



## Puffed Wheat

## More Bubble Grains Millions of dishes coming

Direct from the harvest fields we get the choicest wheat that grows. Then we seal the grains in guns, apply a fearful heat and explode them. They come out as bubble grains, flimsy and flaky—puffed to eight times normal size. Yet the grains remain shaped as they grew.

Every night of the coming year millions of children will enjoy this Puffed Wheat in their bowls of milk.

### Two grains now exploded

Two grains are now puffed by Prof. Anderson's process, and each has its own delights.

Puffed Wheat and Puffed Rice are whole grains puffed to eight times normal size.

Both are thin and airy—with exquisite flavor. And every food cell is blasted, for easy, complete digestion.

Serve both of them in all the ways you can, for no other form of grain food can compare with these.



**Morning delights**  
The finest cereal dainties ever served with cream and sugar.

**Blend with berries**  
They add what flaky crust adds to a shortcake or to pie.

**Puffed Wheat      Puffed Rice**  
**Whole Grains Puffed to Bubbles**  
**8 Times Normal Size**



### Between-meal confections

Crisp and lightly douse with melted butter for hungry children after school. Let them eat the grain bubbles like peanuts or popcorn. Puffed Grains do not tax digestion.

**The Quaker Oats Company**

Sole Makers  
Peterborough, Canada      Saskatoon, Canada

3468

## Our School Department.

### Insect Studies.

THE POTATO BEETLE—THE HOUSE FLY—  
THE HESSIAN FLY.

BY GEO. W. HOFFERD, M. A.

The summer vacation is over. School has opened. Many interesting groups of boys and girls have gathered to greet the new teachers with a smile, mingled with an expression of wonderment. Other groups, with joyous hearts, greet their good friend, the teacher, who has returned with renewed vigor and sympathy. The spirit of co-operation is mutual. The work in agriculture begins as a vital part of the school program.

The study of a few insect pests during this month is most profitable. The boys and girls have been observing some of the habits of these during their vacation days. Indeed, most of them have been assisting in the destruction of the house fly and the potato beetle. And not a little have they heard, in some districts, about the injury the Hessian fly did to the wheat crop this year. Perhaps the interested teacher will find that these young agriculturists learned just enough about insect pests to want to learn more.

#### HINTS ON PROCEDURE.

A. As a preliminary give the pupils a little exercise for seat work, or, better still, as home work, such as:

1. Make a list of five or six insects which fly or crawl about and attack man or his garden and field crops. Mark each in the list with a cross, which you have seen doing harm.

2. Describe the harm each of these insects were doing.

3. What have you seen done to protect man and plants from these greedy feeders?

A little exercise like this will likely come to the ears of the parents in some cases, and arouse a little interest and co-operation. The first lesson in the class can now be a recitation, or report, and discussion of the little home exercise.

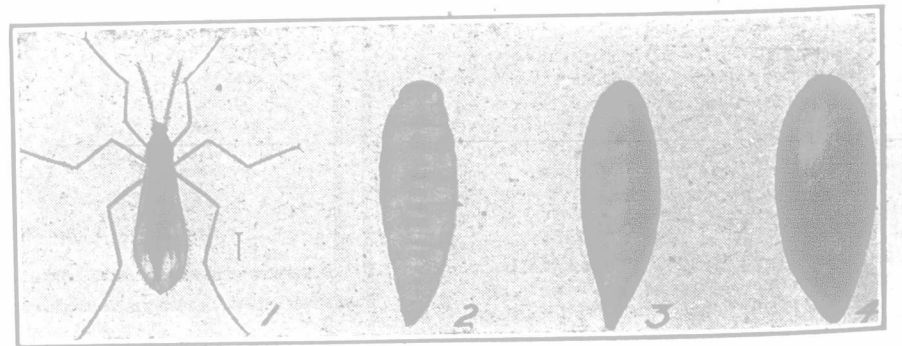
Now the class is ready to appreciate a general study of life histories. To this end secure a few green stalks of potatoes bearing the egg, larva, and

these insects? Discuss what would happen if their numbers were not kept down. The common remedies for the potato beetle are Paris green or arsenate of lead combined with Bordeaux mixture. How is this put on? How many times have you sprayed your potatoes this year? Spraying should be done as soon as any larvæ are hatched, then again in three or four weeks, and then again at intervals of a fortnight if necessary. This persistence will keep down the third, or September brood, which can now be found flying and crawling about in search for winter quarters.

Pupils will be interested in describing home devices used for keeping down the number of flies. Whatever you do see to it that the class-room does not become filled with flies. Carelessness about school lunches attracts them, and too often open doors and unscreened windows bid them welcome. What a shame to have pupils brushing away flies all day long, and to have these pests clean their dirty, germ-covered legs and feet on lunches as they are being eaten. See that this does not happen in your school during these weeks. This is practical hygiene.

B. Make a special effort to give at least one clean-cut lesson on the *Hessian Fly*. In the Farm Department of this issue, and in that of August 12, you can find some valuable information regarding this serious insect pest. Having studied two or more such common insects as the potato beetle and the house fly, considerable can be taught about the life history, injuries and control of the Hessian fly. The seriousness of this pest should make it a live topic in rural communities. Teaching about it in school will stimulate interest.

The accompanying figure shows the life history stages enlarged. To get specimens of these stages for the lesson would be ideal, but nigh impossible in most cases. If you searched wheat stems beneath the leaf at the lowest joint of fallen stems until you found little brown cases which look much like flax seeds, then you have seen the pupa or resting stage of this insect. You may yet be able to find a few in wheat stubble. During these early September days the flax-seed-like pupæ are changing into dusky little slender two-winged flies which resemble a mosquito, but only about one-quarter as large.



**The Hessian Fly.**

1, adult; 2, mature larva; 3, pupa or "flaxseed"; 4, seed of cultivated flax.

adult stages of the potato beetle. The third brood comes out in September, so it is usually not very difficult to get the three stages. Have a good picture diagram of the stages in the life history of the house fly and study the life history of these two insects by comparison. Their likenesses and differences in detail will not appeal much to the young pupil but his eye should show a sign of interest when it has been made clear to him that, both these pests have a similar life history, viz. the egg, the larva, the pupa, and the adult stages.

Which stage of the potato beetle does the most harm to the plant? What can the adults do which the larvæ cannot? Which stage of the house fly does the most harm? How does it do harm.

Observant and well-taught pupils should be able to answer such review questions during this lesson.

Extermination.—Is it necessary for us to plan ways and means of destroying

#### LESSON OUTLINE.

1. Have a brief discussion on the Hessian fly outbreak in spring and winter wheat crops this year.
2. Tell the story of its introduction and spread in North America. Use a map.
3. Its lifecycle, egg, larva or maggot, pupa or "flaxseed," and adult stages. Two broods, a spring and a summer.
4. How it spreads.
5. Methods of control. Take up those easiest understood, and any which are practiced in the locality.

C. Follow these lessons by suitable note-book exercises. They should be simple truth-telling descriptions, and be a fair record of the chief points stressed in the teaching. Be definite in your directing; aid in spelling by good use of the black-board when teaching; insist on good penmanship; rarely ever dictate notes.