Farm Crop Queries

Conducted by Professor Henry G. Bell

The object of this department is to place at the service of our farm readers the advice of an acknowledged authority on all subjects pertaining to soils and crops.

Address all questions to Professor Henry G. Bell, in care of The Wilson Publishing Company, Limited, Toronto, and answers will appear in this column in the order in which they are received. When writing kindly mention this paper. As space is limited it is advisable where immediate reply is necessary that a stamped and addressed envelope be enclosed with the question, when the answer will be mailed direct.

L. B.:—I have some low mucky ground that I wish to seed for permanent pasture, and will you tell me what is the best mixture of seed to use for this purpose, and when is the best time to sow it?

Answer:—For grass mixture for permanent pasture on muck soil I would recommend the following mixture: Red Top 10 pounds, timothy 6 pounds, white clover 2 pounds, total of 18 pounds per acre. The grass could be sown this fall if you are in a section where you do not have severe frost for some time. However, if you are in the colder section of the province, you had better delay seeding until spring. If the grass is sown this fall, scatter the clover seed over the land next spring just as the snow is going off and the thawing and settling of the land will give it sufficient covering. You would do well to sow a nurse crop such as rye or winter wheat with the grass mixture at the rate of about 1 bushel per acre. Make this sowing thin so that the grass mixture will get a good chance early in spring.

C. W. G.:—I am writing you in regard to the sowing and growing of sweet clover. I have a five-acre field on which I can't seem to get clover seed to grow successfully. Would you recommend sowing sweet clover on it? The soil is a gravelling loam and has been broken up four years. I would like to know if I could sow sweet clover with fall rye or if it must be sowed in the spring? Or would it be better to sow the sweet clover alone in the spring?

Answer:—Sweet clover is a little difficult to handle owing to the lowness with which the seed germinates. You could sow it as you recommend mixed with rye this fall if there is sufficient season before frosts so that the young clover could make a good start. I would prefer, however, to sow the clover in the spring with some spring grain such as wheat, oats or barley. I have seen excellent catches of sweet clover when started in this way. Sow from ten to fifteen pounds of sweet clover seed per acre. One of the important points, of course, is to have the soil in good state of tillage. It should be plowed this fall or early next spring and worked down thoroughly by disking and harrowing. In order to make sure of a good stand of grass and clover I would advise you to sow from 200 to 300 pounds of a fertilizer analyzing from 2 to 3 per cent. ammonia, about 8 per cent. phosphoric acid, and 2 to 3 per cent. potash at the time that you are sowing the grain in the spring. This is best applied with a fertilizer drilling seed drill. It can be sown broadcast like lime but when this is done be sure to thoroughly disk and harrow the soil so that the fertilizer will be worked into the damp soil at a depth where the plants grow.

R. K.:—Can you give me directions for the fall preparation of a two-acre plot for growing strawberries next year? What is the best variety? I wish also to go into truck gardening extensively and would like advice on the preparation of seedbeds. The soil is light, dry loam and badly infested with weeds.

Answer:—Some successful strawberry growers place great emphasis on deep fall plowing of the ground which is to be planted next year. Allow this to lie exposed as the plow turns it up. The frosts of winter will have an exceedingly good effect in breaking down the soil. At the time of plowing, some strawberry growers advise turning under 15 tons of manure per acre. In addition they apply from 800 to 1,000 pounds of fertilizer per acre in the spring when working the seedbed down. This is sown with a grain drill dropper or applied broadcast and thoroughly worked in by harrowing and disking. The fertilizer should analyze from 3 to 5 per cent. ammonia, 10 to 12 per cent. available phosphoric acid, and 2 to 3 per cent. potash. This additional plantfood will give the young plants a strong vigorous start which will mean much to their fruit-producing powers.

Regarding the advice on preparation of seedbeds for truck gardening, I would say that you would do well to keep in mind the necessity of good soil drainage so that the superfluous water from rain and snow may be carried off early in the spring. If this water lies in the soil it prevents the circulation of air in the soil and therefore retards bacterial growth which is so necessary for crop growth. Moreover, every time a pound of water is evaporated from the soil it takes an enormous amount of heat out of the soil and therefore keeps it cold and backward.

