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.

The fall wheat harvest is showing up some facts that should prove mighty interesting and intensely helpful. On recent trips throughout Western Ontario, and the Niagara Peninsula, we have seen several fields of good fall wheat, but many fields that show simply a reddish golden fringe around the outter edge, evidence of the survival of but a small part of the fall wheat crop sown last autumn. As a rule the quality of the wheat that survived is good and those that have, by good fortune or by good management, been able to produce a fairly respectable crop are enthusiastic on account of the big demand and the relatively high prices prevailing. Not a few farmers are discouraged after a succession of bad seasons and the usual question is recurring, "Shall I sow winter wheat this fall? Is it worth while taking chances? Can anything be done to help insure a stand of this grain that will survive the coming winter?"

The winter wheat grower is faced with two classes of conditions. The first is the uncontrollable factor,—weather. Undoubtedly the cold dry winds that blew so vigorously early in the spring of 1918 destroyed much of the winter wheat that actually survived winter conditions. Speaking generally the controllable factors are familiar to most wheat growers. In spite of the large element of chance weather conditions, there is considerable inducement to farmers in wheat-growing territory to sow a few acres this autumn. Indications are that wheat prices will equal if not exceed those of last year and the demand in all probability will be maintained. Europe must have wheat and more wheat!

There are three things which stand out prominently that are responsible for wheat success or failure. Many a field that we visited showed a hard, compact, and relatively lifeless soil. In these days of such tremendous shortage of labor we hesitate to call attention to such condition because it is largely the result of lack of thoroughness in soil preparation, yet the fact remains that if wheat is going to live over winter it must have suitable home conditions. Soil, where the humus or organic matter is becoming depleted, will not form a ideal home for wheat, because the soil particles—if the soil tends to clay formation—will become so completely settled that air circulation is bad, hence conditions for the life in the soil are not the best. Most of the Provinces have recently enjoyed good rains, hence lack of moisture will not likely be the bugbear of wheat growing this autumn.

Summer-fallowed land should be disked and harrowed more thoroughly than ever and ground which is producing a nearly summer crop which can be harvested within the next few weeks should be carefully plowed a medium depth and then given thorough preparation, disking, rolling and harrowing. The wheat plant does best on a medium firm seed bed, while for corn and potatoes on the other hand, a deep mellow seed bed is desirable. The surface layer of the best wheat seed bed is relatively fine. This is always the result of careful and thorough working. If your wheat ground appears a little too compact, try to spare a dressing of strawy manure for it.

Another enemy of wheat growing that has done untold damage this year is bad drainage. Do not spend good money for seed wheat to be sown on poorly drained soil. Water-logged soils simply means a seed bed where the tiny kernel is smothered. Not only is the tiny wheat seed smothered, but the bacterial life of the soil which is engaged in the one big occupation of breaking down the soil so it may dissolve in the soil waters and become plantfood, is seriously impaired. If you can make a choice as to the location of your wheat, be sure to favor the best drained field and if possible obtain the shelter of adjoining woods or hedges.

More Ontario farmers than ever are seeing the advantage of feeding the young wheat crop. If the seed bed has been prepared sufficiently mellow so that the kernel is dropped at a depth where the young plant can make a strong root attachment, and the crown of the growing plant can be slightly buried in the soil the success of the crop will depend to a large extent on the plantfood available to it in the early weeks and months of its growth. We have visited at least 40 wheat-growers within the last month where fertilizers have been used with wheat. Mr. A. L. Hodgins, near London, writes us: "Regarding the value of fertilizers in increasing the yield of wheat, I would say that during the past season I consider the use of fertilizers has increased my yield at least 15 bushels per acre." This man should know, for he has a thirty-acre field of the best wheat in Ontario this summer. He left a drill row unfertilized through the centre of the field where in all probability he will harvest less than 10 bushels per acre. The fertilized area will easily exceed 25 bushels per acre. Mr. Jesse Climenhage from the Niagara Peninsula writes us: "I find that by using fertilizers the plant grows strong in the fall and is in better position to stand the cold and ice. Last fall we left several strips where fertilizers were not used and the wheat is not one quarter as good." Mr. Harry Tufford of Beamsville says: "I think that by the use of fertilizers is the only reason that I secured a stand of wheat at all as it gave it quick growth at the start so necessary in the short growing season of the fall of 1917."

