

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.

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.

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

fallen from their advantageous pedestal, and loans are difficult to float. Sir Edmund Walker recently said in England that Canada is now turned towards recovery, but with her face towards recovery for the past two years she has gradually lost ground, until the winter of 1914 and 1915 threatens to be the tightest in the last two decades. The organized oil companies in Calgary now have a capitalization of over \$400,000,000, and this is only indicative to what distance Canadians will go. The result of wild-cattling has been lost confidence, failures in collecting taxes, inability to pay interest on debentures, and a general tightening all round.

The fault is not altogether with the public. The people of the United States know the effect of water when mixed freely with railroad stocks, and so do we in Canada in all lines, and a law preventing the holding of stocks, not paid for, would considerably alter circumstances. The appointment by the people of an astute inspector to look into the standing of our Chartered Banks might forestall a recurrence of the Farmer's Bank calamity, and if our Parliament Hills would assume the aspect of watch towers they would do a better service than applying treatment to chronic troubles.

What Makes Your Farm Pay?

Ask a business man in the city what particular line of his stock gives him his best returns, and he can tell you without hesitation. Upon this hangs his chance of success. Farming is a business of many parts, but few farmers have any correct idea of just what portion of their mixed operations pays them best. In this issue there is an article on farm bookkeeping, which should interest all our readers. The modern method of profitable farming is not all work in the fields, but considerable "head work" is made count in the final reckoning. To use the head to best advantage it is necessary first to find out what is wrong and what is right with the farm operations. There is only one real way to do this, and that is by figures. Figures talk in farming, and the quicker more of our farmers get busy and by a simple method of bookkeeping find out for themselves what makes the old farm pay its way and what keeps it from paying more, the better for all.

Nature's Diary.

A. B. Klugh, M.A.

When on the surface of the stream
The sun's rays beat,
And all the world seems drowsy
With the heat,
Glancing hither, darting thither,
O'er the surface of the river,
Flits the brilliant Dragon-fly.

Strongest winged of all the insects,
Keenest of sight,
Sparkling like a thousand diamonds
In the light,
Glancing hither, darting thither,
O'er the surface of the river,
Flits the brilliant Dragon-fly.

Vision among the insects is a very different thing to what it is with us or among the higher animals. Most insects possess eyes of two kinds, simple eyes termed ocelli, which are apparently of use only in telling light from darkness, and compound eyes which are made up of a number of hexagonal (six-sided) facets. The number of facets in the compound eyes varies in different insects from four up to over thirty thousand. Each facet receives only those rays which come to it from objects directly in front of it, so that



Fig. 1.—Dragon-fly Nymph, with wings developing.

the image of an object as seen by an insect is made up of a sort of patch-work of the different parts of the object, hence the insects are said to possess mosaic vision. The acuteness of vision in the insects depends upon the number of facets, the size of the facets, and the depth of that part of the eye (the crystalline) below the facet. In the Dragon-flies the facets number more than thirty thousand, they are small and the crystalline are very deep, so that they have the keenest sight of all insects. Another interesting thing about the Dragon-fly's eye is that it is made up of two parts, an upper part in which the facets are very small, and which is adapted for long sight, and a lower part in which the facets are larger, and which is, hence suited for near vision. The Dragon-flies are such active insects that they use up a large amount of oxygen and consequently breathe very rapidly, from seventy-three to a hundred and eighteen times per minute.

The Dragon-flies feed on small-winged insects, very largely on Mosquitoes and hence are highly beneficial. They catch the insects with their legs all six of which are placed far forward and close together, like so many spinv grasping arms. The prey is then devoured while the Dragon-fly is

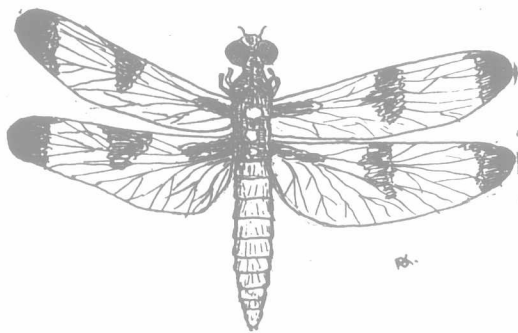


Fig. 2.—White-tail Dragon-fly (Plattemis Lydia).

still on the wing. They are extremely voracious, and one has been known to eat forty house-flies inside of two hours.

