



Barn and Silo Roofed with Brantford Asphalt Roofing.

Resists Fire, Sheds Water, Wears Long

Flying sparks and embers from a burning building often cause roofs near by to catch fire, especially in a dry, hot season. Under like conditions, roofs covered with

Brantford Asphalt Roofing

are in no danger from flying embers, because any that fall on Brantford Asphalt Roofing die out harmlessly. Build a bonfire on a roof of Brantford Asphalt Roofing and the fire will not spread and the boards underneath the roofing will be protected in a surprising manner.

If a fire starts in the interior of a building Brantford Asphalt Roofing acts as a retardant and keeps the fire from spreading. Fire chiefs and insurance companies endorse its use in the most congested cities.

Brantford Asphalt Roofing does not absorb water, but sheds the heaviest rain with ease. Acid proof and alkali proof. Reliable, durable, economical. Three weights—60 lb., 70 lb., 80 lb. per square.

Brantford Rubber Roofing

is the same quality as Brantford Asphalt, but has a smooth, rubbery surface instead of the sand. It is particularly suitable for verandah decks and floor coverings. Three weights—40 lb., 50 lb., and 60 lb. per square.

Leatheroid Roofing

Slightly lower quality than Brantford Rubber Roofing. Used for same purposes. Has a leathery surface. Exceptionally good roofing at a low price. 35 lb., 45 lb., and 55 lb. weights.

Standard Mohawk Roofing

is made of the same materials as Brantford Asphalt Roofing, but is lighter in weight. A thoroughly reliable roofing at a low price. Tested for years and has given entire satisfaction. Sanded on one side. One weight—40 lbs. per square.

Climax Sheathing Paper

A tough kraft paper coated with high-grade asphalt. For making buildings damp-proof and wind-proof. Also for roofing temporary bunk houses, lumber camps, etc.

Samples of any of these roofings and prices will be furnished on request.

Brantford Roofing Co., Limited

Head Office and Factory, Brantford, Canada
Branches at Toronto, Montreal, Halifax

For Sale by Geo. Chambers Estate

AIN

SHOE POLISHES

THE BIG VALUE BOX

Pastes for Black, Tan, Oxblood and Brown Shoes
White Cake and Liquid for White Shoes

THE F. F. DALLEY CORPORATIONS LTD., HAMILTON, CAN.

Washing Machines

Playtime (power).....	\$23.50
Red Star.....	\$20.00
New Era.....	\$17.50
Dowswell.....	\$10.00
Imperial Wringers.....	\$ 7.50
Empress Wringers.....	\$ 6.75
City Empress Wringer....	\$ 6.25

Galvanized Tubs. \$1.50, \$1.75, \$2.00
Galvanized Pails..... 50c to \$1.00

N. B. HOWDEN EST.

FACTS ABOUT MANURE

BACTERIAL PROCESSES IN A FARM FERTILIZER.

Digestive Action Must Take Place Before Barnyard Manure is in Condition to Release Plant Food—The Fire Fanging of a Pile Means Loss of Value.

In a bulletin issued some months ago by the Ontario Department of Agriculture, Prof. D. H. Jones, B.S.A., of the Ontario Agricultural College staff, dealt in a lucid manner with the bacterial action that takes place in the manure pile. These complex processes are essential to the final realization of the fertilizing value of barnyard manure and are described as follows:

The action of various species of bacteria in manure is just as necessary to prepare it for plant assimilation as is the action of bacteria in the soil. The changes that take place in manure from its fresh to its well-rotted condition are due almost altogether to the action of bacteria aided to some extent by molds.

When fresh manure is added directly to the soil, the plant food which it contains is not so readily available to growing plants as is the case with well-rotted manures. The bacteria contained in the fresh manure aided by those present in the soil have to break down the complex organic compounds of the manure into simpler forms, or, as previously described, digest them, before the growing crop can use them.

In the case of well-rotted manure, however, most of this digestive process has been completed by the bacteria, and the plant food present is largely in the right condition to be readily used by the growing crop. The rotting or ripening of the manure is mainly the digestive action of the bacteria contained in the manure.

The kinds of bacteria which bring about this action in the manure pile are the same as those which bring about the digestive processes in the soil. But the conditions which prevail in the manure pile are different from those which prevail in the soil, and as a result we are just as liable to have injurious action, resulting in loss, induced by these bacteria, as we are to have beneficial action. Consequently, the bacterial action in the manure pile has to be controlled if we are to get best results.