The following expressions have been corroborated by nearly every good grower that we have visited. It is not our intention to in any way deprecate the value of manuring the fall wheat seed bed. If manure is obtainable it adds an excellent supply of organic matter and very valuable plantfood. Manure is weak, however, in available phosphoric acid, the kind of plantfood that causes the vigorous growth of wheat and induces the young crop to set firm and wide spreading roots. Furthermore it is not our intention to leave the impression that wheat cannot be grown without the use of fertilizers, but it is obvious that if the addition of 200 to 400 lbs. plantfood to the acre will strengthen the wheat crop so that it will stand a winter as bad as that of 1917 and the early part of 1918, and will increase the yield of wheat from from 10 to 15 bushels per acre, it is obvious, we say, that such a practice is one worthy of the attention of Ontario wheat-growers at the present time.

The use of fertilizers is especially important this year also, in view of the shortage of farm labor. It takes just as much labor to prepare the seedbed for a crop of 15 bushels per acre as it does for a crop of 30 bushels per acre. Fertilizer drills apply the grain and fertilizer at the same time. With the small exception of handling the extra crop, it takes just as much labor to harvest a poor crop as a good one, but the fellow that has 30 bushels per acre feels a great deal better than the one who harvests the 15 bushels. Moreover, the added plantfood almost insures a good catch of clover and timothy when this is seeded with the wheat.

It is good business for Ontario wheat-growers to pay attention as fully as possible to everything that will work toward successful growing of the 1919 wheat crop. Successful French, British, American and Canadian wheat-growers will be those who see that the soil is well prepared, well drained, and supplied with plenty of available plantfood.

THE FALL WHEAT QUESTION.

How it Looked June 26, 1918. Centre drill row unfertilized. Rest of field fertilized at rate of 200 lbs. per acre. Farm of A. L. Hodgins, Ettrick, Ont.

KEEPING OF BOOKS CUTS FARM COSTS

Not only does a farm record serve as a guide to better management, but it also furnishes a very convenient way to make out income tax reports, make up financial statements in order to secure loans, make out schedules of cost to present to commissions and figure up costs of production in order to meet buyers intelligently—all of which are ways of meeting the business world on its own platform.

The fact that the country is dependent on its agriculture has been most forcefully brought home to us during the past year. Farmers are looked upon as business men, and are to be dealt with on business terms. The farmer who has in the past followed the development of the business world and adopted some form of accounts or records is the one who has the least trouble to bear at critical times.

The farmer often finds it necessary to secure a short-time loan in order to carry on the regular farm business, or to make desired changes. The man who keeps systematic records of his business is much more likely to be given consideration by the bank than the one who does not. Often farmers are refused credit by the banks because the banker has no ready means to determine the standing of his patron, and the farmer is refused credit for no other reason. The use of a farm financial statement would soon remedy this matter.

Often certain crops such as canning crops and sugar beets are grown on contracts, and the farmer must sell his crop before he has produced it. The buyer is in a position to know approximately what the maximum price is that he can pay and still receive his proper profit for manufacturing the final product. But it is good business on his part to buy as cheaply as possible, that his profits may be larger. It is equally good business for the farmer to know exactly what it has cost him in previous years to produce the crop, and know what the maximum price is that he can accept and still profit by producing the crop. The margin between the cost of production and the maximum price the manufacturer can pay will go to the man who shows the best business ability, and has facts upon which to base his dealings. A carefully kept, systematic farm record is the most important factor in carrying out these suggestions to a profitable end.

