

# AGRICULTURAL HINTS

## Disposing of Wood Ashes.

If there is no receptacle for wood ashes the best thing to do with them is to broadcast them around the trees. Ashes contain both lime and potash with a small proportion of phosphoric acid, and they benefit all kinds of trees, showing excellent effects for several years.

## To Tell the Age of Eggs.

According to good authority a new laid egg placed in brine made in the proportion of two ounces of salt to one pint of water, will at once sink to the bottom. An egg one day old will sink below the surface, but not to the bottom, while one three days old will swim just immersed. If more than three days old the egg will float on the surface, the amount of shell exposed increasing with age, and if two weeks only, only a little of the shell will dip in the liquid.

## A Plow-er.

When shallow plowing, at the same depth is continued for a series of years, if it is a clay soil, a solid plowsoil will be made that is to a greater or less degree, impenetrable to roots. Plowing should always be as deep as the soil will permit, and there is a signal advantage in loosening up the subsoil of clay lands with a subsoiler. It is not wholly uncommon to find a farmer raising good crops on heavy clay soil, while his neighbor, with the same kind of soil, and with similar cultivation, raises poor crops. The difference is often the result of the different depth of plowing. The successful crop grower plows as deeply as the soil will allow; the other man has been plowing shallow until he has made a packed subsoil of a portion of his fertile soil. The latter is a method that wastes fertility. Turn up all the good soil, unless it is several feet in depth as you find in some of the far western states and even in some portions of Minnesota.—J. W. Scott, in the Epitomist.

## Growing Apples Successfully.

Good apple trees can be grown on almost any rich soil, but one rich in potash is best suited for fruit growing. If time were no object I would prefer to grow my trees from the seed. Get pomace from the cider mill, wash out the seeds and dry them. About one peck of seed can be secured from 100 bushels of pomace. Prepare a plot thoroughly and sow about 25 seeds to the running foot, having previously soaked them in warm water. When the trees are two or three years old, graft or bud with the varieties desired. Grafting seems to be most popular, but I prefer budding. When the trees are five years old, they are ready to set in the orchard.

For the first few years but little pruning is necessary, the aim being to produce a tree that will head near the ground. Such trees bear earliest and are most easily picked. Give the young trees frequent, shallow cultivation. I like to turn hogs in the orchard. Trees seem to thrive under these conditions. If near a good market early apples are the most profitable. Grow those with good flavor of fair size and fine appearance. Get the trees to bearing while young, as old trees are not profitable. Watch for the borer.

In my opinion it makes little difference whether the trees are produced in the north or south. After the bloom is secured the character of the blossom determines largely the character of the fruit. If the blossoms are open and the stamens prominent fertilization is much more likely to occur. Trees which produce closed blossoms are of little value. Pick and pack winter apples tightly in barrels. They seem to keep best when put up in this way. I know an orchard which last year paid the owner \$122 per acre.—J. J. Blackwell, in American Agriculturist.

## How to Yard Fowls.

Never shut up a flock of fowls in a small inclosure, thinking you will get any good returns from them. A dozen fowls should have at least a yard 100 feet square. The yard or yards may be more convenient by making them narrow and longer, according to circumstances. Use two-inch mesh poultry netting, four feet wide, with a board at the bottom, but none at the top. This bottom board or boards, is better two feet high, and thus prevents the males from fighting through the wire, but any width board is better than none at all, for with it you can better stretch the wire, and make a better job of fencing. It is not necessary to use a higher fence, or wire more than four feet, but no board must be used on top or the fowls will fly up on the top board and get out. If a chance bird gets over this fence, crop her wings by cutting only the long stiff flight feathers from the last joint of wing.

If possible when making yards enclose all the shade trees you can get in them. If trees are not already in them, loose no time putting them there. A mulberry thicket of the Russian variety is the ideal tree for fowls, as the fowls love the leaves and the immense crop of berries they bear. We have a mulberry hedge through our yards and the low branches spread out near the ground 10 feet or more, and the leaves are stripped up by the fowls and the shade is perfection. It is true that the poultry yard is a good place for fruit trees and fruit, but we can also have as many fruit trees in it as it will accommodate, beside the mulberries.