Richness of soil is a principle of no secondary importance in market gardening. Work in all the stock manure you can obtain and supplement it by high grade fertilizers in order to maximum growth within a minimum of time. This means crisp, delicious vegetables produced at a time when prices are most favorable. When you have made out your plans, if you have any specific problems regarding the preparation of the seedbed for crops that you are planting, I shall be glad to help you.

A Useful Pamphlet.

In canned goods there are two kinds of spoilage. The first is called "flat sour" which includes all forms of bacterial growth that develop within the food. The second type of spoilage to guard against is mold, a plant growth that is distinctly different from the bacterial growth. Molded foods are seldom more than surface affected because air is necessary for its growth, but the "flat sour" spoilage means that the entire can must be discarded. Bulletin No. 93 of the Dominion Experimental Farms, "Preservation of Fruits and Vegetables for Home Use," which may be had on application to the Publications Branch Department of Agriculture, Ottawa, gives full information on the various methods of canning including old and valuable recipes as well as new ones which have been found valuable. Canning has become the most popular means of preserving large quantities of fruit and vegetables and since these are plentiful during the summer months and at other times difficult to obtain, it is important to preserve quantities during the growing season for use in winter. Moreover, the use of an abundant supply of fruit and green vegetables is essential to health at all seasons of the year.

Fake Fire Help.

Nothing in this world seems to be too silly for belief.

Consider, for instance, the powders advertised to "double the fuel value of your coal." You are informed that a given quantity of coal will go twice as far if you sprinkle it with stuff of this kind.

The powders are not alleged to have in themselves any value as fuel—how, indeed, could they? But, by some mysterious chemical action, they cause the fuel to deliver more heat. Fifty per cent. more, according to the least claim.

They are absolutely valueless, yet people who have bought them are often heard to proclaim their efficiency. Pure imagination.

Some of them are nothing but common salt. There are, as a matter of fact, not a few housewives who use salt for the purpose, entertaining full faith in it as a fuel economizer.

The recent high price of coal has greatly stimulated the demand for "fuel powders," and the fakers who put them up for sale to the gullible are prospering hugely.

Egg-Laying Contests Popular.

The egg-laying contests throughout the Dominion are attracting considerable interest. Already the entries are being rapidly filled by birds from all classes of poultry breeders. The fancier and the commercial man are being represented as are also the backyarder and the farmer, the old breeder and the amateur. Canadians are not going to have it all their own way either, for both the United States and England are going to be represented.

The Dominion Experimental Farm is conducting no less than seven contests this year, reaching from Prince Edward Island on the east, to Alberta on the west. At Ottawa will be held the "Canadian" open to the world. Other contests will be conducted at six of the Branch Farms throughout the Dominion. The farms selected are Charlottetown, P.E.I.; Nappan, N.S.; Cap Rouge, Que.; Brandon, Man.; Indian Head, Sask.; and Lethbridge, Alta.

All contests start November first and continue for 52 weeks. Application must be made to Dominion Poultry Husbandman, Experimental Farm, Ottawa. The time of receiving applications has been extended to October fifteenth.

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UTILIZING CULL APPLES

In these days it is unwise to overlook any resources that will add good nourishing food to the nation's supply. Therefore it is surely in order to again call special attention to the importance of properly utilizing that large proportion of the apple crop which grades below standard. In some provinces the percentage of cull or cider apples runs fully one-third of the total and it is frequently estimated that thousands of tons of such apples are wasted each year. No one will deny that this loss along with all other food waste should be reduced to a minimum. Another important consideration is the good profit that the utilizing of these apples affords the grower.

While a portion of the large culls may be evaporated to excellent advantage, the most practical way of diverting this enormous waste into good food is by pressing. Practically all the valuable and nutritive elements of fruits are contained in the juice. The other parts consist largely of cellular tissue and are of little value except to retain the juice, which in ripe apples runs as high as ninety per cent. Therefore a short cut to conserving the rich life-sustaining elements possessed by even the smallest of cull apples is by first grating and pressing, then working up the juice.

