

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.

The Business of Farming—II.
Water and its importance.—Next to the soil structure itself, the supply of water within the soil is of prime importance. It is of such great importance because every bit of plant-food outside carbon dioxide that enters the plant must be dissolved in water before it can be taken up by the roots. Water is therefore the carrier of plant nutrition.

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Growing crops require a considerable supply of water. For instance, for every pound of dry matter in corn and wheat there is required at least 100 lbs. of water to carry the crop through from germination to maturity. Where you are getting 50 or 60 bushels of oats to the acre or 25 to 30 bushels of wheat per acre, or where you are getting 10 tons of oat straw to the acre, you will see that there is a great need of an abundant supply of water. Last summer I saw a wheat field that had made a good start, absolutely destroyed on account of a drought supply of water.

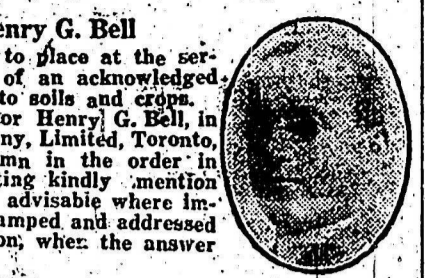
No. 1 shows the sod cut in strips and completely inverted. This is the result of attempting too wide a furrow. Open spaces or strips of growing grass remain attached between the furrows. The soil is not pulverized.

No. 2 shows an improvement in that the furrows overlap. Its defect is that large open spaces occur at the base of the overlapping furrows, rendering sufficient rise of water in the soil. These furrows, too, are not pulverized.

No. 3 shows a complete burying of plant matter, accompanied by a thorough pulverizing and packing of the soil.

No. 4 shows how to obtain a deep, mellow seedbed; by disking, then plowing, then disking again.

Sods are worked down by disking, harrowing, rolling, working with a spring-tooth cultivator and dragging.



Soil Tillage—The tillage of the soil is next in importance to the drainage. If your fields are left compact and unstirred in spring, millions of barrels of moisture will be lost because the water from the water-table below the soil can come up to the surface and continually evaporate. The stirring of the soil by plowing, disking and harrowing breaks up the compact surface-layer and thereby prevents the escape of much of the moisture. But there is another reason for plowing and that is to stir the soil so that there may be better circulation of air in the area where the plant roots thrive. Of course, plowing also accomplishes the burying of dead plant matter, which decays and supplies humus to the soil. The accompanying pictures show four types of plowing.

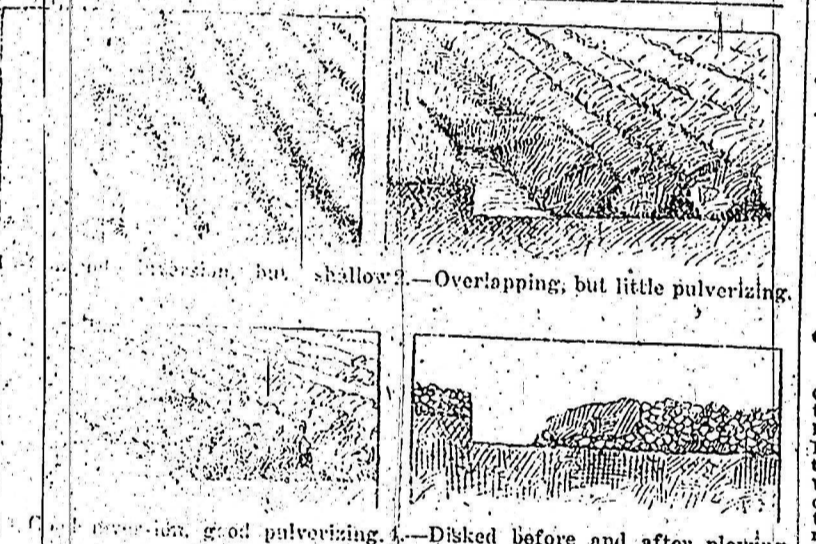
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Overlapping, but little pulverizing.

Disks before and after plowing makes a deep, mellow seedbed.

Your Own Housekeeping

It always seems easier to display the virtues of a new range under our own hand than to do so for other people. The common complaint is that we are not familiar with it. We are not, but we are familiar with it in our own homes. We are not, but we are familiar with it in our own homes. We are not, but we are familiar with it in our own homes.

The Dairy

A cow that is all the time kicking up a fuss in the barnyard might better walk the plank right straight. The room of such a cow is much better than her company. I have seen a herd of cows gain just about one-fourth in the quantity of milk they gave after certain milkers were replaced. It takes a good, kind, patient man to milk a cow right. Only such ought to be set at that job.