To have these yards arranged just right we should have a large enclosure adjoining well set down in clover, or grass of any kind, alfalfa clover being the best, or bokhara clover, which I think is equally as good, and thus let out each flock on this grass run every day a while. Fowls will do fully as well in every respect and indeed better, when thus properly yarded, than if running at large. The egg output is largely increased by yarding properly.—A. H. Duff, in Farm Field and Fireside.

## Use Lime in the Fall.

The fall season is believed to be the best for using lime. Every farmer understands that lime gives good results, but the action of lime in the soil differs according to the texture of the soil and the amount of mineral and organic matter contained. Lime is considered an alkali, and therefore keeps the soil sweet by neutralizing acids which arise from the decay of animal and vegetable matter in the soil. Mr. A. Peets, in England, who has done much to attract attention to the use of lime, states that lime, by keeping the soil sweet, enables the germs in the soil, both those which convert humus into ammonia and those which convert ammonia into nitric acid, to carry on the work which cannot be done in a sour soil. The carbonic acid being the product of the existence of the bacteria, it is as injurious to the existence of their well being as the impurities of a vitiated atmosphere are to the well being of the high types of animals. When nitric acid is formed by the nitrifying germs in the soil it unites with the lime to form nitrate of lime when otherwise it would be given off into the air. In the same way lime serves to preserve in the soil the soluble phosphates by converting them into water soluble and citrate soluble phosphates. Also, the potash, by converting it into carbonate of potash, both of which valuable plant foods would be lost to a certain extent by drainage. A judicious application of lime also destroys many insect pests, which hibernate in the soil. Lime, in its dry state is very friable, and serves to disintegrate city lands in much the same way as burnt earth, thus being of assistance in rendering the soil lighter. No matter how fertile the soil may be, one of the main advantages in using lime is that it fits the soil for the work of the organisms which derive nitrogen from the atmosphere, which explains, to a certain extent, why lime benefits clover and other leguminous plants.

Though not regarded as entitled to a place in the list of available fertilizers, yet lime is a plant food, existing in nearly all soils, and is found in the ash of nearly all plants. In the soil it sets free and renders available other plant foods, also serving to store up food materials in the soil and prevent its loss by washing away. No soil can be considered well manured with economy unless there is a sufficiency of lime present to get a maximum of efficiency out of the manure. It is claimed that there should be at least one-half percent of lime present in any soil or one part in two hundred. To test for lime put some of the soil in an ordinary tumbler or test tube, pour in a little water and stir well, and then pour in a little muriatic acid. If it effervesces freely the soil contains sufficient lime, but if effervescence is feeble, or is not apparent, the soil requires lime. When lime is applied it should be in a very fine condition, air slaked, and should be distributed evenly by broadcasting over the surface of the soil. There are implements made for performing such work. The tendency of lime is to go down into the soil; hence it is not necessary to work it in with a harrow. It should not be left in piles in the fields, if it can be avoided, as it may prove injurious on locations where it is heaped. From 10 to 40 bushels of air slaked lime are used per acre, the quantity depending upon the soil and conditions, a larger proportion being used when the lime is applied at the time of plowing under a green manural crop.

As lime is slow in its effect on most soils, the benefits derived from its use may not be apparent for months, for which reason it is broadcasted in the fall so as to allow as much time as possible for it to remain in the soil, the land being plowed in the spring. It gives excellent results when used with green manural crops, being used on the plowed ground when the crop is turned under, but as the soil may lose some of its soluble plant food during the winter if left uncovered, it is the practice with some to sow rye on the plowed ground, turning the rye under early in the spring. Gas lime is also sometimes used, but being sulphide and sulphite of lime, and being very different from air slaked lime it does not give the same results, and may prove injurious if used in very large quantities. Gas lime does not assist nitrification, and is not therefore as valuable as may be supposed, though it is a powerful insecticide. It is not necessary to apply lime every year. Some soils require only an occasional application. If applied every year the quantity should be small, not exceeding 10 bushels per acre, and even then it should not be used every year on the same land except when a green crop is plowed under, the lime then assisting to neutralize the acids in the soil. Lime is not a substitute for manures or fertilizers; in fact, if lime is used there is all the more need for manure or fertilizer, as the advantage held by lime over the fertilizer salts is its chemical and mechanical effect on the soil. It gives good results wherever used, is cheap compared with its real value, and should be used by a larger number of farmers.—Philadelphia Record.

