

The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE
DOMINION.

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man pulled down is always the loser in the end. He goes under for the sake of the party not for the good of the people, the welfare of the country or for his own lasting benefit. All honor to the farm boys of this country, and may each one ever be worthy of the remark, "He's a farm boy and cannot be bought."

Individual Responsibility.

Each individual in a democratic country has a responsibility thrown upon him in regard to public affairs. Just as he regards this responsibility so will the affairs of his community and his country be conducted. If he takes up this responsibility and guards his individual right to think, act and criticize and is active in such right, then there must be efficient government in the municipality and in the country.

Despite the fact that Commissions are showing an untold graft permeating the administration of the country and a moral attitude in dealing with public moneys that would not be tolerated in private business, possibly the greatest factor to the individual is the carelessness in the administration of the smaller public affairs, in the school district and in the municipality. Here graft cannot be practiced on a large scale, but the petty grafting that is not considered graft, and the carelessness in the administration of these petty public matters creates a situation that is just as serious to the individual as the more glaring acts to defraud the public that are being brought to light. In no way would we detract from the seriousness of these acts, serious because they have been countenanced or overlooked by men elected by the people to the most responsible positions in the country.

We would draw attention to those other matters of a more local nature, yet none the less serious to the individual. For instance, a letter is at hand in which, in referring to trouble incurred in erecting a new school in an old district the correspondent says: "Lack of interest on the part of the ratepayers also contributed to the condition of the school business. Six special meetings were held to consider the matter, and two separate polls were held before any definite

legal proceedings could be undertaken toward rebuilding on a new school site. It was found that no title had been given to the trustees for the old school site. Only one of the trustees was educated enough to more than read or write. One trustee was not legally qualified to hold his position. However, the matter has been settled, a new school erected, and a satisfactory teacher employed. The experience has cost considerable, but we pass this on to the readers of "The Farmer's Advocate" and suggest that they attend the annual meeting of the school district and attend to school matters personally from year to year."

Again, another letter dealing with municipal affairs and road building states: "Our 'road boss' is a farmer preacher. At council meetings he knows how to get up and how to talk, so he got the job, and all the work is being done on the road that leads from his place to the post office, but that would not be so bad if there was good work done somewhere. The road is made so that the water cannot get from road into ditches and no attempt is made to get them level so the water will run in them, and yet half the work done would make a good road if it were done right." These are but incidents that are being given expression here and there everywhere in the land. Hundreds of other communications have the same tone. They are matters that appear so trivial that we are inclined to take the matter in a jovial rather than in a serious mood. It would be casting a reflection on school trustees and municipal councillors that would be ill deserved to suggest that they, as a body, lack ability, but we do believe that in too many cases, because of the lack of interest taken by the ratepayer in school and municipal affairs, these men do not appreciate the responsibility that has been placed upon them and the affairs of the municipality have, therefore, necessarily been conducted in a slack manner. We insist that if men were elected to these positions because of their qualifications rather than their popularity, and if each ratepayer was keenly alive to the municipal and school affairs and studied these matters, that the administration of these petty public affairs would double and treble in efficiency. Moreover, they would reflect upon the administration of provincial and Dominion matters. It would be impossible for men to take an interest in local affairs without extending that interest to larger political matters.

Interest in public affairs is to-day altogether too spasmodic to be effective in keeping public administration efficient and honest. We become intensely interested in public affairs after some graft has been perpetrated or inefficiency shown and clamor loudly for honest and efficient government, and have forgotten entirely about the matter at the time when we had it in our power to act in securing efficient administration. Government, whether of the Dominion or in the school district, will be efficient or not just as each individual accepts his responsibility of citizenship. Just as he is ready to give his active support to efficient administration and his personal encouragement to the men giving that administration, and is ready not only to criticize but to actively work for the overthrow of inefficient administration will better government in either local or Dominion matters be secured.—"The Farmer's Advocate and Home Journal," Winnipeg, Man.

Nature's Diary.

A. B. Klugh, M.A.

At this season of the year Butterflies are commoner than at any other, and this group of insects, because of their varied and beautiful coloration attracts much attention. The eggs of Butterflies consist of a membranous shell containing a soft mass which consists of the germ of the future caterpillar and the food which is necessary for its maintenance and development until it leaves the egg.