A modern hydraulic cider press will extract an average of a little over four gallons of cider from each bushel of ordinary undergrades. This juice can be readily converted into a variety of food products that are not only appetizing and nourishing, but most of them are in concentrated form convenient to market and easy to preserve. Sweet cider, cider vinegar, boiled cider, apple syrup, apple jelly, apple butter and pasteurized cider are all in active demand and can be sold at a better net profit than is usually obtained from the apples in a fresh condition.

Even the pomace need not be wasted. It is being used extensively as feed for dairy and beef cattle, and for hogs and sheep. Many pronounce it equal to ordinary corn silage. Pomace also has a distinct value as jelly stock because of its pectin content which is not impaired by drying. Frequently the pomace is repressed, the resulting juice being used for making vinegar or jelly.

Fresh sweet cider and pasteurized cider are highly recommended as a health drink by eminent physicians and scientists. Sweet cider is a tonic as well as a nutrient, containing natural salts and acids of special value in the correcting of stomach complaints and liver and kidney trouble. Pure sweet cider can readily be made available as a delightful home beverage the year around and is far superior to the ordinary type of soft drinks. Chemical preservatives should be avoided, but pasteurized to one hundred and sixty degrees for two hours and sealing tight is effective for preventing fermentation.

One of the staple food products from waste apples that is in universal demand is cider vinegar. Pure cider vinegar commands a premium on the market.

In the process of transforming cider into vinegar, two distinct fermentations take place. First is the vinous or alcoholic fermentation which is the changing of the sugar of the cider into alcohol, caused by the action of certain natural yeast bacteria. Second is the acetic fermentation by which the alcohol thus formed is changed to vinegar acid or acetic acid. The alcoholic fermentation may be accelerated by the addition of yeast, using a cake to each five gallons, dissolved in warm water before adding. The acetic fermentation is also aided by the addition of good vinegar containing some mother of vinegar. It is important to allow plenty of room for air in the barrel during all stages of fermentation and also to maintain the temperature between sixty and eighty degrees. Care should be taken not to start the second fermentation until all the sugar in the cider is changed into alcohol, otherwise the change to vinegar will be retarded or prevented altogether.

There exists in this country a potential market for boiled cider that would consume a hundred times the amount now produced if the product could only be obtained. Boiled cider is the fresh juice concentrated by evaporation in the ratio of five gallons reduced to one. In this form it will remain in a perfect state of preservation for years. It is dark brown in color and of a syrupy consistency. It has an extensive use both commercially and in the kitchen, being especially desirable for making mince meat and apple butter as well as having a multitude of other culinary uses.

By continuing the evaporation process until the cider is reduced to the ratio of seven to one the product becomes jelly, which makes a delightful tart spread. To please varied tastes it may be sweetened and any desired flavoring may be added. A ready market at attractive prices awaits all apple jelly offered.

Apple butter has long been a standby as a staple food and table delicacy and merits a place in the diet of every family. A favorite home recipe is as follows: Boil three gallons of apple cider down to one and one-half gallons. Pare and quarter sufficient apples to make three gallons. Pour over these sufficient additional cider to cover apples well. After cooking until tender, run through the colander, then add boiled cider and boil down to desired thickness. When nearly done add one and one-half pints sugar and when done flavor with one teaspoonful of allspice and one teaspoonful cinnamon. For making apple butter on a large scale, a steam apple butter cooker should be used. It makes a butter with the right flavor quickly and with the very least amount of labor.

The Sunday School

INTERNATIONAL LESSON
SEPTEMBER 21.

The Holy Scriptures—Ps. 19: 7-14; 119: 9-16, 97, 165; Acts 17: 10-12; 2 Tim. 3: 14-17; Heb. 1:1-2.

Golden Text, Ps. 119: 105.