## SCIENCE AND INDUSTRY.

The British war office has devised a new use for bullets expended upon target practice at rifle ranges. The present market price for spent cup-nickel bullets is about \$90 per ton, and contracts have been made for the recovery and removal of these used bullets from the various ranges.

According to English correspondence, an automobile battery has been evolved abroad which threatens a revolution in horseless travel. In going down hill the motor is reversed and the battery recharges itself, so that it is much stronger at the bottom than at the top. A trip of over 94 miles was made on an American-built wagon equipped with this motor and battery, with no stop for recharging.

As a consequence of the increasing demand for superior grades of sugar in Japan, attention is being turned toward improving the very primitive methods of crushing now employed at Tainan, and turning out a cleaner and higher grade sugar, says The Engineer. As a first step in this direction four iron mills—crushers—were introduced during the year to replace old stone crushers, but as the same motive power—bullocks—is used as before, this improvement is limited only to the extraction of a larger percentage of juice, and the quality of the sugar produced remains much the same.

Commercial agent Johnson, of Stanbridge, Quebec, has sent to the state department a report on the discovery of a new wood preservative. He says: "The sap is removed from timber and at the same time it is impregnated with chemicals to render the wood either fireproof or impervious to attacks of insects or to decay in salt or other waters. Beechwood can be made suitable for railway sleepers or for boat and shoe lasts. If necessary the impregnating plant can be used at the felling ground. The cost of impregnating is about two cents per cubic foot. The cost of the plant is about \$1000."

The product called "electroverre," according to the Monteur Scientific, is made as follows: The materials in fine powder are fed into an electric furnace in several compartments; in about 20 minutes a clear liquid glass is obtained, which can be run into moulds or worked as usual, for finer kinds of glass the compartments are placed over one another, as the refining takes place more quietly. Fifty volts is sufficient with the Becker furnace, and the current can be either alternating or continuous. It is claimed as an advantage that the furnace can be easily started or stopped within a short time, and that the expense of pots will be saved. The trials are being made by a company at Cologne.

The geodesists are still measuring the earth, with a view to determining its exact size and shape. People that do not follow closely the work that scientists are doing are under the impression, perhaps, that these points were determined long ago, and so they were approximately. But an approximate conclusion is not satisfactory to science, and so the task of measurement goes on, and will go on until an accurate result is obtained. One of the most important steps recently taken in this direction is the remeasurement of the meridian arc in Peru, which is being done by French geodesists, the original measurement having been made by their countrymen in the early part of the 18th century. The new arc is nearly twice as long as the old one, and covers about six degrees of latitude, crossing the equator near Quito. The great peak of Chimborazo rises not far from the middle point of the new arc.

## Gutta-percha is Not Rubber.

Many persons think that gutta-percha and India rubber are substantially the same product, but, while they resemble each other in some respects, they are distinctly different in others. A writer who was formerly a forester in the Dutch East Indies has recently called attention to these differences. So far as the qualities of the products are concerned the most noticeable difference is that rubber is elastic while gutta-percha is not. Gutta-percha is obtained from one plant only; rubber from upward of 60 different plants. The gutta-percha tree is cultivated with great difficulty, and the natives of the countries where it grows cut it down to get its sap. Three-fourths of this product comes from Sumatra and Borneo. The total annual production is only about one-twentieth that of rubber, which is estimated at about 99,000,000 pounds two-thirds of it coming from the Amazon valley, one-third from Central Africa and one-twentieth from Asia.

## Rare Butterflies Bring Big Prices.

About 20 butterflies and nearly 600 moths are supplied by Wicken Segg Fen in Cambridgeshire, England, but only a few of the rare and more valuable specimens are sought after by the entomologists. Their value, from a monetary point of view, is some what difficult to gauge; for instance a scarce and inconspicuous brown moth, called Hydrilla palustris, which is only taken at long intervals, never at years intervening, is worth \$10 to \$15, while a swallow tail butterfly, although found nowhere else in England, is worth but 10 cents. A good specimen of the large copper butterfly is worth from \$30 to \$40, but this butterfly is now extinct.—Pearson's Magazine.