There are large numbers of bacteria in manure when it is produced. These numbers rapidly increase and are added to from the stable floor, the air and surroundings generally, and a rapid fermentation of the manure results. Everyone is familiar with the sharp, pungent, ammoniacal odor which is given off from an occupied horse stall if it has not been cleaned out for a day. This odor is given off from the manure, liquid and solid, through the rapid action of the ammonifying bacteria. When the ammonia is given off into the atmosphere it is lost, and so this action should be prevented as far as possible.

If the fresh manure is thrown into a pile add the pile is kept well packed and moist the production of ammonia will not be so rapid as to be readily given off into the atmosphere. Most of it, as it is produced, will be seized upon by the nitrous bacteria and changed to nitrites and nitrites will be changed by the nitric bacteria into nitric acid and finally result in nitrates. It is the presence of these nitrates in well-rotted manure that is largely responsible for the odorless manure giving quicker returns than fresh manure when added to the soil.

Everyone who has had anything to do with horse manure will be familiar with the condition known as fire fanging. This fire fanging means loss, as it destroys the plant food in the manure by slow burning. The condition of fire fanging is due to a rapid oxidation in fresh manure induced primarily by the digesting bacteria. In order for this to occur, there must be abundant oxygen within the fresh manure pile. The condition exists when the fresh manure is loosely packed and strawy. In such manure the bacteria will induce rapid oxidation, which causes a rise in temperature. The temperature will continue to rise until eventually the bacteria which have started it are destroyed by the heat, and much of the manure renders worthless. Therefore, to prevent fire fanging the manure pile should be kept well packed and moist for the purpose of excluding excessive quantities of air.

There is not the danger from fire fanging in cow manure or pig manure that there is in horse manure, as these manures are naturally wet and compact. Mixture of these with horse manure, providing the whole is well packed, will thus reduce loss by fire fanging.

CASTORIA

For Infants and Children
In Use For Over 30 Years

Always bears the Signature of *Chas. H. Fletcher*

Guide-Advocate Want Ads. cost little but are read by everyone. Use them.

GROOMING COWS IS FAVORED.

Animal Naturally Clean and Dairy-man's Duty is to Keep Her So.

Sightliness and attractiveness are feminine assets which extend even to the dairy cow. Naturally she is a clean and tidy beast. Unfortunately man has been obliged to confine the dairy cow closely in stables during certain periods of the year, with the consequence that unless he daily brushes and grooms the dairy matrons, their sleek, seemly coats soon lose their gloss and lustre and become densely matted with dirt and litter. For the same reasons that it pays to groom horses—greater efficiency from neat, spick-span-coats—it also proves invaluable to "doll up" the dairy cow daily by vigorous application of brush and curry comb. Cow comfort—that inexplicable condition of well-being which means animal satisfaction and the economical production of the maximum flow of milk—is fostered by careful and persistent grooming during the season when the cows need such extra attention, as ordinarily during the



Grooming Increases Cow Comfort and Makes for Clean Milk.

pasture period the animals of their own accord keep themselves clean.

The enthusiastic use of the brush and currycomb, supplemented by a moist cloth, as siege guns against dust and dirt, are good mediums for increased production, according to the opinions of progressive dairymen. These dairymen maintain that the clean coats and luxurious feelings of contentment induce increased production of milk. If you doubt the profits from grooming dairy cows, put it up to Bossie and her stable mates via the referendum-vote method.

From a sanitary standpoint, the densely matted, filthy and caked coat of the dirty cow is one of the main sources of contamination in milk. Filth dries on the body of the animal, and, unless it is removed previous to milking, a portion of it is likely to fall into the milk pail and carry undesirable bacteria with it. Hence, grooming cows is a fundamental safeguard against inferior, germ-laden milk. Where cows are groomed daily during their period of close confinement an attendant requires only about two or three minutes a cow to prepare and gloss up the animals as though for a banquet. On the other hand, it is difficult and time-consuming to clean off cows which have been kept without grooming in a dirty stable.

The commendable practice is to groom and clean the cows daily at such a time between the milking periods that there will be abundant opportunity for the dust put into circulation to settle so that it will not contaminate the milk as it is drawn from the cows. It is necessary for best results to wipe off the udder and flanks of each cow with a moist, clean cloth just before milking, in order to remove all the surface dust and dirt which has escaped the previous clean-up processes. It is recommended that dairymen exercise special care to provide plenty of material so that at all times they may use clean cloths in preparing the cows for milking, as too commonly the wiping cloth, unless carefully handled, becomes a source of contamination. It is also advisable to clip off the long hairs from udder and flanks of each cow.

