

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 furnishes the most practical, reliable and profitable information 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, agate. 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, Postal Note, Express 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. ADDRESSES OF CORRESPONDENTS ARE CONSIDERED AS CONFIDENTIAL and will not be forwarded.
14. ALL COMMUNICATIONS in reference to any matter connected 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.

forthcoming next year to meet the demands of the British and Allied armies. It is important that action be taken very promptly. The sows must be saved and bred now, and all must work toward the one goal of producing as much food as possible of the necessary kinds. There are only a few things which matter in the way of export material: wheat, pork, beef, beans, and milk and its products. Why not get busy on the things which count?

"Fed Up."

Advice is always taken with about the same amount of relish as bitter medicine, but unlike the latter, generally fails to show any tonic results. At the present time the Canadian farmer, who is no less a human being than other classes in the community, is, to use the words of Canada's best known live-stock authority, Prof. G. E. Day, fed up with advice but still ready to receive and act upon good, sound information. At the present time there is need of an increased production of pork, particularly, and for next year a special effort will be called forth in connection with the output of cereal grains, beef and milk products from our farms. Results will not be forthcoming in anything like the proportion we would like to see, provided the farmer gets nothing but advice from those Government heads whose duty it is to impress upon the people the need for production and thrift. What the Canadian farmer expects of those who ask him to produce is facts, figures and sound information. More bushels of wheat, more pounds of beef and pork, and larger quantities of milk and its products will be available for shipment from a campaign based on the facts, coupled with information as to how to meet the contingencies than could ever be possible from a continuance of the system of advising the farmer to do this and do that without assuring him of anything in the way of prices and market, and without giving him the necessary information and help by which he may make the called for increases. No truer statement was ever made than that the farmer is "fed up" on advice, much of which has emanated, unfortunately, from sources far remote from the field of practical agriculture. The farmer will act upon information but resents advice.

To Subscribers

Please renew
your
subscriptions
NOW!

If you wait until the last minute, you not only put this office to an expense which should be saved this year of all years, but there is the chance that in the rush of the renewal season some error may arise.

Please do it NOW, even if your time is not up for two or three months.

It means a lot to us, and we shall certainly appreciate it.

Many subscribers are renewing for more than a year to provide against the possible rise in subscription rates owing to the heavily-increased cost of white paper and labor.

Not more than two years' renewal will be accepted at the present rate of \$1.50 a year.

Your Paper Free For a Year!

Send us two NEW subscriptions at \$1.50 a year, with \$3.00 to cover same, and we will advance your label twelve months for your trouble.

NOTE.—On no account must any subscription be taken at less than the regular rate of \$1.50 a year in advance.

The William Weld Co., Ltd.
London, Ontario

Nature's Diary.

A. B. KLUGH, M.A.

The Oyster (continued).

In about a day and a half from the time the oyster larva becomes free-swimming the first trace of a shell appears, and the swimming organ to which I have already referred becomes still further developed into a structure termed the velum, which can be folded and withdrawn into the shell for protection. At this stage the larva is known as a veliger. At first each shell-valve appears as a small, glistening spot on the side of the soft-bodied larva, near its dorsal surface. It grows larger, covering more and more of the body, becomes connected with its mate on the opposite side along the hinge-line, and together they extend downwards and increase in length until they cover the whole of the body. Up to this time the larva has not increased much in size beyond the original egg, the food-store of which has supplied energy for development and activity.

The older workers on the life-history of the oyster thought that the larva settled down into their fixed condition upon some object in from two to five days from the time of fertilization, and it is so stated in all the books in which the development of the oyster is discussed. It remained for a Canadian zoologist, Dr. Joseph Stafford, of McGill University, to show that the free-swimming period was in reality much longer. This is a point not only of much scientific interest but, as we shall see later, of great practical importance. Dr. Stafford's recent monograph, "The Canadian Oyster," is the most complete work on the development of the oyster which has appeared. The data on the early stages of the oysters' existence given here are derived from this source and for a full and detailed account of the subject I would refer the reader to this work.

