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 of your own. Be
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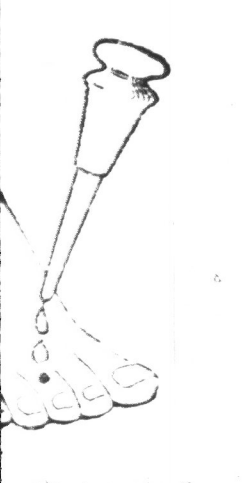
Virtues.
 draws as you go
 you find them
 it is somewhat
 virtue behind them
 right has a hint of
 shadows hiding
 to light for a star
 in the sun abiding
 "not-morning"
 along the way
 morning's glory
 only
 —Carlotta Perry.

Trees.
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 Hamilton, Ont.

WATER
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 in Fingers



Compound

RS

particulars
 of other
 literature

Farm Crop Queries

CONDUCTED BY PROF. 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.
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H. E. R.: I have a field that is sandy loam (some of it is quite light) on which I lost the clover seeding last year. This field will be pasture for two years so I am not particular about the grass, only would rather have clover. How much seed do you sow? Would you inoculate for both seeds, also how do you proceed? This land is now planted to wheat. Would you harrow the seed in or would it damage the wheat too much?
 Answer: I would advise you to sow 18 to 20 lbs. of good clover seed per acre. If you wish to get a good catch of sweet clover by all means inoculate the seed. The inoculation material comes in bottle form with full instructions. Write the Bacteriological Dept., O.A.C., Guelph, who sell the inoculating material at a nominal rate.

E. O.: I want to plant sweet clover to grow seed on a field of clay loam soil. It is alsike clover sod, fall-plowed, and has never had any lime applied. Hydrated lime is the only kind we can get here. I would like to know how much lime I ought to apply per acre.
 Answer: I would advise you to lime the soil in question with about 1 1/2 tons of hydrated lime to the acre. Apply this broadcast as soon as the snow is gone and harrow it in as you are working down the seed-bed. Proceed as suggested in the answer to the first question.

R. H.: I sowed some field peas last year with oats, sowing thirty pounds of peas to one and a half bushels of oats per acre. I cut and threshed same as other grain, but the peas didn't grow over twenty-four inches high, or make a very luxuriant growth. Neither did the oats, for that matter, as the season was not favorable. These peas ripened a week or ten days ahead of the oats, and consequently shattered badly in cutting. I sowed 100 pounds of sixteen per cent. acid phosphate per acre, would this cause peas to ripen ahead of the oats? My oats are a fairly early strain. What variety would be best to grow with oats for seed purposes and what amount should be sown per acre? I prepared my seed-bed last spring with the disc harrow. Should the ground be plowed?

Answer: In the matter of seed of mixed grain, it is not advisable to attempt to gather seed for a succeeding year's mixture from the crop grown this year. The proportion in weight or volume that the various grains yield is not the same proportion in which they were sown, due to the different prolificacy of the crops. Therefore, next year take your seed from a bin of good oats and from a bin of good peas, mixing them in the proportion desired. It is natural that the peas should have ripened ahead of the oats. They are a shorter lived crop.

The mixture of peas and oats is especially valuable when the crop is cut green for hay. The acid phosphate would of course react on the ripening of both crops alike and would not be responsible for the early ripening of the peas. The varieties Dr. Zavitz recommends for mixing with oats are Multipliers, Potter, and Golden Vine, using a mixture of two bushels of peas and one bushel of oats per acre. The oats which are recommended are any of the early varieties, preferably

A. P.: Please tell me how to test marl to find its quality as fertilizer. Answer: Marl is not a fertilizer in the strict sense of the term, neither is lime. Both of these are soil correctors; that is, by virtue of the carbonate of lime that they carry they correct the sourness of soil. You could send a sample of your marl to any chemist who will tell you the quantity of calcium and magnesium carbonate that it contains. This will give you an idea as to its value as a soil corrector. However, actual application of about two tons to the acre will show you how thoroughly it corrects the sourness of the soil equally as well, and will save you the expense of the analysis.

some of those lightest in hull, which are Joannette or Daubeny.
 Whether you disc or plow your soil should depend entirely upon the state of the soil in the spring. Speaking generally, it is best to plow medium loam soil.

Poultry
 Proper ventilation of a poultry house means more than an opening that will allow cold air to rush into the building. Every farm flock, to be healthy and profitable, must have proper ventilation.

Each building has its own problem of ventilation. There is the building with the flat top, the ventilator generally being an open window in the side or end. Go into such a house on a cold day, and you will notice moisture on the ceiling. That is proof that the air is not circulating as it should, and the resulting dampness is very injurious to the fowls. Such a building makes poor living quarters.

If it is necessary to shelter your poultry in a flat-roofed building, by all means place a ventilator through the roof so the used air and moisture will be carried out promptly. A galvanized iron ventilator costs more than a hole slashed through the siding, but it is the only way to make such a building fit for poultry.