These insects exhibit the most beautiful, metallic colors. These colors are what are known as "interference colors" that is they are caused by white light being broken up into the respective colors of which it is made up, by the thin plates which constitute the exterior of their bodies, just as colors are formed on a soap-bubble. After the insect is dead these plates soon collapse and the brilliant coloration disappears.

When watching Dragon-flies over a pond you may occasionally see one poisoning just over the surface of the water and striking it with the tip of the abdomen, or another swoop swiftly down to the surface and dip the tip of the body for a moment in the water. These are females laying eggs. From several hundred to several thousand eggs are laid by each female. In those species which oviposit in mid-summer the eggs hatch in about ten days, but in those which lay them in the autumn they do not hatch until the following spring.

From the eggs come tiny, spider-like nymphs, with long slender legs and no sign of wings. The

nymphs hide in the mud at the bottom of the water and catch aquatic insects and young fish which approach them with their long extensible lower lip, which is armed with sharp, pincer-like claws.

The nymphs breathe by means of internal gills which are arranged along the lower part of the intestine. Water is taken in through the posterior opening of the intestine and after passing over the gills is forced out again. When this water is violently ejected the nymph is propelled forward. The nymphs moult frequently, and at each moult the wings appear more and more developed (see Fig. 1.)

After about a year (in the case of most species) they crawl out of the water and mount the stem of some plant; the skin splits down the back, the mature Dragon-fly emerges, and after expanding and drying its wings, flies away.

All-Year-Round Dairying.

In the Dairy Department appears an enlightening and well-written article entitled, "Does Winter Dairying Pay?" Mr. Ferguson, the writer of the article, suggests the scales and Babcock Test as a solution of the problem mentioned in an article in the issue of July 9th, under the heading, "Eastern Ontario, the Home of the Dairy Cow." This writer from Carleton County has grasped the situation, but he sees it in a little different light than the representative of this paper who visited that district. It was not the purpose of the article of a former issue to discourage dairying, as it now is, but with the dairyman's interest at heart the "Advocate" aspired, through its columns, to disseminate all the information that could be gleaned that dairy-men generally might profit. For this reason Mr. Ferguson's letter is doubly acceptable, as it sets forth a phase of the industry, and any remarks in this article are not meant to refute his statements, but to arrive at a clearer understanding of the enterprise.

In the first place, a man milking a 3,500 to 4,500-pound herd is playing a losing game, and neither winter nor summer dairying can ameliorate conditions very much until their production be doubled. Such cows are an incongruity in a dairy district, and the scales, as Mr. Ferguson suggests, should act as an eye-opener to their owner. However, with cows giving, on the average, 7,000 pounds of milk per year there is some chance for an argument pro and con. The other herd is not worthy of consideration, yet there are only too many of such cows grazing on good pasture and occupying good stable room in Ontario.

Profitable winter dairying first depends upon the amount of home-grown fodder stored away for winter use. Clover or alfalfa hay, roots, silage, chop and straw, are indispensable in economic production, but Mr. Ferguson has not yet been fortunate in the production of clover and alfalfa, and has had considerable expense in the acquisition of protein-rich concentrates. The result of this has been that the cost of production has been approximately one cent per pound of milk, when the price at the factory has been little more. Many dairymen agree that 75 cents per cwt. of milk is a reasonable cost for production, and any alteration one way or the other will probably depend upon the character of feeds grown on the farm. Coming more particularly to the question of winter dairying, the stables are there, the utensils are there, and the cows are there, and there should be little additional outlay in the direction of "upkeep of buildings, hired labor, bedding, interest on investment, insurance and service fees." The labor question might become involved, but with proper farm buildings the other items remain much the same.

With regard to our belief that milk should flow into the factory, the fact that there is usually a difference of from three to five cents a pound in favor of creamery butter is the ground for such opinion. True, it is, good dairy butter will sell for more than creamery butter when the maker of the home product is known to put out a good article, but such is not always the case. In winter the farm dairy is in better shape to put out good butter, and if the people of Eastern Ontario can sell their home-made article for 30 or 35 cents it is one strong argument in favor of winter dairying. The skim milk and buttermilk are retained at home, and with the pres-