Feeding Ensilage to Cows.

Do not wait too long when flies are bad and the weather is warm to open your silo and begin feeding ensilage to your cows. They will not only pay for their feed in the summer, but will be in much better condition in the winter months, to do better work. Do not fail to have some sort of shade in the pastures if you wish your cows to do well in the hot summer months. A cow that has to fight flies in the sun all day will not give large returns in the pail at night.

AFTER GRIP or FLU

WINTER COLDS—BAD BLOOD

You are pale, thin, weak—with little vitality. Your liver is sluggish and the bad blood causes your stomach muscles to lose their elasticity and become flabby and weak—then indigestion.

Dr. Pierce's Golden Medical Discovery, made from wild roots and barks, and free from alcohol or narcotics, is the great and powerful blood purifier of to-day. Ingredients printed on wrapper. This tonic, in liquid or tablet form, is just what you need to give you vim, vigor and vitality.

Take the 'Discovery' as directed and it will search out impure and poisonous matter throughout the system and eliminate it through the natural channels.

You can procure a trial package of the tablets by sending 10c. to the Invalids' Hotel, Buffalo, N. Y., or branch Laboratory in Bridgeburg, Ontario.

SINCLAIR, SASK.—"I have taken Dr. Pierce's Golden Medical Discovery for liver trouble, and found it excellent, and would not be without it. I suffered from congestion of the liver about six years ago and I always say that this medicine cured me. I have also given it to my family for colds and it cured them in a very short time. We must have used about a dozen bottles of the 'Discovery'."
—Mrs. ENOCH MITCHELL.

KITCHENER, ONT.—"I had become all run-down, was weak and nervous. My blood was bad also. I took the 'Golden Medical Discovery' and was completely restored to good health. I am always recommending this medicine to my friends, many of whom have had equally as good results."
—Mrs. EMIL KETTLE, 64 Breithaupt Street.

MEDICAL.

JAMES NEWELL, PH. B., M.D.
L. R. C. P. & S., M. B. M. A., England,
Coroner's County of Lambton,
Watford, Ont.

OFFICE—Corner of Main and Front streets
Residence—Front street, opp. block east of Main street

C. W. SAWERS, M. D.
WATFORD, ONT.

FORMERLY OF NAPIER OFFICE—Main Street, formerly occupied by Dr. Kelly. Phone 13 A. Residence—Ontario Street, opposite M. A. McDonnell's. Night calls phone 13B.

W. G. SIDDALL, M. D.
WATFORD ONTARIO

Formerly of Victoria Hospital, London.

OFFICE—Main street, in office formerly occupied by Dr. Brandon, day and night calls phone 26.

DENTAL.

GEORGE HICKS.

D. D. S., TRINITY UNIVERSITY, L. D. S., Royal College of Dental Surgeons, Post graduate of Bridge and Crown work, Orthodontia and Porcelain work. The best methods employed to preserve the natural teeth.
OFFICE—Opposite Taylor & Son's drug store MAIN ST., Watford.
At Queen's Hotel, Arkona, 1st and 3rd Thursdays, of each month

C. N. HOWDEN
D. D. S., L. D. S.

GRADUATE of the Royal College of Dental Surgeons, of Ontario, and the University of Toronto. Only the Latest and Most Approved Appliances and Methods used. Special attention to Crown and Bridge Work. Office—Over Dr. Kelly's Surgery, MAIN ST.—WATFORD

Veterinary Surgeon.

J. MCGILLICUDDY
Veterinary Surgeon,

HONOR GRADUATE ONTARIO VETERINARY College, Dentistry a Specialty. All diseases of domestic animals treated on scientific principles.
Office—Two doors south of the Guide-Advocate office. Residence—Main Street, one door north of Dr. Siddall's office.

Auctioneer

J. F. ELLIOT.
Licensed Auctioneer

For the County of Lambton.

PROMPT attention to all orders, reasonable terms. Orders may be left at the Guide-Advocate office.

Gordon Hollingsworth

Licensed Auctioneer

For the County of Lambton.

CAREFUL attention paid to all orders, Term reasonable and Satisfaction guaranteed. Orders may be left at the Guide-Advocate office.

A. D. HONE

Painter and Decorator

Paper Hanging
WATFORD - ONTARIO

GOOD WORK
PROMPT ATTENTION
REASONABLE PRICES
SATISFACTION GUARANTEED
ESTIMATES FURNISHED

RESIDENCE—ST. CLAIR STREET