During the larval stage the gills, adductor muscles, stomach, intestine, mantle, heart, nerve ganglia, and foot, as well as the velum above referred to, appear. The possession of a foot by the larval oyster is another

of Dr. Stafford's discoveries. As is well known no trace of a foot appears in the adult oyster, and this organ, which is so prominent in nearly all other mollusks, particularly in the fresh-water clams and snails, was supposed to be entirely wanting in the oyster at all stages. Dr. Stafford, however, not only found that a well-developed foot was present in the larval stage, but that it was a very serviceable organ. When the larva is at rest or swimming, the foot is shortened, withdrawn and folded away so close to the abdomen as to be scarcely observable. It is extended when the animal is creeping about on the bottom, and it becomes of very great importance as the larva becomes older and heavier and spends more time on the bottom. At this time if the animal settles into the mud, or is overwhelmed by sediment, it is only saved from suffocation by being able to use its foot in extricating itself. On the foot is also situated a gland which secretes the substance which is used in fixing the shell to some object when the animal first becomes permanently attached.

The free-swimming larval stage lasts from three weeks to a month, after which the animal becomes attached. At this stage the young oyster is termed a "spat," a fisherman's name evidently of some antiquity since it is used by a writer in 1690. This process of fixation, or "spatting" is the crucial time in the life-history of the oyster and the value of the oyster harvest does not depend upon the number of eggs spawned, but upon the number of spat which become successfully established.

The size of the little oyster at the time of fixation varies considerably, but an average size is .379 millimeters, that is, about 1/70 of an inch, in length. The fixation is accomplished by means of the gland in the foot which pours out a cementing substance between the shell and the object upon which it is resting, and this is done while the animal is lying upon its left side. New growth of shell soon takes place and as this occurs the new portions of the shell are made fast to the substratum as they are formed, thus increasing the surface of attachment. Soon the spat loses the velum and foot, and is then in all respects, except in size, similar to a full-grown oyster. Spat which becomes fixed early in the season may reach a length of over an inch before winter arrests its growth. During winter there is little growth, but the shell becomes thicker. During the second year of its life the oyster grows from one-half to three-quarters of an inch in length, and in the third year from three-quarters of an inch to an inch is added. It takes five years for the oyster to reach marketable size. The alternation of periods of rapid growth (summer) with periods of slow, or no, growth (winter), leaves concentric furrows on the shell, so that by these the age of the oyster may be told. The average length of life of the oyster is ten years, though some specimens have been found which have, from the very great thickness of their shells, been estimated to be fifty years old.

(To be continued.)

Why Worry?

BY SANDY FRASER.

I'm just after noticin' a letter in the last "Advocate" entitled "Thanksgiving and Production." The writer hasna' vera muckle to say, but you can tell that he's thinkin' a whole lot. Things are not gaein' tae suit him, an' he's beginnin' tae worry aboot how the late crops are gaein' tae be harvested, an' if the fall plowin' is likely tae be done at all. The frost an' the rain is spoilin' everything, an' there's no help tae be had unless the women an' bairns gae oot tae the field an' dae what little they can. An' everywhere the call is heard, tryin' tae coax the farmer on tae greater production, till he is half crazy wi' it all. Na wonder he doesna' celebrate Thanksgiving Day, but gae on warkin' an' slavin' as though mair than his life depended on the last furrow being turned before the snow flies again.

Noo, I dinna' think there's muckle use in gettin' intae this attitude o' mind. Accordin' tae my idea o' it, the only man who should worry is the lazy man. It may dae him guid, an' if it doesn't, it's no' much matter onyway, for the lazy mon is o' but little account in the world at the present time. The man who is daein' his wark the best he kens how, has na need tae worry ony mair than the birds in the trees. When we've done the best we can, onything else that's necessary will be attended to, some way or another. It always has been an' it always will be. One way to get an idea o' the foolishness o' the worry habit is tae think o' some o' the things we were tearin' oor hair aboot, say twenty years back. It doesna' seem tae cut muckle ice the noo, an' mair often than not we can laugh at oor selves for gettin' excited aboot these things, when once they've gone intae the past. Half o' the time the thing we troubled oor selves aboot never happened at a', an' the rest o' the time it wasn't sae bad as we were fearin'.

But at the same time there are some folks that, although they ken a' this, canna' get awa' frae the habit. It's something like the drink or the tobacco. Ye ken it's daein' ye no good, but the thing is tae quit it. Gin it's not aboot one thing it's aboot anither, an' it doesna' matter whether it's little or big, the worry is pretty much the same. However, the way I've seen it wark wi' some people, was that the smaller the trouble wis, tae the ordinary observer, the mair it bothered them. I mind o' one auld chap that wud growl for a week, gin onyone cheated him oot o' ten cents, but when finally his store an' all the stock in it were burned tae ashes, it didna' seem tae effect him vera badly, not that ye could notice, whatever. I suppose the capacity o' some minds is great enough tae tak' in na mair than the small trials an' troubles.