The eggs vary a great deal in shape, some being spherical, others conical, hemispherical-turban-shaped, barrel-shaped or cylindrical. The surface of the egg is often ornamented with various patterns, formed of raised, or depressed, dots or lines. They also are of many different colors—blue, red brown and yellow, though green and greenish-white are the commonest colors. The eggs of closely-related species usually resemble one another in form and coloring. The eggs are sometimes deposited singly, sometimes in small clusters or in a mass. But whatever their shape, size, color or mode of deposition they are always laid on the food-plant upon which the caterpillar, after it is hatched, will feed. The Butterfly which lays the eggs does not feed upon the plant, in fact it has had nothing to do with it since it was itself a caterpillar, yet when the time for egg-deposition comes it goes unflinchingly to the right plant. We call this an instinct, and we define instinct as inherited memory, which really re-states the case but does not explain it. At present the instincts of insects are one of the most interesting, but one of the most baffling problems in natural science, but perhaps when the

study of animal psychology becomes more developed we may find an explanation for instincts.

The second stage in the development of a Butterfly is the larva, or as it is usually called in this group, the caterpillar. The body of the caterpillar is made up of thirteen rings. The first ring is the head, which is provided with mouth parts—mandibles, etc.—antennae ("feelers") and a series of simple eyes known as ocelli. In many species the under-lip is provided with a projection—the spinneret—through which the silk secreted by the caterpillar is passed. The next three rings of the body constitute the thorax, and each segment bears a pair of legs. These three pairs of legs in the caterpillar are known as the fore-legs, and correspond to the legs which are present in the adult insect. The next nine rings make up the abdomen, and in many species we find a pair of legs on the sixth, seventh, eighth and ninth segments and a pair on the last segment. These legs are termed the pro-legs, and do not correspond with any such organs in the adult insect.

During the process of growth and development the caterpillar moults at regular intervals, there being in most species four or five moults. The duration of the larval stage varies a great deal in different species. Most of our species exist as caterpillars for from two to three months, though in the case of those species which hibernate in the larval state, ten months is spent as a caterpillar.

The next stage in development is the pupa or chrysalis, which is a resting period during which the change to the mature insect takes place. As in the case of the larval stage the length of time passed as a chrysalis varies widely in different species; lasting in some only a few weeks, while in others the winter is passed in that condition. When the insect within the pupa case is mature the case splits and the insect emerges. When freshly emerged the Butterfly has a long abdomen and short, soft wings. It hangs quietly for some little time, then fans its wings so that the body fluids, which at first are largely in the thorax, are sent into the wings and other parts. Soon the wings harden, the abdomen shortens up and the insect flies away a perfect Butterfly.

The adult Butterfly feeds on the nectar of flowers, which it sucks up through the proboscis. This proboscis is formed of two semi-cylindrical tubes interlocked so as to form a complete tube, and when not in use is coiled up like a watch-spring. At the upper end of the proboscis is a bulb to the walls of which muscles are attached, the other end of the muscles being attached to the inside of the head. When these muscles contract the cavity of the bulb is enlarged, a vacuum is produced, and the nectar from the nectary of the flower flows up the proboscis and into the bulb. The bulb is also surrounded by muscles which when contracted compress it. The external opening of the tube has a valve, which when the bulb is compressed, closes and causes the nectar to flow backward into the gullet and thence to the stomach.

The framework of the wings of a Butterfly consist of double tubes, the inner tube containing air, the outer tube, blood, which is, as in most insects, colorless. This framework supports a broad membrane, which is covered with minute scales. So small are these scales that to the naked eye they appear as dust, but when examined under the microscope they are very beautiful objects and are seen to be arranged on the membrane like shingles on a roof.

THE HORSE.

Work the Stallion.

We have always believed that from a breeding viewpoint it pays to work the stallion. A few days ago we saw a horse in Northwestern Manitoba which more than ever convinced us that the contention is entirely correct, and can be borne out by actual experience. This young Clydesdale horse was taking his place day in and day out in a four-horse team on a breaking plow. He had helped to do the seeding, and last year and the year before he did his share of the work on a large farm. He has never done what would be called a heavy season at the stud, but each year he gets several mares and their owners are all delighted with the foals. We talked with one of these men, who, up to the time this horse came into the neighborhood, had not been able to raise a single colt. He had been breeding to over-fat, petted and pampered horses whose colts, when they did get a mare with foal, invariably showed weakness, and in his case all succumbed. He had almost given up hope of being able to raise colts when his neighbor brought in the horse in question. He tried again, and to his surprise was rewarded with a living foal dropped while he slept and smart and rugged from the start. The mare was returned, and this year results were again all that could be desired. This man has new faith in horse breeding, and he is sure that it pays to work the stallion. His

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