Tillage and Under-dranage: Reasons Why.

(From the Cornell Reading Course for Farmers)

1. *The difference between black and white.*—Two farmers are neighbors. Mr. White has made a study of potato culture for a number of years, and, as a result, now has an average yield, one year with another, of 200 bushels per acre from a field of three to five acres. Mr. Black is considered a fairly good farmer, as farmers go, but has given potato culture no special study. He manages his crop as his neighbors do. His methods are those which have been a tradition for several generations, and they had their origin when the country was new and high cultivation was impossible on account of the stumps and lack of tools and also because the virgin soil made it unnecessary. His annual yield is not far from 60 bushels per acre. In other words, Mr. Black has to plow, harrow, furnish seed, plant and cultivate about ten acres to secure as many potatoes as Mr. White does from three acres. Both men sell their produce to the same dealer, and we will assume that they receive the same price per bushel. The cost of producing a bushel of potatoes must be very much more with Mr. Black than it is with Mr. White. No manufacturer or merchant could withstand the keen competition in trade if handicapped as Mr. Black is. When the respective farms were reclaimed from the forest, they were considered to be alike in character of soil, and the rain falls impartially on each.

Why the difference in cost of production between Black and White? There are many points of difference in their methods, but we are free to say that one of the essential differences is in tillage.

2. *The plant needs water.* When Mr. White contemplates a crop of potatoes, he proceeds to make an estimate of what the crop will require and how he can provide for that demand. Perhaps the greatest of all needs is water. By turning to Cornell Experiment Station Bulletin 120, page 419, it will be seen that in a dry season a bushel of potatoes requires about three tons of water for its production. If Mr. White expects 200 bushels of potatoes per acre, he must somehow manage to provide 600 tons of water for each acre. He has no facilities for irrigation, and his only resource is to make the soil a reservoir. He must store the supply left by winter snows and spring rains, and also the irregular rainfall that comes during the season's growth. Speaking in broad averages, in soils most commonly met with, this storage possibility amounts to about 300 tons of water per acre in the first eight inches of the soil. It must be understood that this amount is not in the form of standing water, for water standing in the soil for any length of time injures both soil and plant.

3. *Tre most useful form of water for planss is film moisture.*—Water is capable of assuming many forms, such as steam vapor, ice, or free-moving liquid. The condition most valuable in the soil is none of these, but is in the form of film moisture. This film moisture can be shown by dipping a marble into water and observing the film of water surrounding it on all sides. When each soil grain is covered with film moisture as the marble is, the ideal conditions of soil moisture exists. This form of water is largely independent of gravitation and travels readily in all directions, as can be seen by dipping a cube of sugar into a spoonful of coffee. It is capable of transporting plant-food to the roots of plants from remote corners, where the roots do not reach.

It will be observed that film moisture is held only on the surface of soil-grains. The more the soil is pulverized, the more soil-grains there will be, and therefore the greater amount of surface to hold film moisture.

The difference in the capacity of lumpy and fine soils to hold film moisture is surprising to one who has not given the question study. George W. Cavanaugh, assistant chemist at the Cornell Experiment Station, has very graphically shown this by experiment: He put some small marbles in a tumbler, and the total amount of film moisture that the marbles would carry was represented in a tube placed beside the tumbler. The soil in another tumbler was of the same weight as the marbles and it represented the marbles reduced to the fineness of common sand. Its capacity for holding film moisture was represented by the water in a standing tube. The weight of material was the same in each tumbler, and the reason why one held three times more film moisture than the other was due to the increase of surface that comes by dividing a coarse lump into fine particles.

The marbles represented the careless tillage of Mr. Black, and the finer particles the thorough tillage of Mr. White. Mr. White plows about one-third deeper than Mr. Black, and thereby makes another addition to the capacity of his reservoir.

The coarse soil, as represented by the marbles will lose its film moisture and be evaporated much more readily than the fine soil, particularly if the surface of the latter is covered by fine particles representing an earth-mulch.

Tillage makes plant food available.—Another difference in the culture given by Black and White is that the better tillage enables the plant to realize more food from all fertilizers which may be applied. There is also a benefit in making available some of the plant-food that nature has put in the soil. Broadly stated, the native plant-food amounts to as much as can be bought in $2,000 worth of commercial fertilizers. The finer soil has another advantage in affording a greater area for root pasturage. It is not uncommon for farmers to think of plant-food in the soil as in the condition of salt or sugar which is capable of being immediately dissolved by water and at once appropriated by the plant, or like potash in ashes that can be soaked out. Plant-food exists in this form only to a limited extent. A man might famish if locked up in a granary filled with wheat; yet a chemist would say that there was enough food near him to feed a hundred men. This illustrates how nature has stored much of the plant-food in the soil. It has to go through many changes before it can be appropriated by the plant. The soil is a factory in which the work of preparation is carried on.