Too much ventilation is as bad as too little, especially in severe weather. Some poultry houses are open so the wind causes a strong draft through them, and in very cold weather this is pretty certain to cause frost-bites and other ailments that cut down egg production. A few minutes' work

would make it possible to regulate the air current.
 The amount of air admitted should, of course, vary with the number of fowls. Since this number is a varying one, there are worth-while advantages in a ventilation system that allows for regulation of the air currents. A sliding door across the air inlet is a simple and efficient method, and one that can be profitably installed in new buildings. It is more convenient to have the door controlled from inside the building, as that enables the caretaker to regulate it when attending the fowls.

The Sunday School Lesson

MARCH 5
 Jehovah's Mercy to a Heathen City, Jonah 3: 1-10 Golden Text—Isa. 55: 7.

Lesson Foreword—It is difficult to say exactly when the Book of Jonah was written, but all the evidence points to a date after the exile, that is, after B.C. 586. This book deals with Israel's attitude toward the heathen. The Jews seemed never to be able to adopt the proper religious attitude towards their heathen neighbors. They prided themselves on having the knowledge of the true God, Jehovah, and on being his peculiar people, but on the other hand, the heathen still ruled the earth. This proved a stumbling-block to Jewish faith and created a bitter and intolerant spirit toward other nations. In the story before us Jonah appears as the type of his narrow and exclusive nation, as a good Jew who refused at first to preach repentance to Nineveh because they were his heathen enemies, but when in the end he was forced to do so he saw that the gospel "works" in Nineveh as well as in Israel. Thus the purpose of the book was to lift the Jewish nation to a higher viewpoint where they could see that the one God is the creator of the heathen as well as of Israel.

V. 1. Jonah; is the hero, but not necessarily the author of the book. It is nowhere said that Jonah himself wrote the book. There was a prophet by this name in the reign of Jeroboam (2 Kings 14:25), but as he lived long before the events described in this book, he could not have been the hero of our story. The second time. The first command to preach to Nineveh is given in ch. 1:2. Jonah disobeyed this command because he feared the effect of preaching repentance to Nineveh; the Ninevites would repent and the Lord would have conferred on them, whereas Jonah preferred to see them destroyed. The punishment recorded in ch. 1, however, brought him to his senses, and this time he obeyed.

V. 2. Nineveh; the capital of the great Assyrian Empire was situated on the eastern side of the Tigris, northward of the Greater Zab. Under Sennacherib the city was greatly enlarged, strengthened and beautified. "All the spoils of Asia were lavished on its adornment and fortification; pure drinking water was introduced into it in place of the rain water which the inhabitants had depended; and stately palaces arose in the neighborhood of the Tigris." "Its markets were thronged with merchants and traders, and its library was stored with thousands of clay books" (Serje).

V. 3. An exceeding great city. The Hebrew means literally "great for God" that is great even according to a divine standard. The city occupied about 1,800 acres and was surrounded with walls surmounted by towers and pierced with gateways. These walls rose to a great height and were in circumference about 7 1/2 miles. Of three days' journey. The reference is to the diameter rather than to the circumference. It required three days to go through the city from one end to the other.

V. 4. A day's journey. Jonah had penetrated almost to the heart of the city when he began to preach. Yet forty days, etc. The Ninevites were not told the reason for this starting announcement but they would feel instinctively that the reason lay in their sinfulness. "For this teeming humanity he claims the universal possibility of repentance,—that and nothing more" (G. A. Smith).

H. Repentance, 5-9.
V. 5. The people of Nineveh believed God. They believed that God would spare them, and in his anger he quit the city. God caused a gourd to grow and shelter him where he sat but the gourd soon withered and died, and Jonah was thrown into grief at its decay. His foolish grief provided an occasion by which God could teach him the real significance of his pardon of the people of Nineveh. If Jonah had shown so much concern for a short-lived and comparatively worthless gourd, would not God show a far greater concern for a whole city of living men and women, even though they were heathen? Jonah typified his narrow, prejudiced, Jewish race who were anxious to keep the knowledge of their God to themselves, but God shows him here that his compassion is not for Israel only, but extends to all men, even to the heathen and to Israel's enemies. The book of Jonah was, therefore, an ancient missionary tract.

Application.
 1. The sad fate of the Book of Jonah. This marvellous and tender book of Jonah has suffered ridicule and contempt because it has been so pitifully misunderstood. It has been thought that the chief value of the book lay in the amazing story of the prophet, but this is like setting a higher estimate on the box or case containing the jewel, than on the jewel itself.

Vs. 7, 8. Not content with merely setting a precedent, the king, by his edict, commanded a national repentance. As head of the state he was in charge of the religion of the state and could enjoin or modify religious observances. Even the domestic animals were to have a part in the gen-

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How to Make a Hotbed

The framework can be made of one-inch, used or unused lumber; or if a permanent hotbed frame is wanted, use concrete. Put the hotbed where there is protection on the north—a building, tightboard fence or a grove. Place it on sloping ground to permit drainage.

