

# Battle Man Must Fight With Insects



PROGENY OF ONE PAIR OF POTATO BUGS COMPARED TO MAN OF AVERAGE HEIGHT

The foremost scientists of the world have been agreed for the last decade that the crucial struggle of humanity will not be that of nations warring for territory which each envies the other, but will be a colossal battle to keep from being driven off the earth itself. And in this battle it will be mankind against bugs!

By its fecundity, its enormous comparative strength—sometimes equivalent to that of a horse, 1,000-horsepower—and in its inextinguishable passion and concentrated will to live and its enormous adaptability the insect kingdom makes the human race appear incredibly inefficient.

Civilization has for the last twenty years and more been steadily overturning the balance of nature, which has kept the insect kingdom down and the scientists throughout the world have recognized. Within that time what amounts to a world-wide organization has been formed to find and make known to all who care the best ways to cope with the fast-growing swarms which menace humanity. It is recognized that only by a tireless, long and costly and dangerous struggle will man be able to retain his dominance and freedom to develop his world.

The latest warning of this peril to humanity has been sounded in a most remarkable fashion by Prof. C. A. Eland, one of the foremost entomologists of the world and the late principal of the East Anglian college of agriculture of England. Professor Eland begins his remarkable work, which he calls "Insects and Man," with the following statement:

"It is fortunate for man that the insect world is a house divided against itself. Except for this check the human race would be extinct in five or six years."

The fecundity of many insects is enormous. Huxley estimated that, mishaps apart, a single green fly would in ten generations produce a mass of organic matter equivalent to 500,000,000 human beings, or as many as the whole population of the Chinese empire!

From the earliest times man has suffered from insect damage to his crops, his live stock and himself. Locust plagues rivaling those of Egypt have come to man from time to time.

The United States suffers damage annually to the extent of \$40,000,000 owing to the depredations of the Hessian fly; the cotton boll weevil causes an annual loss of \$20,000,000; the codling moth \$15,000,000; and the chinch bug \$7,000,000. Add to this the damage done by sprays and broadleaf agents and the San Jose scale, to say nothing of the host of minor pests, and the total assumes alarming proportions.

The struggle for supremacy between insects and man is a very real one the world over. But only by ceaseless struggle can man keep his dominance. In his fight against insects and bugs he has waged against him an incredible feud and power of destruction.

The majority of people—unscientific people, that is—says Professor Eland, think that the locusts and the most destructive insect. This is partly because of the Biblical plague having been fixed in their minds. The locusts have done more damage in South Africa and hindered agricultural progress there more than anywhere else in the world. In one winter alone the locust damage in South Africa was estimated at \$5,000,000.

To cope with the insects the government has established a central bureau for watching them. Flights can be predicted and measures taken to minimize them.

In the latter half of 1912 locust swarms did \$10,000,000 damage in our island of Visaya, in the Philippines.

While the locust is the profit of the cotton weevil beats him. Professor Eland estimates that one weevil laying her 139 eggs by June 10 would probably bring half that number—say 75—to maturity by June 29. There are at least four generations in a season, and the second generation would number 2,450; the third 35,750; the fourth 5,362,500; and the fifth 804,375,000 individuals as the progeny of a single pair of weevils and their progeny in a season. That is to say, one weevil for every square foot of area in a 75-acre field. As over 50 per cent are destroyed by natural conditions, it is doubtful if the actual increase in one season from a single pair ever exceeds 3,000,000. Alternating figures in all sciences, explains the entomologist.

This is only one of a vast number of insects that man has to fight against.

By its fecundity, its enormous comparative strength—sometimes equivalent to that of a horse, 1,000-horsepower—and in its inextinguishable passion and concentrated will to live and its enormous adaptability the insect kingdom makes the human race appear incredibly inefficient.

Civilization has for the last twenty years and more been steadily overturning the balance of nature, which has kept the insect kingdom down and the scientists throughout the world have recognized. Within that time what amounts to a world-wide organization has been formed to find and make known to all who care the best ways to cope with the fast-growing swarms which menace humanity. It is recognized that only by a tireless, long and costly and dangerous struggle will man be able to retain his dominance and freedom to develop his world.