5. *The soil is a laboratory.*—Some of the agents employed in this factory are film moisture, air and heat; and if these are not furnished in the proper extent and manner, the factory runs in a sluggish way, if it does not stop altogether. Good tillage does much to hasten the activities of this factory by allowing free ingress to the soil of film moisture, air and head. Air is necessary for a supply of oxygen, and heat to facilitate fermentation and other vital processes.

The importance of air and heat in the soil brings us to the question of drainage. Air cannot enter a soil freely which is filled with standing water, and growth of micro-organism is stopped.

6. *Wet soils are cold.*—Standing water is a great absorbent of heat. If no provision is made to drain it away, it must be evaporated away. Thereby heat is lost. The soil is cold. A great many barrels of water can be standing on an acre of ground and not attract much attention.

To appreciate the amount of heat necessary to evaporate water one has only to chop, split and burn beneath a caldron kettle, wood enough to evaporate a barrel of water. Every barrel that is evaporated from the soil by the sun absorbs as much heat as is contained in the wood used under the kettle. The soil and plants are perhaps chilled for want of that heat. This is the reason that a wet soil is said to be cold.

7. *Drained soils resist drought.*—Some farmers have the notion that well drained soil will not withstand a drought as well as an undrained soil. The contrary is true. Everyone who has tilled the soil is familiar with places that are wettest in a wet time and driest in a dry time. When these places dry at all, they dry like a brick. A wet soil can never be tilled so as to present the greatest amount of surface for film moisture and give it a mellow texture to receive a gentle saturation of air; and standing water robs it of much heat required by the soil and plants.

8. *Drainage makes a soil reservoir.*—There is a place in every soil at which the free water stands. This place is called the water-table. It may be three inches down, or a hundred feet. It is the bottom of the soil reservoir, the bottom of our dish-pan This dish-pan or the upper and tillable soil, is the reservoir. It is the part in which the water is held as films on the soil particles. These films travel from particle to particle, the general tendency being upward because the moisture is passing off near the top of the soil by means of evaporation and appropriation by plants. Moisture is contantly supplied from the water-table below. We speak of this movement as capillary attraction.

Under-drainage lowers the water-table. It lowers the bottom of the dish-pan; and thereby there is a deeper reservoir above it for the holding of film moisture and the distribution of roots.

But, the reader says, if the water-table supplies moisture to the upper soil, then it must be useful and necessary. Certainly; it must not be too high, for roots of farm plants do not thrive in standing water. If the upper soil is well tilled, capillary attraction will bring the moisture up.

9. *Do not let the moisture get away*—We want this film moisture in the upper soil in order that roots may use it. The plants do not use it, to any great extent, after it is passed off into the atmosphere. Therefore, stop this water before it reaches the atmosphere.

How? Put a layer of loose dry earth between the moist soil and the atmosphere. This layer will stop the upward capillary flow. This layer is the earth-mulch. It conserves, or saves moisture.

10. *Dry and hard soils may be benefitted by under drainage.*—The water-table is lowered. Air is admitted. The soil does not puddle. It becomes fine. Under-drainage makes wet soils dry by removing the free-water; it tends to make dry soils moist by deepening the reservoir and fining the particles of soil.

11. *What tillage tools are for.*—Some tools, as plows, are to mellow up the soil and to deepen the moisture reservoir. Others, as cultivators, are to tear up and to pulverize the soil to the greater or less depths. Cultivators lift and turn the soil. The spring-tooth harrow is really a cultivator. Other tools, as harrows, prepare the surface of the soil. They make the seed-bed and put on the earth-mulch. The true harrows stir the soil, but do not lift or invert it.

11. *Weeds do not like well-tilled lands.*—The first and greatest value of tillage is to put the soil in such condition that plants can grow, and then to keep it so. Incidentally, it prevents from growing those plants which we do not want,—the weeds. Usually, the process is reversed: weeds make us till, and we get the other benefits without knowing it. The best tillage prevents weeds rather than kills them.

13. *Summer-fallowing is a means of cleaning land and of correcting mistakes.*—It may be necessary to fallow the land in order to clean it of stones, stumps and brush. But after the land is once thoroughly subdued, summer fallowing is very rarely necessary if the land has been well handled. If the land has been plowed when too wet and thereby has become lumpy, if it has been allowed to become foul with weeds, or if it has lost heart by too continuous cropping with one kind of crop, summer-fallowing is a good means of bringing it back into condition. The better the farming, the less the necessity of summer-fallowing. In the old days, the poor tillage tools rendered fallowing more necessary that it is to day.

Fallowing is tillage; and tillage liberates plant-food. Some of this plant-food may leach away and be lost, although the small rain-fall of the summer months,—during which time fallowing is practiced,—makes this loss slight.