Use for a marker a piece of four-inch board as long as the inside width of the hotbed. Make one edge of the board V-shaped. Press this edge into the soil every four inches to make furrows for the seed. Drop the seed and cover lightly with soil and sand mixed.

If the boards on the back of the frame are twelve inches above the ground, these in front should be several inches lower; thus giving a slant to the sashes, enabling water to run off quickly. This will allow, too, a better utilization of the sun's heat; the slant should be toward the south.

Plants requiring different temperatures should not be in the same sections. For instance, tomato plants require more heat than cabbage plants.

After planting, sprinkle warm water over the bed to moisten the soil. Replace the sashes and keep the temperature between 75 and 85 deg. F.

When young plants appear, give them fresh air every day if the weather permits. Avoid watering too heavily; too much water causes poor root systems, as well as fungous diseases. Use just enough water that plants do not suffer for moisture. On bright, growing days, uncover the beds and let the sun shine directly on the plants. This makes hardy plants.

Never transplant directly from a warm hotbed to exposed conditions. Either get the plants accustomed to exposure while in the hotbed, or transplant to a cold frame—which is nothing more than a sash-covered frame placed on the ground; just like a hotbed except there is no heat supplied except by the sun.

When ready to transplant, thoroughly wet the bed containing the plants to be moved. The plants will go into another section of the hotbed, into a cold frame, into flats, or to the field. If they are moved directly to the field, run a shovel or trowel under the plants, deep enough that the tap root will not be cut off.

Letting the hotbed heat for several days will cause weed-seeds to sprout. When the temperature gets down to 85 deg. F., rake the soil with a garden rake; then level the soil. Firm the entire surface of the soil.

The heat in a newly-made hotbed will rise rapidly until it reaches a temperature of at least 120 deg. A high temperature may be obtained for a week or more, but it will not do to sow seed over such hot material. Wait until the temperature drops below 90 deg., then place two or three inches of good soil over the manure if flats are to be used, or about four inches if the seed is to be sown directly in the soil.

Herodotus alleges that the Persians made their animals share in the mourning customs. The Ninevites were instructed by the edict that they were first to pray that the calamity should not come upon them and then they were to amend their evil way—their general sinfulness—and the violence that is in their hands; the social oppression that was practiced among them, such as the maladministration of justice or the pilfering of the poor by the rich.

These people who stood under the covenant with Israel had a conscience, and that conscience, once awakened, told them that God was under no obligation to spare them from the deserts of their wrongdoing.

One of the leading ideas of the book of Jonah is that God is full of compassion not only for Israel, but also for the heathen. The faintest trace of repentance on the part even of the heathen softens God's heart and causes him to turn aside from the punishment that should have been meted out for their sin.

Jonah himself was petulant, bitter, actually sorry that the foreigners—the Ninevites—were repenting under his preaching. The Lord was compelled to reproach him for his frightful intolerance and pettiness, and to show him that there was a "wideness in God's mercy like the wideness of the sea." Thus the book of Jonah is a powerful missionary book, its aim and purpose is to reveal God's love for all nations and peoples.

J. C.: I have a cow which has a hole in the middle of her teat and it is very troublesome. Can you advise me whether there is any treatment that will cure her?
 The fistula of the teat can be done away with by the following method of treatment: Restrain the cow, casting her if necessary. Soak the teat in hot water containing all the boracic acid it will dissolve, then insert a milking-tube that has been boiled for fifteen minutes. Make a new fresh wound of the false opening by cutting its edges away with a clean, sharp scalpel. Stop the bleeding by bathing it with very hot water, then dry the parts and paint the wound lightly with tincture of iodine. Coat the teat with aseptic gauze, two inches wide, from the tip of the teat to the udder. Coat each layer of gauze with tar until seven or eight layers have been put on, then put on a final coat of tar, after stitching the last layer of gauze to the one below. In two weeks saturate the bandage with alcohol and remove it carefully. The gauze should be drawn snugly, but not tight enough to interfere with circulation. The operation is to be performed when the cow is not yielding milk.

The Dairy
 A hot brick in a padded box will often help bring through young pigs born in extremely cold weather.

When a farmer invests farm earnings in another enterprise of which he knows little, he proves that he has small faith in his own business.

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Increase for year	2,355,570.73
SURPLUS over all liabilities and capital	10,383,909.10
Increase for year	2,019,241.95
PROFITS paid or allotted to policyholders	1,849,089.95
PAYMENTS to Policyholders, Death Claims, etc	11,967,069.62
ASSURANCES IN FORCE	536,718,130.53
Increase for year	50,076,895.36
NEW ASSURANCES issued and paid for in cash	90,030,035.66

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