**Developing Odor in Flowers.**  
Accounts from St. Louis inform us that an enthusiastic lover of flowers has succeeded in breeding an odoriferous race of tulips, and that he is now engaged in experiments with the chrysanthemum, to which he expects eventually to impart the fragrance of the rose. We can only say, in reply to an inquiry, that nothing has come to hand throwing any light on those related successes and experiments. From a theoretical point of view it seems impossible. Odor comes from the excretion of minute particles of oil. To change the odor the character of the oil would have to be altered. When this can be done by the cultivator we may expect turpentine from the sugar cane and get the fragrance of the violet from allantus flowers.

An odoriferous race of tulips is not astonishing, for tulips have themselves developed scent. Tulipa sylvestris, common in the south of France, and thought by many botanists to be only a wild variety of Gesneriana, from which our many cultivated tulips have sprung, is very pleasantly fragrant. The truth is that man can only take advantage of some tendency that nature has first originated. He cannot develop new organs of secretion, and in the matter of color he can only ring the changes of those colors which the flower he experiments with has passed through in the scale from primitive yellow to aesthetic blue.—Boston Transcript.

## Lost Arts.

"We hear a good deal these days about the lost arts," said the man, who, though old in years is still young at heart. "I wonder if the world realizes that some of the most precious arts of childhood are in danger of becoming extinct? How many boys today can make a kite, properly hung and with a tail sufficient to balance it? How many boys can make a bow with the ends nicely bent and worked down with a bit of broken glass? "I interviewed my young nephew the other day and was thunderstruck to discover that he knew nothing about it. Could he make a water wheel? a windmill? an alder pop gun? a jack lantern? a buzz wheel? an air gun from a goose quill with a sliced potato for ammunition? a willow whistle? a squirt gun? No, he knew nothing about them. "But surely," said I, almost pathetically, "you can make a corn stalk fiddle?" "Do you mean a violin, unk?" said he, yawning. "Then I gave it up. I don't believe the youths of to-day know enough to stick a feather in a corn cob and throw it into the air. I'm going to write a book some day upon the arts of childhood to save them from utter annihilation!"—Detroit Free Press.

## Responsibilities of Editors.

"Upon publishers and upon editors rests a responsibility," says Mr. Allen, in Harper's. "They will fall both of their duty and of their high privilege in so far as they yield to the importunities of a capricious popular taste. If they surrender their business to wholly mercantile purposes, regardless of the best interests of literature, and compete with each other in this facile and fatal descent, then a general publishing syndicate, upon a purely mercantile basis, will be as natural and inevitable in its application to literature as it has become in the control of railroads and the production of steel. Fortunately, the great publishers of books and periodicals in this country have maintained a united front against perilous tendencies, and their competition has been in the line of ascent."

## Shipping a Big Tree.

An effort is to be made to remove a large red oak tree from the wildest section of Arkansas to Forest Park, St. Louis, for the Louisiana Purchase Exposition, says the Scientific American. The tree is 160 feet high and twelve feet in diameter at the base. A double tramway will be built from the tree to the river, where it will be floated and towed to St. Louis. It is estimated that this will occupy six months. The tree will be dug up by the roots instead of being cut, and none of its branches will be trimmed, so that it will appear on exhibition just as it now stands in the woods.

## A Prussian Royal Custom.

A curious custom exists in the Prussian royal family of selecting every July a half dozen deserving young couples too poor to marry, and to have them wedded in the garrison church at Potsdam on the anniversary of the death of Queen Louise of Prussia. After the ceremony each bride receives a gift of a sum equivalent to about \$115 and a handsome family Bible. The function took place, as usual, a short time ago, in the presence of Princess Margarethe, the eldest unmarried daughter of the Prussian royal family.

## Consolation and Comfort.

Who is it that does not wish to be in the open air or alive in some field of sport, whether it be with the bat, rod or gun; whether we go coasting over the hills and vales or into serene coves, it is all sport, and the springing muscles seem to need it. It is bound to happen that some mishap will occur. Thus it is that we have sprains in abundance. Light sprains, sprains that cripple, sprains that give great pain, sprains that rob us of sleep, but sportsmen of all kinds have come to know that there is nothing better than the old reliable St. Jacobs Oil. Have it with you for use; you may rely on its cure of the worst sprain and restoration to the comforts of life.

If a girl dislikes a young man she steals her heart, but if she admires him she lets him steal it.

Great Britain supplies many "Brussels" carpets and small foot rugs to Turkey.