14. *The kind of tillage should vary with the soil, the time of year, the kind of crop.*—Too many farmers seem to think that tillage is tillage, no matter how it is performed. The same tool is used for clay or sand or muck, and for fitting the land for wheat or corn or apple trees. A harrow that is best for one field may be worst for the adjoining field. A man would not think of using a buggy for carrying grain to market, but he will use one tool for many kinds of work. The work is not only poorly done, but it is not economical. It costs too much. Persons who will economize to the smallest degree in expenditure of money may be very wasteful in expenditure of labor and muscle.

Persons are always asking if deep plowing is best. The question cannot be answered on general principles. Deep plowing may be best for one field and one crop, and shallow plowing best for another field and another crop. The same remarks will apply to fall-plowing and spring plowing. One must first learn principles, or the why; then the practice, or the how, will came easy.

For Music Students.

The London Musical Herald offered a prize and certificate for the best act of twelve "don'ts for pianists. Many papers were submitted, and they presented graphically the vagaries of all sorts and conditions of pupils, veritable musical microcosms. The prize winner, Miss Janet Lawson, sent the following:

Don't thump.
Don't begin to play until you are ready.
Don't count to your playing, but play to your counting.
Don't jerk your hand when you put your thumb under.
Don't play one hand after the hand.
Don't play with your arms.
Don't keep the pedal down all the time.
Don't gallop over an easy part, and then stumble over the more difficult.
Don't neglect posture when practicing.
Don't nod your head when you play an emphatic note.
Don't pass over a difficult bar until it is mastered.
Don't be late for your lesson.

The End-of-the-Century Editor.

Of late years, says The Lincoln Journal, the editors of Nebraska have declined to accept free entertainments from the cities in which their meetings are held. They gather and transact their business, pay their bills like any other set of business men and go home. This marks a great change for the better in the tone of the newspapers of Nebraska. The successful editor no longer receives favors, and pays for them in "puffs." His advertising space is sold for cash. He buys his personal and business supplies with cash. His editorial space belongs to the public. It has no price; it is not for sale. The introduction of these sound principles of journalism into the weekly newspaper offices is creating a new race of editors in Nebraska.

—The specific remedy for troubles of the blood, kidneys, stomach, liver, is Hood's Sarsaparilla, the great blood purifier.

No Waste in a Steer.

ALL THE PARTS OF THE BEEF ARE USED BY PACKERS.

P. D. Armour, the king of packers, in an address before the National Stock convention brought out the following concering the great industry:

To begin at the beginning of the methods pursued in the great packing plant of the present day, you will note that after rigid federal and state inspection of the animals they are slaughtered. Then the horns are cut close to the head, and the pith is removed from the horn and goes to the glue pot, while the horn itself is dyed, sorted into various grades and is shipped to the manufacturer. After being pressed into flat plates these are manufactured into combs, buttons and ornaments of many kinds. The tips of the horns are made into mouthpieces for pipes, and the scraps are utilized by florists as a fertilizer. Note also the further saving effected by the utilization of the bones. The knuckles are removed from the feet, and the shanks of the animal after boiling and cleaning are used in the manufacture of knife handles, tooth brushes, buttons and various articles in which ivory and bone are used, and it is very difficult to distinguish the hard bone from ivory, it being susceptible to a very fine polish. The scraps are used by the manufacturers of bicycles and screws for case hardening steel and are also used for poultry food.

Besides this, from the blood, by a chemical process, the albumen, which corresponds to the white of an egg, is extracted and is used for the fixing of colors in calico printing and also in the finishing of leather. This manufacture of blood albumen is a comparatively new industry in the United States, although in Europe it has been carried on for many years. And now from the blood after the albumen has been extracted comes the fertilizer. This is composed of pieces of meat, bones, etc., not available for food, which are boiled under high pressure to extract the grease and glue, the residue being then dried. Thus all portions of the animal that may not be utilized for food or for commercial manufacture find their way back to the farm in the form of fertilizer.

The white hoofs are shipped to Japan and to Europe to be made into buttons and ornaments of many kinds.

Glues, gelatin, isinglass, etc., are also produced by the saving effected in the methods of this modern packer, as they are manufactured from that portion of the hide not used for leather, from sinews, cattle heads, cattle feet, calves' feet, etc.

The tallow and grease are made into various grades of soap and glycerin. A part of the fat that will not spontify going to the bottom of the soap kettle with lye is now saved, and crude glycerin, dynamite glycerin and chemically pure glycerin are made from this material.

The hair is manufactured in felt.

The Best Work Pays.

A well known judge wanted a fence mended, and hired a young carpenter to do the job, saying: "I want this fence mended. I will only pay a dollar and a half, so use unplaned boards, and do not take the time to make a neat job."

Later the judge found that the carpenter had carefully planed and numbered each board and, supposing that he was trying to make a costly job, interrupted him with the angry remark:

"Why didn't you nail those boards on as they were. I don't care how the fence looks."

"I do," returned the carpenter, and went on measuring. When the work was done no other part of the fence was as thoroughly finished.

"What do you expect to charge?" asked the judge, sarcastically.

"A dollar and a half."

The judge stared.

"Why did you spend all that labor on the fence, if not for the money. No one would have seen the poor work."

