

The wireless telephons
of direction finding
ments (recently de
Marconi works at
and, has been proved
in war. It is hoped
to be equally great.
desired publicity for
by the Marconi
have been unable
during the period of
the progress of
It is now com-
by means of
convenient parts of
cathode coats,
the wires follow
Zepppelin cross-
the slight wobble
tion by wire-
for its position.
wireless came into
British shore stations
of the hostile
to their own in-
hearings were im-
to the Admiralty,
were plotted on a
slightly short space
of the Zeppelin
ated. By that means
and probable inten-
timated.

by Submarines.
The sole use of wire-
ing in this area. A
from its hair on the
can consist could be
the moans, and given
of "positions," and
through the Ger-
abmarine was there

work in the field the
wireless telephone
able, even on the
in its open warfare
has to be cover-
East and on the
of India, its poten-
most exacting of
ents. The smallest
of the telephone
ual fact country is
is capable of carry-
distance in favor-
It can be trans-
four pack-horses or
required at most six
Stool masts thirty
eried, supporting a
aerial, while the
receiving apparatus
set up inside the
erating set consists
diesel engine driv-
ing half-kilowatt

ventions of war
utilized to further
ing visits of useful
wireless telephonic
instruments can
up. Already ex-
that directional wire-
successful commer-
ch its capacity for
sible to navigation
variable weather.

by Satisfied Countries.
by shipping will re-
sistance in finding
necessary, and
telephone will find a
of communication
with passing ves-
ment maintenance
and wireless opera-
work in countries of
vast areas thinly
instance, China,
of Africa, the Mar-
disputes a great de-
on their resources
of wireless tele-
realized.

at Chelmsford be-
workpeople are em-
ing of instruments,
parts are procured
In the case of en-
ries of workshops
transmitting and
the presence of manu-
to finish. In one
the heavy solid
the delicate instru-
to be fixed are
mother, screws of
made. In still an-
are classified and
out later and as-
complete instrument,
man, or by sever-
been trained under
to each the work.
fixed into their
use in aircraft, or
field. All the time
kept free from
of vacuum cleaners
ant operation.

Occupation.
a business?
a tea sampler; he
ent kinds of tea.

what I want to be
boy?

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, crops, and answers will appear in this column in the order in which they are received. When writing kindly mention the name of the farm. 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 this 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 gravelly 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 1 acre of ground you 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.

K. 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 broadcast and thoroughly applied 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 plant food 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 force maximum growth within a mini-

McCRIMMON'S ANTISEPTIC COMPOUNDS



McCRIMMON'S Mouth Wash
The universal mouth Antiseptic for Pyorrhoea and sore gums.
Heads and hardens bleeding gums at once and tightens the teeth.
McCRIMMON'S Mouth Wash deodorizes all decomposed matter and makes the mouth fresh and sweet.
A BOON TO SMOKERS
McCRIMMON'S CHEMICALS LIMITED
Manufacturing Chemists
29 RICHMOND ST. E.
TORONTO

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 converted 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. The 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, apple 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.



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 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 fall." 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,—correcting 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 right; all altogether.

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, 237 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.

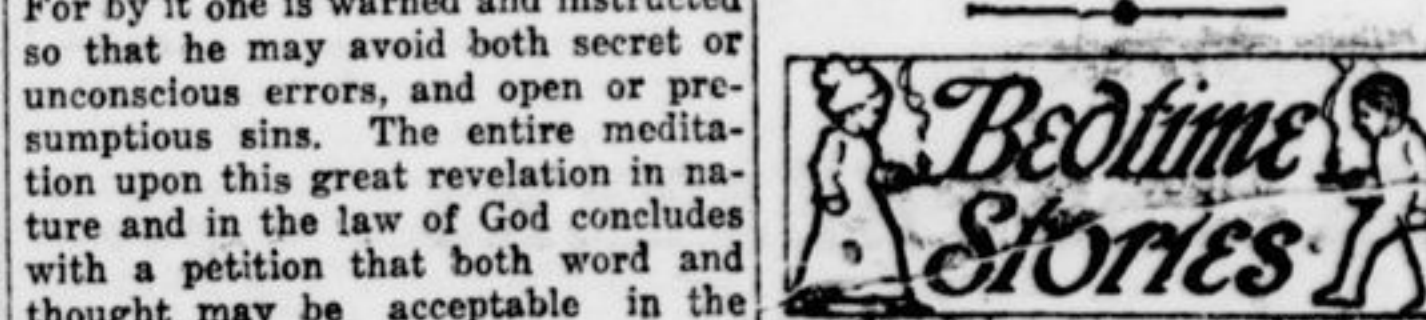
You can make charming beads out of colored magazine covers and illustrations. Lay the picture upon a flat surface, with a piece of cardboard underneath. Mark it off into triangles measuring one inch at the base and having the two other sides of equal length. Cut the sections with a sharp knife, using 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 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

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 know 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 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 presumptuous 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.