**Easy Come, Easy Go.**  
The man who creeps along bent over, with his spinal column feeling in a condition to snap like a pipestem at any minute, would readily give a great deal to get out of his dilemma, and yet this is only the commonest form by which lumbago seizes on and twists out of shape the muscles of the back. This is commonly known as backache, a crick in the back, but by whatever name it may be known, and however bad it may be, 10 minutes' vigorous rubbing with St. Jacobs Oil on the afflicted part will drive out the trouble and completely restore. It is a thing so easily caught, it may be wondered at why there is not more of it, but because it is so easily cured by St. Jacobs Oil may be the very reason that we hear so little of it.

Potatoes form the world's greatest single crop, 4000 million bushels being produced annually, equal in bulk to the entire wheat and corn crop.

Europe and Australia together are almost exactly equal in area to South America. North America and Australia combined would almost cover Africa.

PURMAN'S F. DELESS DYE produces the fastest and brightest colors of any known dye stuff. Sold by all druggists.

The State which produced the largest corn crop last year was Illinois, with 247,000,000 bushels.

A vessel going from Montreal to Port Arthur has to ascend 600 feet.

**Deafness Cannot Be Cured**  
by local applications as they cannot reach the diseased portion of the ear. There is only one way to cure deafness, and that is by constitutional remedies. Deafness is caused by an inflamed condition of the mucous lining of the Eustachian Tube. When this tube is inflamed you have a rumbling sound or imperfect hearing, and when it is entirely closed Deafness is the result, and unless the inflammation can be taken out and this tube restored to its normal condition, hearing will be destroyed forever. Nine cases out of ten are caused by catarrh, which is nothing but an inflamed condition of the mucous surfaces.

We will give One Hundred Dollars for any case of Deafness (caused by catarrh), that cannot be cured by Hall's Catarrh Cure. Circulars sent free. F. J. CHENEY & Co., Toledo, O. Sold by Druggists, 75c.

Hall's Family Pills are the best.

Physical culture is only another name for hard work.

It's a good thing to be too busy to make enemies.

**Best For the Bowels.**  
No matter what ails you, headache to a cancer, you will never get well until your bowels are put right. CASCAHENS help nature, cure you without a grip or pain, produce easy natural movements, cost you just 10 cents to start getting your health back. CASCAHENS Candy Cathartic, the genuine, put up in metal boxes, every tablet has C. C. C. stamped on it. Beware of imitations.

A man can go down hill faster than he can go up.

FIT'S permanently cured. No fits or nervousness after first day's use of Dr. Kline's Great Nerve Restorer. \$2 trial bottle and treatise free. Dr. R. H. KLINE, Ltd., 931 Arch St., Phila. Pa.

The population of the German Empire includes 3,000,000 who use the Polish language.

H. H. GREEN'S SOUS, of Atlanta, Ga., are the only successful Dropsy Specialists in the world. See their liberal offer in advertisement in another column of this paper.

An ordinary piano contains a mile of piano wire.

Piso's Cure cannot be too highly spoken of as a cough cure.—J. W. O'BRIEN, 322 Third Avenue, N., Minneapolis, Minn., Jan. 6, 1903.

Cremation of the dead has been the custom in Japan for 1200 years.

Mrs. Winslow's Soothing Syrup for children teething, softens the gums, reduces inflammation, allays pain, cures wind colic, 25c a bottle.

Naturally it makes a fellow feel cheap to give himself away.

**Worms**  
IN CHILDREN ARE veritable demons, and must be removed or serious results will follow. The medicine which for 60 years has held the record for successfully ridding children of these pests is **Frey's Vermifuge**—made entirely from vegetable products, containing no calomel. IT ACTS AS A TONIC. 25 cts. at druggists, or send stamp for full particulars and date position preferred. Address, Dept. B, THE BELL COMPANY, Philadelphia, Pa.

**\$900 TO \$1500 A YEAR**  
We want intelligent Men and Women as Traveling Representatives or Local Managers; salary \$500 to \$1500 a year and all expenses, according to experience and ability. We also want local representatives; salary \$5 to \$15 a week and commission, depending upon the time devoted. Send stamp for full particulars and date position preferred. Address, Dept. B, THE BELL COMPANY, Philadelphia, Pa.