"For the job, sir. I should have known that the poor work was there."

He refused to take anything more than the dollar and a half, and went away. Ten years afterwards the judge had a contract to give for the erection of several magnificent buildings. Among the many applicants the face of one caught his eye. Said the judge later

"It was the man of the fence. I knew he would have only good genuine work done. I gave him the contract, and it made a rich man of him."

—It is a common error to represent the British soldiers as reckless ne'er-do wells, with little or no sense of religion. Soldiers may not be plaster saints, but if those who talk of them in this fashion would but attend a service at a garrison church, they would find there the best of congregations. Nowhere do the people join so heartily in the service as in a military chapel, and the spectacle of rows of soldiers all taking part is most impressive. Much more impressive, however, is the same act of worship when performed in camp. But nothing can exceed the solemnity of a military service on what may be a battlefield, especially if that service be the celebration of the Holy Communion. How many of the men kneeling reverently there will be alive to morrow? That is the question every participant asks himself. The scene presented is one not easily to be forgotten. At the altar, made of drums, stands the chaplain, in his surplice, administering the sacrament to men who will be in the thick of battle in a few hours, while round the congregation stand men, fully armed, keeping guard.—*Graphic.*

—Whenever your organs of sight feel weak, do not claw at them with the knuckles, so to express it. You must not massage your eyes the same way you would the stronger parts of the body. They need help from the hands, but this help must be administered in a very gentle and delicate method.

John Quincy Adams had a way of treating his eyes, which, it is said, preserved their vision to old age, without the help of spectacles.

This was to place his thumb and forefinger each upon an eyelid and gently rub them towards the nose a number of times each day. The action encourages circulation of blood in that locality, does away with the tiny spots that sometimes float before the vision and that flattening of the lenses which causes dimness of sight at a certain focus.

It is wonderful how much good can be done the eyes of people of all ages by using this simple exercise 10 or 15 minutes each day.

Fanciled Slights.

Do you know that many of the slights that come to us are only fancied ones, after all? Haven't you sometimes thought that a friend was neglecting you shamefully, only to learn that he or she had been ill and not forgetful of you at all? Of course, when you learned this you were deeply sorry that you had thought unkind things even if you had never said them, says the Philadelphia Inquirer.

Here is a good little rule of conduct which may be applied by both men and women to their every-day lives: Think only good, speak only good, and do only good. This is not always easy, I know, but it is worth while—it is worth while if you care to be a poupiar girl or a happy wife or a helpful daughter or sister or a trustworthy friend.

Ask for Minard's and take no other.

A Physician's Warning.

SUCCESSFUL COUNTRY DOCTORS SHOULD KEEP AWAY FROM NEW YORK.

Dr. Shrady, one of the famous New York physicians, evidently thinks the successful country doctor should not go to New York, judging from his advice on this subject in Success:

"The medical profession is one of the very hardest in which to get a foothold in New York. It is rare that an out of town doctor succeeds in establishing himself here. I have seen some most tragic failures. A few years ago a celebrated doctor from a New England town got a place on the staff of one of the city colleges to lecture on a small stipend. He brought his family to the city, and his wife soon became popular in society, but he could get no practice. He got deeper and deeper in debt, and one day he committed suicide. Soon after a popular physician from a New Jersey town came into my office and said he had a notion to come to the city and cast his lot in with the rest of us. He had seen a vacant house on Madison avenue and thought he could buy it for $30,000. I told him it would cost him $100,000. I also told him about the tragedy mentioned above and others. He did not come.

"No, a country doctor can do nothing in New York. The conditions are altogether different. There everybody knows him, and knows his horse and his trap, and they see him every day. There he is a standing advertisement. Here the only place where he can put his name is on the window or door, and it might stay there till doomsday and no one ever know anything about him. But if he comes here at first willing to work and wait he stands a chance. If he has not enough money, however, to pay his expenses for the first five years, there is danger that he will drift into quackery, the patent nostrum business or criminal practice, and once there the odds are against his ever becoming a reputable physician.

"I can think of no condition in our life more discouraging than that of a doctor in a great city without money, without friends, with nothing to show for himself but his sign on his door and his sheepskin on his office wall."

Give a Child Health, then Education.

What is a year of study or the loss of standing in the class compared to sound health?" asks a physician, writing in the May *Woman's Home Companion* of "The Handicap of Ill Health," and further declares that "during the period of the child's growth the parent's authority should be supreme, and the child's health should outweigh all other matters. When the child begins its studies a new factor is introduced into its little life, Nature takes on an additional burden. The mind is awakened, and the nerves begin an activity that must be kept within certain limits. Let the child show the first serious symptoms of nervous disorder or overstudy, and the duty of the parent suddenly overtops that of the instructor. There is only one safe course to pursue. The child should be taken from the school until the physical balance has been recovered. It is better to let him grow up without a systematic education than to continue in his sickly course acquiring all the accumulated wisdom of the age. Let the child reach maturity without a breakdown and with but few days of sickness scared against him and he will attack the problem of life with a zest and earnestness that will half win the battle. Rear him in sickness and indifferent health, and he will stand fearfully handicapped in the race.