Although most of the points touched upon have been in relation to things of the business world off the farm, records can be of equal value to any farmer in connection with the management on the farm. Many farmers realize that there is opportunity for improvement, but a lack of definite information on their several lines of interest, keep them from making and changes. At the present time, farmers all over the country are confronted with a shortage of farm labor. In many instances this could be met in part by a more efficient use of the labor actually available.

In many sections of the country it is a common custom to use large units of horse labor per man, one man driving three and four horses on farm implements, instead of only two, thus saving the time of another man. Other sections of equally large fields and smooth ground are still using only the two-horse teams. Such instances as these are entirely a matter of custom. It behooves every man to examine conditions on his farm to see if he is of this custom-bound class. Many men have not come to realize this until they have kept a record of their labor throughout the year, and realize in a concrete way how much they might have saved on this one factor alone.

The distribution and efficiency of farm labor is closely interrelated with the systems of crop rotations. Each farmer can, by a little careful thought and planning ahead, make his system of rotation such that it not only produces crops economically by making the best use of his labor, but it also furnishes the proper amount of nourishing roughage which can be fed profitably on the farm.

When one stops to consider the many ways that farm records can be useful in bringing about better management, and thereby great profit in farming, no one can afford not to use the few minutes required each day to keep a cereful account of his farm business, and receive the benefit accorded by it.

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, 235 Woodbine Ave., Toronto.

Summer Girl:—Lemon juice is the best bleach for freckles. And although it does not always completely drive them away, it does as much as can be done. Apply a cut lemon if you wish, instead of the juice, but do this faithfully every night. If the lemon is a little hard on your skin mix it with a little glycerine. Vaseline is the very best thing to use for the growth of the eyelashes. I know of no other treatment that is vouched for as this is.

Future Bride:—Custom requires that the wedding presents be sent to the bride, whether the senders know her personally or not. A wedding present is never sent to the bridegroom, though he, of course, shares in its use and in a way he owns them jointly with the bride. The bridegroom should not acknowledge the presents by writing, though it would be perfectly good form for him to speak of them to his friends at the wedding reception. Every present, however, should be acknowledged in writing by the bride herself. It is a task that courtesy requires of her. Write on small note paper—preferably monogramed—a cordial note of appreciation of the gift and the kind thought which accompanied it. If you have never met the person to whom you are writing say that you are looking forward with pleasure to meeting "one of Jack's friends" at the reception and that you hope when you shall have returned from your wedding trip you will have the pleasure of receiving him (or her) at your new home as a most welcome guest. Sign yourself "most cordially yours." Also in the bulk of the letter mention the fact that your fiance also admires the beautiful present.

Mrs. S.:—A moderate amount of prune juice or orange juice diluted with boiled water may be given to a six-months-old baby. To a baby who is well nourished and thriving on mother's milk absolutely no other food should be given but strained fresh fruit juices until after the child is weaned.

G. S.:—The first submarine to cross the Atlantic under its own power was not the Deutschland. The honor, so far as we know, goes to no single vessel, but is shared equally by ten submarines built in the United States and put together in Canada. They left Montreal in July, 1915, and travelled under their own power at eight knots without submerging. They were escorted by British cruisers.

J. H.:—When making lemonade, try washing the fruit thoroughly, running it, rind and all, through the meat-chopper, letting it stand for fifteen minutes with sugar and a small quantity of water upon it, and then adding the amount of water necessary to fill your glasses. This method gives the drink a real flavor which much so-called lemonade lacks.

Another experiment which children seem to enjoy on account of its "fizziness" is to add one-quarter teaspoonful of bicarbonate of soda to a tumbler of ordinary lemonade, stir it vigorously and drink it while it is effervescing. This is not so sharp as ordinary lemonade, and it is very soothing to a dry or irritated throat. If the acid element happens to be very strong, it will require a trifle more soda to make it effervesce properly.