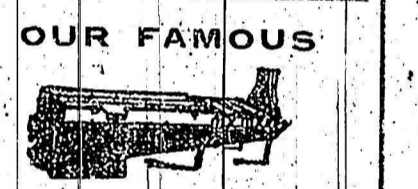
Compared with other animals, the domestic fowl is a small unit, but wide distribution and large numbers make it very important that we maintain this branch of our national food supply during the coming reconstruction period. Eggs, like milk, form an important part of our national diet that cannot well be replaced with substitutes.

the spaces between the soil particles. It adds, but so, that the essential condition for the growth of soil bacteria—the tiny forms of life that have the duty of breaking down the mineral matter of the soil; so that it may be used by the growing crops. Moreover, if water stands on the soil in spring there is continuous evaporation going on which means that the evaporation is continually retarding the warming of the soil. Prof. King, of Wisconsin, estimated that when a pound of water disappeared from a cubic foot of soil by evaporation it takes away enough heat to lower the temperature of sand 32 deg. F. and clay 28 deg. F. That is why a drained soil is cold and backward in spring. Therefore, the man that is going to have his soil in best shape to warm quickly and provide early growth will see to it that the soil is well drained, so that there will be as little heat lost as possible in the evaporation of unnecessary water in the soil.

There are three kinds of drains. First, the open drain, which in many farms is depended upon entirely to carry off the drainage water. This type of drain (especially should be watched carefully so as to see that the water is flowing freely. Too often the fields are wet and late because a little sediment in the open drain holds back a large amount of water; then there is the covered drain, which consists usually of stones covered with brush and soil. This is effective as long as it remains open. The third type of drain is fortunately coming into general use and is capable of rendering enormous service where the rows of life are laid with engineering skill, and suitable outlets are maintained.

Do not use a spring-tooth cultivator on light friable soil. It tends to make the air spaces too large and results in moisture shortage. Do not use a roller on heavy clay soil while the clay is wet. It tends to pack the soil and under the benefits of plowing. When a roller is used always follow it with a light harrow to prevent escape of moisture. Do not use a drag on heavy clay soil. There is danger of breaking down clay lumps into too fine particles, with the result that the clay is puddled.

It is recognized that the live stock industry is not a separate series of conflicting, competing interests, but a chain of links, each depending on the other and upon that principle the committee will proceed.



"Champion" Evaporator

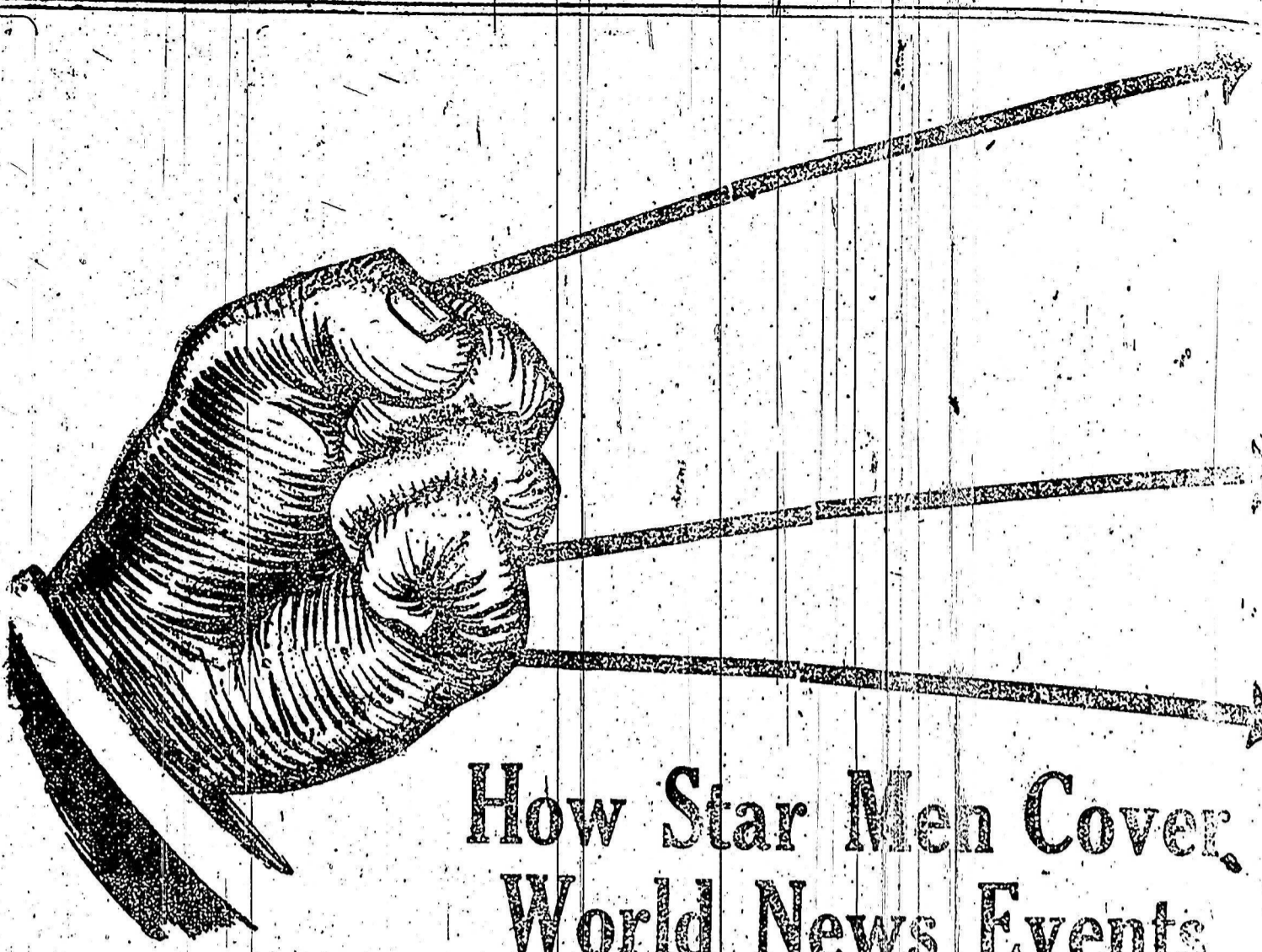
Only users of the "Champion" are entitled to enter our \$1,000.00 Prize Competition for Syrup and Sugar. Built for service, it gives maximum returns which means no waste. Users of the "Champion" know what it does and will again prove its merits in this competition with its cash prize when the competition is held. Do not let your grove owners muddle along with old, outworn methods had better get in line and order a "Champion" and necessary supplies now.