Seasickness.

A stewardess, after 15 years' service on one of the transatlantic liners—and an opinion on the subject from a person in her position is undoubtedly to be respected—has this to say about seasickness: "Almost everybody is a little sick, but a great many more persons could be less sick than they are if they would only be careful for a day or two before they sail. Lots of folks going off to Europe eat big dinners and luncheons for two or three days before they start, and as soon as they get the motion of the waves they have really a bilious attack. Sometimes when the crossing is very rough and I have been a little careless in my diet I feel the motion myself, but never when I take proper care. At the slightest dizziness or nausea I stop eating anything at all for eight or ten hours, and above all I never touch tea at that time. It is the overeating usually before they come on board that makes all the trouble,"—*New York Post.*

—One great mistake made by some growers, especially amateurs, is to plant strawberries upon sod ground or on soil not free from grasses or certain varieties of perennial weeds. Only ground upon which a thoroughly cultivated or hoed crop was grown the previous year, should be used, and if a crop of buckwheat could be grown upon it also, before setting out plants, it would be all the better for it, as buckwheat is a great exterminator of weeds and grasses. Sod ground is very apt to contain the larvæ of the May beetle, commonly known as the white grub, and also of several other insects which are injurious to plants.

Nothing Hunts out Corns

Like tight boots. Corns are very small affairs, but apply them to a pair of tight boots and all other concerns of life sink into insignifigance. Tight boots and Putnam's Corn Extractor (the great and only cure for corns) may go together, and comfort will be their partner; but don't fail to use Putnam's Painless Corn Extractor. Frauds, cheap, poisonous and dangerous substitutes are in the market. Beware of them. Putnam's Painless Corn Extractor. Polson & Co. proprietors, Kingston.

DON'T TAKE MEDICINE

If you are weak and run down, use

Puttner's Emulsion

which is FOOD rather than medicine. It will soon build you up.

Always get Puttner's, it is the Original and Best.

NOTICE

ALL persons having legal demands against the estate of EDWARD E. BENT, late of Bentville, in the County of Annapolis, farmer, deceased, are requested to render the same duly attested, within twelve months from the date hereof; and all persons indebted to the said estate are required to make immediate payment to

ANNIE C. BENT, Administratrix.
REGINALD J. BISHOP, Administrator.
Tupperville, Annapolis County, N. S. April 3rd, 1900. —6m

WANTED

Old brass Andirons, Candlesticks, Trays and Snuffers; old Mahogany Furniture. Also old Postage Stamps used before 1870—worth most on the envelopes; old blue Dishes and China. Grandfather clocks. Good prices paid.

Address W. A. KAIN,
116 Germain Street,
23 tf ST. JOHN, N. B.

DOMINION ATLANTIC RAILWAY
—AND—
Steamship Lines
—TO—
St. John via Digby
—AND—
Boston via Yarmouth.

"Land of Evangeline" Route

On and after WEDNESDAY, MAY 16th, 1900, the Steamship and Train Service of this Railway will be as follows (Sunday excepted):—

Trains will Arrive at Bridgetown:

Express from Halifax	11.06 a.m
Express from Yarmouth	1.17 p.m
Accom. from Richmond	4.35 p.m
Accom. from Annapolis	6.20 a.m

Trains will Leave Bridgetown:

Express for Yarmouth	11.06 a.m
Express for Halifax	1.17 p.m
Accom. for Halifax	6.20 a.m
Accom. for Annapolis	4.53 p.m

BOSTON SERVICE:
S. S. "Prince Arthur,"
2,400 Gross Tonnage; 7,000 Horse Power.
by far the finest and fastest steamer plying out of Boston, leaves Yarmouth, N. S., Wednesday and Saturday, immediately on arrival of the Express Trains, arriving in Boston early next morning. Returning, leaves Long Wharf, Boston, Tuesday and Friday, at 4.00 p. m. Unequalled cuisine on Dominion Atlantic Railway Steamers.

Royal Mail S. S. 'Prince Edward,'
1,420 Gross Tonnage; 3,300 Horse Power.
ST. JOHN and DIGBY.

Leaves St. John, Monday, Wednesday, Thursday and Saturday	7.00 a.m
Arrives in Digby	10.00 a.m
Leaves Digby, Monday, Wednesday, Thursday and Saturday	12.50 p.m
Arrives in St. John	3.35 p.m

Buffet Parlor Cars run each way daily on Express trains between Halifax and Yarmouth.
S. S. Evangeline makes daily trips between Kingsport and Parrsboro.
Trains and Steamers are run on Eastern Standard Time.