The Spelling Lesson.

I stood up to spell a very big word,
Quite sure it would come in a minute;
But when I was ready I could not think
Of the letters that ought to be in it.

A Joke On Doris.

It seemed to grow a great deal worse
To Doris every minute.
The ache, she said, with puckered face,
Was simply dreadful in it.

You see, it happened when the door
Slammed shut on Doris' toe,
Only she did not ask at all
Whether it hurt or no,

Till she had nothing else to do
But think of aches and pain;
And then it really seemed as if
'Twould ne'er be well again.

She nursed it and she petted it;
She limped around—O dear!
But when she went to bed she found
What seems most wondrous queer:

For when the long black stocking
Came off, there was the spot
Of black and blue—but, shocking!
'Twas on the other foot!

I find chickens are not difficult to herd and drive when I go about it right. I round them up by making a wide circle around them, get them headed where I want them to go, keep the flock together, and move up on them slowly, taking care not to get them fussed up, and they will go where I want them to. It takes, however, a bit of patience and common sense and it is another case where undue haste makes waste.

If I have a flock of small chickens of any age that I want to drive into the brooder or brood coop, I simply stand at the far end of the coop and imitate the cry of a cock when he sees a hawk, or as near it as I can get. This trick gets results at once, as the chicks will hike for the coop.

In case the distance is considerable, some may hunt other cover and lie close, but a low-voiced repetition of the call will usually start them home in a hurry. Don't be too strenuous about it; try to do it as does the cock or the mother hen and you'll be surprised to see how easily you can house your chicks.

We work it on every brood, and it always gets them in under cover when we want them there. Don't overdo it, just for fun, or it will be like the old story of the boy who cried "Wolf, wolf" too often.

There are a lot of other practical stunts that can be worked if one will take the time to study poultry language, the meaning of it, and then imitate the calls.

The Voice that Counts.

"Oh, father, I wish I could sing. Florence sang at the club to-day, and we all enjoyed it so much. She sings every night to her father, too. I'd give anything if I could, but there isn't any music in me.

"Is that so?" asker father, taking her wistful face between his hands. "Well, perhaps you can't sing, but don't tell me your voice has no music in it."

"Why ,father, how can you say so?"

"Almost every evening," answered father, "when I come home, the first thing I hear is a merry laugh, and it rests me, no matter how tired I am. Yesterday I heard that voice saying, 'Don't cry, Buddie; sister'll mend it for you." Sometimes I hear it reading to grandmother. Last week I heard it telling Mary, 'I'm sorry your head aches. I'll do the dishes to-night.' That is the kind of music I like best. Don't tell me my little daughter hasn't a sweet voice."

"Character is a perfectly educated will."—Novalis.

Some persons feed much more to their horses than others, and get no more work done. Very often the horses fed the heaviest are not worked the hardest, and are not the fattest. One man told recently of changing his way of feeding, and he found that he got better results with a smaller amount of feed.

Feed is so high-priced now that this man found by cutting the amount of grain squarely in two that his horses have done as much field work as ever, and are in as good flesh as usual. His horses eat a little more hay than under the old plan of feeding.

There is such a thing as getting a horse accustomed to eating an exorbitant quantity of feed. The experienced horseman generally detects the symptoms of overfeeding, but a man who habitually feeds and handles only his own horses in his own way may go on for years with a method that is wasteful or even actually injurious to the horses.

Probably it is these differences of management that give some farmers the reputation for continually having bad luck. accidents, colic, and other trouble with their horses, while some of their neighbors never seem to have any unfortunate incidents about their horses. Many farms seldom have a horse sick, sore, or lame. It depends much on the management, and the most important single item is the sensible feeding.

A scoop with a notch in front, the whole surrounded by a rim, has been invented for shaking insects from plants and catching them.

INTERNATIONAL LESSON
AUGUST 18.

Lesson VII. Working in the Church
Acts 2 .41-47; 6. 2-4. Golden Text, Psa. 100. 4.

