This thermometer can be used in the dairy and for many other practical purposes around the house.

It won't take you long to save enough labels because every day there are many money-saving uses for GREENWICH LYE in your home, factory, or on the farm.

Send ten (10) GREENWICH LYE labels (as much of the label as you can remove from the can) and 50 cents and we will send you the thermometer.

This premium offer is void in any State or Municipality where it is unlawful or taxed

SEND TO

Pennsylvania Salt Manufacturing Co.

James D. Swan, Manager of Specialties

20 N. Wacker Drive **CHICAGO**

Take No Chances with Inferior Lye—Insist Upon Pure, Uniform GREENWICH HIGH TEST LYE.