P. GIFKINS,
Superintendent,
Kentville, N. S.

THE NEWPORT NURSERY COMPANY
Newport, N. S

We desire to call the attention of Fruit Growers to the large stock of Fruit Trees of our own growing. Below are a few of the many testimonials we have received in regard to the stock we delivered last Spring:

CANNING, N. S., June 14th, 1899.
The Newport Nursery Co., Newport, N. S.
Gentlemen,—This spring we received from you 2,000 Pear Trees. The stock was the finest we have ever seen, and we are pleased to find a Nova Scotia firm who are so competent to supply the growing needs of this country in the nursery line.
(Signed) THE R. W. KINSMAN CO., Ld'd.
R. W. KINSMAN, President.

PORT WILLIAMS,
Kings Co., June 9th, 1899.
Gentlemen,—The stock sent me was very fine. I can procure you a number of orders among my neighbors.
(Signed)
HARRY W. O'KEY.

KENTVILLE, N. S., June 14th, 1899.
The Newport Nursery Co., Newport, N. S.:
Gentlemen,—Last winter I ordered of your Mr. Salter six hundred Apple Trees, which were delivered in good condition last month. The trees were thrifty and healthy, with well formed tops and excellent roots, and were the finest stock ever delivered in this part of Kings Co. Mr. John Burns, and others, who saw the trees, said they were the finest they had ever seen. Of the whole number planted, all have started growing.
(Signed)
WILLIAM MCKITTRICK.

GRAND PRE, June 23rd, 1899.
Gentlemen,—This spring I received from you 300 Apple Trees, and although I have been planting trees for a number of years, and from different nurseries, your stock was the finest I have ever had. My neighbors, who have seen my trees, say they will place their orders with you for next spring. If you will send me order blanks I can secure you a large number of orders in this section. (Signed)
W. C. HAMILTON.

Although we have done well by our customers this year we will be in a position to do still better next year, and have to deliver

OVER 50,000 TREES

of our own growing, which will be as fine stock as was ever grown on this continent, and of the choicest varieties.

Warranted True to Name.
Aug. 29th, 1899. tf

BRIDGETOWN
MARBLE WORKS

The above works, for many years conducted by the late THOS. DEARNESS, will be carried on under the management of MR. JOHN DEARNESS, who will continue the manufacture of

Monuments,
in Marble, Red Granite, Gray Granite and Freestone,
Tablets, Headstones, &c

All orders promptly attended to.

Granville St., Bridgetown, N. S.

APPLES A SPECIALTY
For Export to English Markets
N. MAYNBRIGHT-MEYER & CO
6 and 7 CROSS LANE, LONDON, E. C.
accept and finance consignments of APPLES, HAY, BUTTER and CANNED GOODS, etc.
Highest market prices with lowest charges guaranteed. For full information apply to their representative
JAMES R. DE WITT,
Bridgetown, N. S.

EXECUTORS' NOTICE.

All persons having any legal claims against the estate of JOHN HICKS, late of Bridgetown, in the County of Annapolis, Farmer, deceased, are requested to render the same, duly attested, within three months from the date hereof, and all persons indebted to the said estate, either by notes or accounts, will please call and acknowledge the same or make immediate payment to the undersigned.

CHARLES E. HICKS,
ELNORA HICKS. } *Executors.*
Bridgetown, Jan. 8th, 1900. 3m

EXECUTORS' NOTICE

ALL persons having any legal claims against the estate of BURPEE R. BALCOM, late of Paradise, in the County of Annapolis, farmer, deceased, are requested to render the same duly attested, within twelve months from the date hereof, and all persons indebted to the said estate, will please make immediate payment to either of the undersigned.

EDGAR BENT,
NORMAN LONGLEY. } *Executors.*
Paradise, Aug. 1st, 1899. 20 tf

"Probably no single drug is employed in nervous diseases with effects so markedly beneficial as those of cod-liver oil."

These are the words of an eminent medical teacher.

Another says: "The hypophosphites are generally acknowledged as valuable nerve tonics."

Both these remedies are combined in Scott's Emulsion. Therefore, take it for nervousness, neuralgia, sciatica, insomnia and brain exhaustion.

50c. and $1.00, all druggists.
SCOTT & BOWNE, Chemists, Toronto.

GRANITE IRON

Having bought a large assortment of Granite Iron for cash before the rise, I am prepared to give extra bargains.

CREAMERY WORK
will receive my special attention.

PLUMBING
in all the latest sanitations a specialty.

R. ALLEN CROWE.

We are showing for the first time
TWO LINES OF
DOWN CUSHIONS!
Size 20x20 inch, at 75c and 90c.
Size 22x22 inch, at 95c and $1.15.

Feather Pillows
at $3 50, $4 50, $5.00, $5 25 and $5 50.
Wool and Fibre Pillows made to order.

MATTRESSES
Cotton Top, $3 50, cotton tick.
Cotton Top and Bottom, $4 50, satin tick.
XXX Cotton Filled, $5 50, linen tick.
We have a full line of Excelsior, Wool, Fibre and Hair Mattresses.