The Law of the Lord. Psalm 19 celebrates God's revelation in the wonders of the heavens and in the perfection of His holy law. The heavens declare His glory, but not less certainly does the ancient law of Israel in which His will is revealed. There are set forth the principles of justice and fidelity and kindness and love, old as creation and high as the throne of God. Indeed, there is in justice something more permanent and more sublime than in heaven itself, and therefore there is truth in the old saying, "Let justice be done though heaven falls."

The praise of the law is first set forth in three verses (7-9), each containing two statements cast in the same form. In each statement there is the longer part telling what the law is, and the shorter part telling what it does. It will make this all the more clear if we write the lines as below:

The law of the Lord is perfect,—converting the soul;
The testimony of the Lord is sure,—making wise the simple;
The statutes of the Lord are right,—rejoicing the heart;
The commandment of the Lord is pure,—enlightening the eyes;
The fear of the Lord is clean,—enduring forever;
The judgments of the Lord are true,—and righteous altogether.

Note that the law is called "testimony" because it witnesses to the ancient covenant bond between Jehovah and Israel (see Exod. 24), and that it is also "statutes," "commandment," and "judgments." The "fear of the Lord" (v. 9), is the disposition to obey Jehovah's law, or the character which is based upon obedience to it.

Note also that the law (and this can truly be said of the teaching of the Bible as a whole) converts the soul, turning the soul from error and folly and sin to righteousness and God; that it makes wise even the simple, who knows his ignorance and seeks its guidance; that it rejoices the heart and brightens the eyes, giving gladness and beauty to life; and that it endures, being altogether true and right. For that which is just and right and true is that only which abides forever. The law is further described as very sweet and very precious and very greatly to be desired. For by it one is warned and instructed so that he may avoid both secret or unconscious errors, and open or presumptious sins. The entire meditation upon this great revelation in nature and in the law of God concludes with a petition that both word and thought may be acceptable in the sight of the Lord.

The whole of Psalm 119 is also in praise of the law, and seems to have in mind especially those first five books of the Old Testament which, in the Hebrew Scriptures, are known as "Torah" or "Law." See especially vs. 9-16, 97, and 165. By taking heed to his way or conduct according to God's law, a young man may live a clean life (v. 9). By storing up some word of it in the memory and heart he is preserved from sin (v. 11). The psalmist resolves that he will meditate upon, have regard for, and delight himself in, its precepts (vs. 15, 16). Very truly he declares (v. 165):

"Great peace have they which love
Thy law;
And they have none occasion of
stumbling."

Substitute the word "Bible" for "law" and the saying is even more emphatically true.

The Holy Scriptures. The historian of the book of Acts (17: 10-12) commends the people of Berea as "more noble" than others because "they received the word with all readiness of mind, examining the scriptures daily." They sought to prove and know for themselves, by their own study, whether the things Paul and his fellow missionaries had told them were really true. The common herd received or rejected without inquiry, but these Bereans were of the true nobility of the faith.

In 2 Timothy 3: 14-17, Paul counsels Timothy, his beloved friend and child in the Gospel, to continue in the study of the Holy Scriptures. For Timothy had a good mother and grandmother (1: 5) of the Jewish faith, but his father was a Greek. Paul speaks, of course, of the Scriptures of the Old Testament, but what he says is even in a larger measure true of the whole Bible. He speaks of the power and of the use of the Scriptures. They are "able to make wise unto salvation," and they are "profitable for teaching, for reproof, for correction, for instruction in righteousness." The reader who seeks earnestly to know what is the authority and what the value of the inspired Book will find in Paul's words a good and sufficient answer to his questions. Its power is "through faith," and its authority is that of a teacher and a guide. To neglect or refuse this teaching and this guidance is surely the highest folly.

YOUR PROBLEMS

Mothers and daughters of all ages are cordially invited to write to this department. Initials only will be published with each question and its answer as a means of identification, but full name and address must be given in each letter. Write on one side of paper only. Answers will be mailed direct if stamped and addressed envelope is enclosed.

Address all correspondence for this department to Mrs. Helen Law, 23a Woodbine Ave., Toronto.

Bride-to-be: Tell me how to meet my mother-in-law and my father-in-law.