Acts 2. 41-47

Verse 41. Then they that received his word were baptized—His "word" was that they should repent and be baptized in the name of the Lord Jesus unto the remission of their sins. They not only heard the message but were moved by it to immediate action. The baptism was the application of water as a symbol of spiritual purification. It was a sign of the new life which separated them from their past and committed them to the Christian profession. About three thousand souls—These were added to the one hundred and twenty of whom the church consisted when the day began.

42. Continued stedfastly in the apostles' teaching and fellowship—Further teaching was doubtless given to the newly baptized. Much of this must have been about the life of him whom they had accepted as their Lord and Christ. There was as yet no formulation of any body of "doctrine," but all the teaching must have been of the simplest character. They were thus bound together in a brotherhood of mutual help and encouragement. The breaking of bread and the prayers—Theearliest title of the communion was "the breaking of bread." As we learn from the Corinthian church they were accustomed to come together for a common meal, at which was commemorated the death of the Lord. "The prayers" suggests that there were certain forms of prayer. These were partly new Christian prayers and partly, doubtless, Psalms and wonted Jewish prayers having reference especially to the Messiah and his kingdom.

43. Fear came upon every soul . . . . many wonders and signs—Fear, dread, which are wont to seize the mind on a great and wonderful, entirely unexepcted, occurrence The "wonders and signs" no doubt refer to the prophecy quoted by Peter in verses 17-21 of this chapter.

44. And all that believed were together, and had all things common—There was one purse, and all possessions were sold for the common good "as every man had need." This custom was not borrowed from the outside but arose naturally as a continuation and extension of the community of goods which subsisted in the case of Jesus himself and his disciples.

46. Continuing stedfastly with one accord in the temple—The first Christians did not cease to be religious Jews but continued to frequent the temple for the customary prayers and all the aobservances of the ancient faith as far as consistent with allegiance to Jesus. Breaking bread at home—The Christian institution of breaking of bread was not a part of the service at the temple but was observed at their own homes, the congregations meeting now at one house, now at another. With gladness and singleness of heart—The community was mutually protective from care for the morrow and had only one end in view, that the faith of Christ should be spread abroad as widely as possible.

47. Having favor with all the people—"Such a spirit and mode of life everywhere and always appeals to the masses; and it is to the populace of Jerusalem as a whole, as distinct from the official classes (the Sadducees and Scribes and leading Pharisees), that reference is made." The Lord added to them day by day those that were saved—Or "the Lord added day by day together such as were in the way of salvation." This is the record of a record of a great evangelistic movement and is sometimes alluded to as the ideal condition of a Christian church, which is filled with zeal for the extension of the gospel.

Acts 6. 2-4

Verse 1 speaks of the difficulty in the young church in Jerusalem arising from the fact that the widows of some of the Greek proselytes had been neglected in the daily help given to the needy and complaint reached the apostles. This resulted in a called meeting of the entire church to consider the matter.

Verse 2. It is not fit that we should forsake the word of God, and serve tables—The business of the apostles was to preach and not to look after the temporal matters of the church. The growing church required all their time. Now some organization was necessary in order to promote harmony among all classes.

3. Look ye out . . . . seven men of good report . . . . whom we may appoint over this business—They were to be "full of the Spirit and of wisdom"—spiritually-minded and discreet men; for it required much tact and fine temper to adust the difficulties likely to arise. They were to be approved by God and man. The number seven was no doubt fixed upon because that was the number chosen to manage public business in Jewish towns.

4. We will continue stedfastly in prayer, and in the ministry of the word—The minister, whose sole business is to preach the glorious message, and the spiritually-minded layman, full of the Spirit and wisdom, to hold up the minister's hands and take care of the temporalities of the church—this is the ideal New Testament arrangement. However, the minister is not to be a recluse in his cell but a man among men, that he may know how to preach the Word so as to reach the needs of his community.

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