**YOU SHOULD OWN THIS BOOK!**  
IT SHOULD BE IN EVERY HOUSEHOLD AS IT MAY BE NEEDED ANY MINUTE.  
A Slight Illness Treated at Once Will Frequently Prevent a Long Sickness, With Its Heavy Expenses and Anxieties.  
**EVERY MAN HIS OWN DOCTOR**  
By J. HAMILTON AYERS, A. M., M. D.  
This is a most valuable book for the Household, teaching as it does the easily-distinguished Symptoms of different Diseases, the Causes and Means of Preventing such Diseases, and the Simplest Remedies which will alleviate or cure. 598 Pages, Profusely Illustrated.  
This Book is written in plain every-day English, and is free from the technical terms which render most doctor books so valueless to the generality of readers. This Book is intended to be of Service in the Family, and is so worded as to be readily understood by all. Only 60 Cts. Post-Paid.  
The low price only being made possible by the immense edition printed. Not only does this Book contain so much information relative to Diseases, but very properly gives a Complete Analysis of everything pertaining to Courtship, Marriage and the Production and Rearing of Healthy Families; together with Valuable Recipes and Prescriptions, Explanations of Botanical Practice, Correct Use of Ordinary Herbs. New Edition, Revised and Enlarged with Complete Index. With this Book in the house there is no excuse for not knowing what to do in an emergency. Don't wait until you have illness in your family before you order, but send at once for this valuable volume. ONLY 60 CENTS POST-PAID. Send postal notes or postage stamps of any denomination not larger than 5 cents.  
**BOOK PUBLISHING HOUSE 134 Leonard St., N.Y.**

# Mother

"My mother was troubled with consumption for many years. At last she was given up to die. Then she tried Ayer's Cherry Pectoral, and was speedily cured."  
D. P. Jolly, Avoca, N. Y.

No matter how hard your cough or how long you have had it, Ayer's Cherry Pectoral is the best thing you can take. It's too risky to wait until you have consumption. If you are coughing today, get a bottle of Cherry Pectoral at once.

Three sizes: 25c., 50c., \$1. All druggists.

Consult your doctor. If he says take it, then do as he says. If he tells you not to take it, then don't take it. His knowledge is worth more than any other. Leave it with him. We are willing to pay \$1000 for a cure. J. C. AYER & CO., Lowell, Mass.

# Sick Headache?

Food doesn't digest well? Appetite poor? Bowels constipated? Tongue coated? It's your liver! Ayer's Pills are liver pills; they cure dyspepsia, biliousness.

25c. All druggists.

Want your mustache or beard a beautiful brown or rich black? Buy the best BUCKINGHAM'S DYE for the Whiskers. 50 CTS. OF DRUGGISTS, OR R. P. MALL & CO., BOSTON, N. H.

# LIBBY'S Mince Meat.



In our mammoth kitchen we employ a chef who is an expert in making mince pies. He has charge of making all of Libby's Mince Meat. He uses the very choicest materials. He is told to make the best Mince Meat ever sold—and he does. Get a package at your grocer's; enough for two large pies. You'll never use another kind again.

Libby's Atlas of the World, with 32 new maps, size 8x11 inches, sent anywhere for 10 cts. in stamps. Our Booklet, "How to Make Good Things to Eat," mailed free.

Libby, McNeill & Libby, CHICAGO.

# ASTHMA-HAY FEVER

CURED BY DR. TAFT'S ASTHMALENE

SEND FOR FREE TRIAL BOTTLE.

ADDRESS DR. TAFT, 79 E. 130th ST., N.Y. CITY

**PISO'S CURE FOR CONSUMPTION**  
CURES WHILE ALL ELSE FAILS. Cures Cough, Spasms, Hoarseness, etc. Use in time. Sold by druggists.

# STARK TREES

Best by Test—77 YEARS LARGEST NURSERY. Fruit trees free. We have CASH WANTS. STARK BROS., Louisiana, Mo.; HUNTSVILLE, Ala.; Etc.

# DROPSY NEW DISCOVERY!

gives quick relief and cures worst cases. Book of testimonials and 10 days' treatment free. Dr. H. H. GREEN'S SOUS, Box 5, Atlanta, Ga.

# Thompson's Eye Water

Weak eyes, etc.

# ADVERTISING IN THIS PAPER

McILHENNY'S TABASCO.