Just as you would want your own dear parents to be met under similar circumstances; or, if you can project your imagination so far, as you would want to be met yourself, should you ever have a son and he decided to marry.

Churchmouse:—A fashion article says: "Wear beads, they add a pleasing touch of color to any costume." Please tell me how to make beads out of paper, as that seems to be the only kind I can afford to wear.

You can make charming beads out of colored magazine covers and illustrations. Lay the picture upon a flat surface, with a piece of cardboard underneath. Mark it off into triangles measuring one inch at the base and having the two other sides of equal length. Cut the sections with a sharp knife, using a ruler as a guide. Roll each piece on a hatpin, beginning to roll at the base and fastening the tip securely in place with paste. When all have been rolled, slip them one at a time on a hatpin and, turning the pin head downward, dip the beads in shellac. Slip from the hatpin on to ordinary pins, and stick these pins in a pasteboard box until the beads are dry. Do not touch them until after the shellac has hardened, when they will be ready to string. Red beads are very much sought after at present, and a pretty string of paper beads will combine several shades of that color, with a little black, white and green. Alternate with small beads of gold color, and introduce a few jet ones if you wish.

A Reader:—The owner of the farm we live upon is a frequent and unwelcome visitor at our house. Please advise me what to do?

A woman can not handle a situation such as this is alone; she must have her husband's co-operation. You can be too busy to talk to the visitor when he appears; or you can always suggest that "husband" is in the barn or in the "south field" or wherever he happens to be at the time, and unless the man is very dense he will understand that he is not to be entertained indoors. Husband must not confine himself to criticism, but help you by being on hand whenever the unwelcome guest appears. As all this takes up time that could be spent to better advantage, and is likely to affect the harmony of the family besides, it would seem that the wisest thing to do would be to move to another farm. I know that a move is expensive and inconvenient, but it is far better than remaining where you are, if conditions are such that the happiness of your home is at stake.

Busy Mother:—With four children scattered from coast to coast it is indeed a problem to keep in touch with them all without encroaching on time devoted to those still in the home nest. One read the other day of a plan invented by a mother who lives on the old homestead on an Ontario farm. By her plan it is possible to write fewer letters, and at the same time to correspond more frequently with the members of her large family. Five children, some of whom are married and have homes of their own, live in different parts of the country. The mother writes to her oldest boy, John, who lives in British Columbia. John reads the home news and, enclosing his mother's letter, writes to his married sister, Lottie, who lives in Alberta. Lottie in turn, inclosing the letter from her mother and John, writes to Harry, who lives in Manitoba. So the chain of family letters goes until it has reached all the children, each in turn writing to the next younger sister or brother and inclosing all the family letters. Finally the accumulated letters, including the one she first wrote to John, come to the mother, who destroys her own letter and writes a new one to John, inclosing those she has received from the other children. Thus, as the chain continues, each member of the family, instead of writing five individual letters, writes one letter to all, and receives five letters in return—one from each of the others. Would not a similar plan solve your difficulty, Busy Mother?

Bedtime Stories

The Honeybee's Work Day.

When you are eating a piece of bread and honey stop and think a minute about the busy little honey bee who worked so hard to gather the honey and keep it for you.

He does not have an eight-hour working day—no, indeedy. From early morning until darkness falls he hurries back and forth carrying the honey from flower to hive, and you can imagine he has to work hard when it takes about 40,000 trips to the fields to gather one pound of honey as it comes to you on the table.

After the honey is gathered it must be cared for in the cells, and some of the bees are left in the hive and all during the heat of the day they fan with their wings to ventilate the hive and carry off the extra water. For you know the honey the bee gathers is not thick and rich, but very thin and watery, and must be cared for and moved from cell to cell in the hive until it is "ripe." Much of this work caring for the honey is done at night after the flowers have gone to sleep.

So you see when people say the "busy" bee they know what they are talking about, don't they?

Hollyhock seedlings may be potted up for wintering in cold frames. If the plants are to be left in the garden give constant cultivation to promote growth and mulch the plants well as soon as the ground freezes.