

THE FARMER'S ADVOCATE AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL
IN THE DOMINION.

PUBLISHED WEEKLY BY
THE WILLIAM WELD COMPANY (LIMITED).

JOHN WELD, MANAGER.

Agents for "The Farmer's Advocate and Home Journal,"
Winnipeg, Man.

1. THE FARMER'S ADVOCATE AND HOME MAGAZINE
is published every Thursday.

It is impartial and independent of all cliques and parties,
handsomely illustrated with original engravings, and fur-
nishes the most practical, reliable and profitable informa-
tion for farmers, dairymen, gardeners, stockmen and home-
makers, of any publication in Canada.

2. TERMS OF SUBSCRIPTION.—In Canada, England, Ireland,
Scotland, Newfoundland and New Zealand, \$1.50 per year, in
advance; \$2.00 per year when not paid in advance. United
States, \$2.50 per year; all other countries 12s.; in advance.

3. ADVERTISING RATES.—Single insertion, 25 cents per line,
agats. Contract rates furnished on application.

4. THE FARMER'S ADVOCATE is sent to subscribers until
an explicit order is received for its discontinuance. All
payments of arrears must be made as required by law.

5. THE LAW IS, that all subscribers to newspapers are held
responsible until all arrears are paid and their paper
ordered to be discontinued.

6. REMITTANCES should be made direct to us, either by
Money Order or Registered Letter, which will be at our
risk. When made otherwise we will not be responsible.

7. THE DATE ON YOUR LABEL shows to what time your
subscription is paid.

8. ANONYMOUS communications will receive no attention. In
every case the "Full Name and Post-office Address Must
be Given."

9. WHEN A REPLY BY MAIL IS REQUIRED to Urgent
Veterinary or Legal Enquiries, \$1.00 must be enclosed.

10. LETTERS intended for publication should be written on
one side of the paper only.

11. CHANGE OF ADDRESS.—Subscribers when ordering a change
of address should give the old as well as the new P.O. address.

12. WE INVITE FARMERS to write us on any agricultural
topic. We are always pleased to receive practical articles.
For such as we consider valuable we will pay ten cents
per inch printed matter. Criticisms of Articles, Suggestions
How to Improve "The Farmer's Advocate and Home
Magazine," Descriptions of New Grains, Roots or Vegetables
not generally known, Particulars of Experiments Tried, or
Improved Methods of Cultivation, are each and all welcome.
Contributions sent us must not be furnished other papers
until after they have appeared in our columns. Rejected
matter will be returned on receipt of postage.

13. ALL COMMUNICATIONS in reference to any matter con-
nected with this paper should be addressed as below,
and not to any individual connected with the paper.

Address—THE FARMER'S ADVOCATE, or
THE WILLIAM WELD COMPANY (LIMITED),
LONDON, CANADA.

cattle, they should be carefully bred up and im-
proved under ideal conditions, and the young
stock and bulls should be sold at the most reason-
able prices to individual breeders to gradually
improve the herds of the country.

Conserving and Increasing Fer- tility.

Almost anyone can farm in some kind of a
way, taking annual toll of his soil fertility in the
form of small-to-medium crops, but when the aim
is to approach maximum production, raising good
paying crops every year, while maintaining or
gradually increasing the stock of available plant
food in the soil, farming becomes, in truth, a
"man's job," requiring brains of the first order.
Some of the problems are presented in a manner
calculated to arrest flighty ambition by Frank T.
Shutt and A. T. Charron, of the Chemical Divi-
sion, Experimental Farms, Ottawa, whose paper,
recently read before the Royal Society of Canada,
is synopsized in another part of this issue. Here
are a few of the points with which we are special-
ly impressed:

* * *

Fallowing is, of all operations, the most waste-
ful of soil fertility, but there is an inevitable and
heavy depletion of the most valuable constituent
(nitrogen) consequent upon the necessary tillage
of the land. An experiment with a rich Saskatch-
ewan prairie soil which had never received manure
but had been cultivated for twenty-two years, dur-
ing which time it had been bare-fallowed nine
times, indicated that the soil lost, to a depth of
eight inches, 2,206 pounds of nitrogen per acre, of
which only 700 pounds had been removed in crops,
while 1,500 pounds per acre, or 68 per cent. of
the whole, had been dissipated through cultural
operations and in other ways. Does this not
show the prudence of keeping the land covered

with growing vegetation as much of the time as
practicable?

* * *

Among leguminous soil improvers, the clovers
and alfalfa were found to be the most valuable,
chiefly because of their larger root system, in
which might be stored from one-third to one-half
the total nitrogen in the crop. By turning under
a fair growth of one of these, from 100 to 150
pounds of nitrogen per acre may be added to the
soil—an amount equivalent to that furnished by
ten tons of ordinary barnyard manure.

Even with clover-growing, it is by no means
easy to increase the nitrogen content rapidly.
This was indicated by an experiment commenced
in 1902, and continued to date. Every second
year since 1902 the plot had been dug over and
resown to clover. The annual waste of nitrogen
through bacterial activity and other agencies had
almost equalled the annual net gain. However,
the gain during the nine years was sufficient to
practically double the nitrogen in the upper four
inches of soil. If the clover had been cut and fed,
the manurial value of the residue, such as roots
and decayed leaves, would have been almost half
that above recorded. If, in addition, the manure
made by feeding the harvested portion to live
stock were also returned, the annual gain in fer-
tility would be considerable.