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Poultry Frequent cleaning and a liberal use of a good insecticide will aid materially in preventing an outbreak of mites in the poultry house. For spraying over the walls, floors, perches, nests and droppings boards use the following solutions:

- 1. Three quarts of kerosene mixed with one quart of either crude carbolic acid or commercial cresol.
- 2. Kerosene emulsion made by dissolving half a pound of hard soap in a gallon of water by gentle boiling and then adding two gallons of kerosene; one part of this emulsion is mixed with six parts of water.
- 3. Lime sulphur solution is recommended for dormant spraying of fruit trees.
- 4. Cresol disinfecting solution made as follows: Put three and one-fifth quarts of raw linseed oil in a five-gallon crock. Dissolve one pound six ounces of commercial lye in another container starting with half a pint of water and adding more very slowly if it is needed to dissolve the lye. After three hours very slowly add the lye solution to the raw linseed oil, stirring constantly until a strong liquid soap is produced. Then very slowly stir in eight and a half quarts of commercial cresol.

BREAKDOWN OF MUN AIR SERVICE

WAS APPARENT LONG THE ARMISTICE. Morale Crumbled More Quickly In Any Other Section Military Enterprise. Long before the war came on only there was a lack of that the German air service to pieces, as much through construction of their machine at that as the difficulty of for an efficient apparatus of from international relations the able to draw from the able source that in this man air service before the man more rapidly than the moral generally after the war fact factors. But there was influence in and was shortage or deterioration of and raw material. It was that in other parts of the moral prepared for such an exceptionally high, but much that such a measure, outside the observance of authority.

Federal Germany... galed in one day... done on various... Berlin... crossed as very... at the Second... for six months... in ten weeks... and that... he was face... crashed per day...

Shortage of... Sand... was... were not allowed... that pilots... ed for second... the situation... from the facts... casualties in pursuit... calculating in the... whereas previous... sidered very "safe" units... been dubbed "the... planes."

There was also... cover types of... and to be recon... made to meet... fully train... to the aeroplane... and employment... The shortage of... per day... and battle... in pursuit... Sixth German... ly for an hour... and pilots were... cut independent... To train up... machines, men... coincidence of... by at training... and that training... These conditions... Germany's post-war... machine as shown... future nations... war the strength...

MODEL VILLAGE... British Government... One in Capital... What is the type... of the Local Govern... housing scheme... listed the following... 12 houses per acre... 8 in rural districts... Maximum of... working rooms... Minimum of... stores... Comfortable living... rooms, washhouse... bath... Standardized... as doors, windows... bolts, locks, door... A good garden... In view of the... houses, the official... that a model village... in London is particu... villaged, the exact... specified, will embrace all... tials mentioned above... erecting the first houses... pected, be commenced... immediately, and develop... the schemes are approved...

When a woman sweeps... stand erect, with her head... mouth closed. Justice is merciful when... extenuating circumstances, l... there are none justice must... Lord Reading. One teaspoonful of salt... of water in the proportion... water in which cereals are... boiled.