Also agents for the celebrated Ostermoor's Patent Elastic Felt Mattresses.

REED BROS.
(Successors to H S Reed.)

NEW BAKERY!
COURT STREET.
The subscriber offers for sale at the new store on Court Street, Bridgetown.
Choie Home-made Bread, Biscuits, Pastry, &c.
Also Milk and Cream.
We will make a specialty of Lunches at all hours, consisting of Baked Beans and Brown Bread at 10c. Satisfaction guaranteed, and lowest prices.
Ice Cream served every Saturday evening.
J. M. KENDALL.
REMEMBER THE PLACE: Two doors north of Iron Foundry. J. M. K.

CABLE ADDRESS: WALLFRUIT, London. } Established over a quarter of a century.
JOHN FOX & CO.
Auctioneers and Fruit Brokers,
Spitalfield and Stratford Market,
LONDON, G. B.
We are in a position to guarantee highest market return for all consignments entrusted to us. Cash draft forwarded immediately goods are sold. Current prices and market reports forwarded with pleasure.
Represented by Abram Young, Bridgetown, who will give shippers any information required. 25 6m

A. BENSON
UNDERTAKER
and Funeral Director.
Caskets of all grades, and a full line of funeral furnishings constantly on hand.
Cabinet Work also attended to.
Warerooms at J. H. HICKS & SON'S factory. 39 y

PALFREY'S
CARRIAGE SHOP
—AND—
REPAIR ROOMS.
Corner Queen and Water Sts.
THE subscriber is prepared to furnish the public with all kinds of Carriages and Buggies, Sleighs and Pungs that may be desired.
Best of Stock used in all classes of work.
Painting, Repairing and Varnishing executed in a first-class manner.
ARTHUR PALFREY.
Bridgetown, Oct. 22nd, 1890. 26tf

GO TO THE
'BARGAIN' BOOT AND SHOE STORE
(Opposite the Post Office.)
A full line of Boots, Shoes and Rubbers, Women's, Misses' and Children's Fine and Coarse Boots.
Boots and Shoes made and Repaired.
Special attention given to Repairing
D. R. CUMMINGS, Agent.

N. E. CHUTE,
Licensed Auctioneer
BRIDGETOWN, N. S.

The Household.

Mutton Tallow.

A great deal of money is spent for lotion and creams to heal the hands at this season the year. While many of them are very cheap, the farmer's wife and daughters have the material at home to prepare remedies which cost nothing, and are more reliable for the reason that the ingredients are known to be harmless.

In the days of our grandmothers mutton tallow was a well-known cure for all skin troubles, and was used in its pure state. At this period dainty women would object to it but it may be softened with a little sweet oil and perfumed with rose or violet without losing any of its virtues.

A healing soap may be made by melting a small cake of pure toilet soap with an equal quantity of mutton tallow and half as much cornmeal. It should be well mixed and let cool. If the hands are washed with it they will never chap.

Mutton tallow to which a few drops of carbolic acid is added will heal sores or any raw surface on man or beast.

An admirable cold cream, far superior to that sold at high prices, is made by taking the tallow from the sheep's kidneys and trying it out slowly on the back of the stove, then adding a little powdered borax and a few drops of spirits of camphor. When cool perfume with rosemary and pour into a jar.

A mixture of glycerine and mutton tallow is excellent for restoring the oil of the skin when it is dry and hard. Benzoin, being a tonic for the skin, may be mixed with the tallow with very beneficial results, as the one heals and smooths the face and hands while the other tones and strengthens the skin.

Mutton tallow melted and softened by adding oil and borax, well rubbed over the face before going out in the cold, will prevent the skin chapping, and in summer from tanning and burning. Women who use mutton tallow in various ways will find it the best and safest of remedies.—[*Farmer's Call.*

—Gloves are a serious item of expense in a woman's wardrobe, even when she consults good sense and wears black, or dark gloves. Gants de suede wear "shiny," looking, after some weeks of service as if they had been greased all over. Black glace gloves rub gray on the finger balls and the inside of the thumbs. The light colored and white gloves, fair to see when fresh, soil with a single wearing. It is all very well to laugh off the truth by declaring that "dirty gloves are fashionable." They are dirty, all the same, and the true gentlewoman likes to be clean. Here is an old-fashioned way of cleaning gloves at home.

Put on one glove at a time, buttoning at the wrist, fitting it smoothly to the hand. With a bit of soft white flannel dipped in tepid water, then rubbed on a cake of nice toilet soap, wash the glove all over, rinsing the flannel and changing the water several times. Remove the glove, when part of it has been rubbed, rinsed and then rubbed with a soft dry linen cloth. Pull each finger smoothly to the full length, and restore the whole glove to the shape it had when new; lay between folds of a clean, dry towel until next day. Open the folded towel and draw the gloves carefully on your hands. They will resume color and form as you fit them, and, if the washing has been done faithfully will look as well as if entrusted to a professional cleaner. You may wash them several times in this way without injury to the kid.