* * *

The foregoing data emphasize the difficulties of
increasing fertility to a high point, indicating
some of the unavoidable wastes which have to be
made good before increase can be secured, and
strongly support the author's premise that:

A system of grain-growing which implies fal-
lowing and no formation of sod, is very destructive
of humus and nitrogen, and must in time impair
the richest soils. The rational and economic up-
keep of soil fertility demands the keeping of live
stock for the production of manure—the most im-
portant natural source of humus and nitrogen for
farming lands—and a proper rotation of crops
which will periodically enrich the soil, as by the
growth of a legume, in these valuable constituents.

Honest Scales and Traders.

Under the heading, "The Struggle for Honest
Scales," the Country Gentleman says: "It is a
shock to our confidence in human nature that one
of the real difficulties of the day is to get scales
that will weigh accurately. This kind of swind-
ling has been so widespread that many manufac-
turers have been catering to short-weight cus-
tomers. The mayor of Philadelphia has sent a
message to the city council asking that \$15,000
be appropriated for the purchase of accurate
scales, his plan being to sell them at cost to
householders who can afford to buy them, and to
lend them to those who are too poor to pay. The
mayor's inspectors tell us that the variations of
the scales in use are something like twenty-five
per cent., and you may be sure that this varia-
tion is not in favor of the consumer. More than
half of the scales were found to be wrong. Repre-
sentatives of women's clubs of Minnesota at the
capitol in St. Paul, studying the methods of the
State Bureau, so that they might know how to
get correct weights and measures when buying
supplies, were told that it was impossible to find
a small, accurately-adjusted scale for practical
kitchen use."

In the judgment of a leading officer in the
Standards Branch, Inland Revenue Department at
Ottawa, expressed to "The Farmer's Advocate,"
the title of the foregoing should have been, "The
Struggle for Honest Traders," as the whole ques-
tion and agitation is a matter of dishonest weight,
not dishonest scales. This is forcibly illustrated
by the present "Short or Net Weight" war now
hotly raging in England between the Inspectors of
Weights and Measures of the Grocers' Associa-
tion, owing to the increasing practice of including
heavy "wrappers" in sales—some wrappers ac-
counting for as much as $\frac{1}{4}$ to 1 ounce on the
pound—such packages evading the Merchants'

Marks Act by bearing the words, "This package
weighs 1 pound, including wrapper." From this
cause, the loss in short weight, dishonest weight,
to retail purchasers in the United Kingdom is
estimated at something like \$2,000,000-odd per
year on tea alone; but this has nothing to do with
"dishonest scales."

It will be readily understood that this matter
does not come within the province of the Weights
and Measures Law of Canada, as Inspectors of
Weights and Measures have not got "police pow-
ers" to prosecute under the common law for com-
mon fraud. The Canadian Government under-
takes to protect the public from the introduction
and sale of fraudulent machines, by having all
new modifications submitted to the Standards
Branch for examination and approval before a
certificate is issued sanctioning their sale or use
in the Dominion, and to guarantee the accuracy
of those in use by periodical annual or biennial
inspection, according to the nature of the scale,
but there is no machine yet made to prevent dis-
honest weight or short measure, which is dis-
tinctly a quality of the trader, against which the
public can seek redress under the common law.
For their protection, the Canadian public can pur-
chase small domestic scales at moderate prices,
admitted by the Department exclusively for house-
hold purposes under special regulations. In this
respect the Canadian Weights and Measures Law
is ahead of other countries, inasmuch as such do-
mestic scales must bear the Government stamp of
verification, which insures an accuracy and quality
sufficient for kitchen use.

In Canada, all scales must be inspected and
stamped before being sold or taken for use, except
postal scales not exceeding 4 pounds' capacity,
but under the ruling of the Department of Justice,
"Use For Trade" has to be proved to justify
subsequent inspection. If then, for instance, a
farmer claims that his scale is a domestic scale,
used solely in connection with the internal econ-
omy of his farm, the Department would have to
prove the contrary to enforce re-inspection. If
any interested party came forward and lodged a
complaint under Section 83 of the act, inspection
would then be justified, but, without interested co-
operation of the public, the words "Use for
Trade" in the law must be allowed their interpre-
tation. Ordinary trade scales are subjected to
regular biennial inspection, spring scales to an-
nual inspection.

No Horses or Men to Spare.

Although increased per diem allowances have
been made, the muster-rolls at the annual military
camps in Ontario are reported below what the
authorities desired, and in some cases great diffi-
culty was experienced in securing the necessary
horses for cavalry purposes. Shrewd farmers,
who know the value of good horse-flesh, are
not likely to let their animals out to take the
risks of camp usage for a couple of dollars per
day. And when farmers are struggling, almost
single-handed in many cases throughout the coun-
try, to keep up the absolutely necessary work on
their farms, to further deplete the ranks of
workers, to keep up military drill is regarded by
many as a hardship. The town population may
spare a few more for the ranks, but farming is
now handicapped as never before by lack of capa-
ble men. How is the food of the people who mass
in cities and towns to be produced if there is
not the rural population to till the soil and
properly care for the growing crops?

After careful observation, the physicians of Ber-
lin, Germany, find that Sunday, or one day's rest
in seven, is an essential condition to efficient and
desirable life. By conjointly arranging their
practice, they are securing that end. Moderns are
discovering to be true what Moses indited some
thousands of years ago.

A pre-requisite to satisfactory settlement in
the wooded northern areas of Eastern Canada,
such as New Ontario, is the early construction of
good roads.