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, indeed. From early morning until darkness falls he hurries back and forth carrying the honey from flower to flower, 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.

A Lovers' Quarrel

With his hat on his head in token of his readiness to start for church, Mr. Eben Pearson had paced the floor for five minutes.
"Can't you move a little faster, mother?" he demanded.
"There's plenty of time," came a voice from another room.
"That's what you have been saying for going on fifty years, you know." "It's always been true whenever I've said it," replied Mrs. Pearson.
"Here it is twenty minutes past nine."

"That clock is fast. You always keep it fast."
"It's a warm morning," Eben went on, ignoring that point, "and I don't like to hurry the horse."
"Well, play I'm the horse, and don't hurry me," she replied.
Eben waited while the discredited clock ticked away a few more minutes.

"Mother, I believe you're dillydallying just to spite me," he declared at last; and the charge was met by a silence that was worse than words. "I'll go out and get in," he continued. "If you want to go with me, you'd better come along." He was very deliberate about unhooking, and he fussed needlessly with the harness, but at last he scented himself in the carriage. "Well, I'm off," he called.
"Well, good-bye," came the reply.
In his exasperation Eben jerked the reins, and the horse moved off.
"Well, it serves her right!" Eben muttered.

The feeling of justification stayed with him as far as the turn of the road leading to the village. Beyond that point he knew well enough that it was stubborn pride kept him on his way.
"I'll bet I haven't got a pocket handkerchief with me!" he said to himself suddenly, owing that if that should prove to be the case he must go back. Hopefully feeling in one of his pockets, he found it empty. From another, however, he brought out the handkerchief, all smoothly folded and fragrant with sweet clover. Mother had looked out for that. His eye fell on his coat-sleeve, which he now remembered to have torn accidentally while getting out of the carriage last Sunday. It was mended so neatly that you could hardly see where the torn place had been. That was mother again. She always got things done; and there were a lot of things for her to do. Perhaps that was one reason why she sometimes kept him waiting after all, when he had her ever really failed to get round in time! Eben was now driving quite slowly. In fact, he had an eye out for a good place to turn round. But just then the Millers overtook him.

"Good morning! Where is Mrs. Pearson?" called out Mrs. Miller.
"Not sick, I hope?"
The question was embarrassing, but Eben managed to answer it. "No, not sick," he said, "but she didn't seem to be quite up to coming."
"Glad it's nothing serious," said Mrs. Miller as they drove past.
To Eben it did seem serious, for he felt fully committed to going to church without his wife. It was a charming morning, and the ride to church had long been one of the luxuries of life; but somehow, in order to appreciate it, you wanted mother along to praise things up. Without her, daisies were only whiteweed, and even the bobolink's song had a lonesome sound.

The old horse was having an easy time of it. Eben was all over his hurry, and for once in his life was willing to be late at church. He had no notion of waiting, but the family pew alone. He would slip in quietly to a back seat, and get away as soon as possible after meeting.
Eben was late, but he had miscalculated in one respect. The minister had just given out the first hymn, and the congregation had risen and were facing the choir, who sang from the gallery in the rear. Thus Eben, as he entered, was in a position to see and be seen, and everyone was out that Sunday. Even mother, hymn book in hand, was there in the family pew, showing no sign of having hurried in the least.

Before the last stanza of the hymn had been sung Eben had reached a plausible explanation of what had at first seemed a mystery. He had doubtless been helped by the fact that his grandson, who lived in Bloomfield, was in the pew by Mrs. Pearson's side. His conjecture was confirmed after service by his wife.
"It was my first ride in an automobile," he heard her saying as she came down the aisle. "Johnny came over on purpose this morning to surprise me. I've hardly got my breath yet. We got here in no time, although we went way round by Bear's Corner because it's a smoother road."
"When I saw Sister Pearson come in without you," said the minister as she shook Eben's hand, "I was afraid you were not well."
"He wasn't quite himself this morning," interposed Mrs. Pearson, "but I guess he feels better now, don't you, father?"
"Yes, I'm all right now," said Eben, "I suppose, mother, you'll want to go back with Johnny?" he went on diffidently as they stood on the steps.
"Well, go," said the minister. "If Johnny doesn't mind, I believe that I'll take the trip one way in the auto for a beginning. I guess I shall feel a little more comfortable riding home 'long of you."

Ontario Archives
TORONTO