To keep kid gloves pliable and elastic wrap them in oiled silk or paper when not in use. They will remain soft for months if this precaution be observed.

—We have a familiar proverb, "Train up a child in the way in the way he should go and when he is old he will not depart from it." This may work well or ill, according to our conception of the word train. Suppose you wish to train a choice vine over a porch, trellis or wall? How do you go about it? Do you trample upon all its efforts for growth and advancement because it does not go the way you wish it? By no means. Do you allow it to wander around upon the ground reaching out its tendrils for any stray weed or branch that may come in its way to fasten to. Certainly not. You begin by putting up something to support it in an orderly upward climbing; then you watchfully direct its growth by clasping a tendril here, directing one there, and if one goes wandering away you gently change the direction or if some growth continues adverse, you nip it, sending the life force that nourished it into the more orderly efforts thus making of it a "thing of beauty which is a joy forever." Why not give the child the same care in training as the vine. Do you say you have the time for all this? What more important work have you upon your hands or one that will pay you better? Do not give yourself entirely to economics and decoration. Do you not think it better that there should be "vacancies" in the children's wardrobes rather than in their morals? Do your duty then, so thoroughly that they will rise up and call you blessed, and will be of the kind that make their mother's heart glad.

—I know a mother who believes in encouraging her children to read aloud, slowly and distinctly, and in a pleasing tone of voice. She has always done it, and says that she derives a deal of pleasure from the habit. To be able to read aloud to add to the enjoyment of others is a desirable accomplishment, the next best thing to the study of elocution, which requires a monetary outlay as well as time. Where money can be spared, singing and elocution are splendid things to learn, as they have a direct bearing upon health. You rarely see a singer or reader who is flat chested—I never saw one. The management of the breath is one of the foundation principles in both studies.—*Betty Bradeen in Boston Traveller.*

—A mustard plaster made according to the following directions will not blister the most sensitive skin. Two teaspoonfuls of flour, two teaspoonfuls of ground ginger. Do not mix too dry. Place between two pieces of old muslin and apply. If it burns too much at first, lay an extra piece of muslin between it and the skin, as the skin becomes accustomed to the heat, take the extra piece of muslin away.

—A stair carpet should be half a yard longer than the stairs, so that it can be moved up or down a little every time it is taken up, bringing the wear in a new place. Pad stair carpets with two or three layers of wadding between muslin, tacked occasionally to keep them in place.

Keep Minard's Liniment in the house.

Headache
Is often a warning that the liver is torpid or inactive. More serious troubles may follow. For a prompt, efficient cure of Headache and all liver troubles, take
Hood's Pills
While they rouse the liver, restore full, regular action of the bowels, they do not gripe or pain, do not irritate or inflame the internal organs, but have a positive tonic effect. 25c. at all druggists or by mail of
C. I. Hood & Co., Lowell, Mass.

Joker's Corner.

His Idea.

She—I have been thinking over our wedding, dear, and our future life.

He—And have you got everything arranged?

She—Everything! You know how methodical I am, and how I like to plan ahead.

He—That's right! I'm glad I'm going to marry a girl like that.

She—And now about the wedding. It will be a church wedding of course.

He—Oh, certainly.

She—And with regard to the trip. I've been thinking it all over, dear, and I believe, after all, a few months in Europe will be the best thing we could do.

He (his salary is two thousand nine hundred)—Do you think so?

She—Oh, yes. Then after we get back, won't it be nice to pick out a nice, cosy house? So much better than an apartment. I know just what I want.

He—Fine!

She—You might buy one.

He—Of course. That's easy.

She—They are so cheap now. A friend of mine got one the other day—how much did she pay for it? Why, it wasn't more than thirty thousand.

He—Dirt cheap. Will one be enough?

She—Of course, you goose! We'll need one with a stable, though. And what do you think, dear, shall it be automobiles or horses?

He—Both!

She—I was afraid you might think that too expensive.

He (weakly)—Oh, not at all. I don't mind a little thing like that. How many servants?

She—Well, if we are economical, we can get along with five. And now, dear, there is only one thing more that you can help me with. When shall we have the wedding?

He—Do you really want me to decide that?

She—Yes, I do.

He—Oh, I am not particular. Say about 14 years from to-day.

What Changed Him.

"Patsy, me bye," said the elder McFadden, hastily pulling his feet off the stove as the odor of burning sole leather intermingled with the fumes of his pipe, "they don't raise byes loike they used to. Why, whin Oi wur but little owlder than yersilf Oi cud lik anny lad in the warrud. Oi wur a tirror an' Oi feared no mon but—"

"An' phat changed ye?" inquired Patsy, ingeniously.

"Will," resumed McFadden, puffing with a retrospective air, "when Ellen Dugan—"

"At yer palaverin' agin." This time he was interrupted by the entrance of Mrs. McFadden. "Dinnis McFadden