The latest warning of this peril to humanity has been sounded in a most remarkable fashion by Prof. C. A. Eland, one of the foremost entomologists of the world and the late principal of the East Anglian college of agriculture of England. Professor Eland begins his remarkable work, which he calls "Insects and Man," with the following statement:

"It is fortunate for man that the insect world is a house divided against itself. Except for this check the human race would be extinct in five or six years."

The fecundity of many insects is enormous. Huxley estimated that, mishaps apart, a single green fly would in ten generations produce a mass of organic matter equivalent to 500,000,000 human beings, or as many as the whole population of the Chinese empire!

From the earliest times man has suffered from insect damage to his crops, his live stock and himself. Locust plagues rivaling those of Egypt have come to man from time to time.

The United States suffers damage annually to the extent of \$40,000,000 owing to the depredations of the Hessian fly; the cotton boll weevil causes an annual loss of \$20,000,000; the codling moth \$15,000,000; and the chinch bug \$7,000,000. Add to this the damage done by sprays and broadleaf agents and the San Jose scale, to say nothing of the host of minor pests, and the total assumes alarming proportions.

The struggle for supremacy between insects and man is a very real one the world over. But only by ceaseless struggle can man keep his dominance. In his fight against insects and bugs he has waged against him an incredible feud and power of destruction.

The majority of people—unscientific people, that is—says Professor Eland, think that the locusts and the most destructive insect. This is partly because of the Biblical plague having been fixed in their minds. The locusts have done more damage in South Africa and hindered agricultural progress there more than anywhere else in the world. In one winter alone the locust damage in South Africa was estimated at \$5,000,000.

To cope with the insects the government has established a central bureau for watching them. Flights can be predicted and measures taken to minimize them.

In the latter half of 1912 locust swarms did \$10,000,000 damage in our island of Visaya, in the Philippines.

While the locust is the profit of the cotton weevil beats him. Professor Eland estimates that one weevil laying her 139 eggs by June 10 would probably bring half that number—say 75—to maturity by June 29. There are at least four generations in a season, and the second generation would number 2,450; the third 35,750; the fourth 5,362,500; and the fifth 804,375,000 individuals as the progeny of a single pair of weevils and their progeny in a season. That is to say, one weevil for every square foot of area in a 75-acre field. As over 50 per cent are destroyed by natural conditions, it is doubtful if the actual increase in one season from a single pair ever exceeds 3,000,000. Alternating figures in all sciences, explains the entomologist.

This is only one of a vast number of insects that man has to fight against.

By its fecundity, its enormous comparative strength—sometimes equivalent to that of a horse, 1,000-horsepower—and in its inextinguishable passion and concentrated will to live and its enormous adaptability the insect kingdom makes the human race appear incredibly inefficient.

Civilization has for the last twenty years and more been steadily overturning the balance of nature, which has kept the insect kingdom down and the scientists throughout the world have recognized. Within that time what amounts to a world-wide organization has been formed to find and make known to all who care the best ways to cope with the fast-growing swarms which menace humanity. It is recognized that only by a tireless, long and costly and dangerous struggle will man be able to retain his dominance and freedom to develop his world.

The latest warning of this peril to humanity has been sounded in a most remarkable fashion by Prof. C. A. Eland, one of the foremost entomologists of the world and the late principal of the East Anglian college of agriculture of England. Professor Eland begins his remarkable work, which he calls "Insects and Man," with the following statement:

"It is fortunate for man that the insect world is a house divided against itself. Except for this check the human race would be extinct in five or six years."

The fecundity of many insects is enormous. Huxley estimated that, mishaps apart, a single green fly would in ten generations produce a mass of organic matter equivalent to 500,000,000 human beings, or as many as the whole population of the Chinese empire!

From the earliest times man has suffered from insect damage to his crops, his live stock and himself. Locust plagues rivaling those of Egypt have come to man from time to time.

The United States suffers damage annually to the extent of \$40,000,000 owing to the depredations of the Hessian fly; the cotton boll weevil causes an annual loss of \$20,000,000; the codling moth \$15,000,000; and the chinch bug \$7,000,000. Add to this the damage done by sprays and broadleaf agents and the San Jose scale, to say nothing of the host of minor pests, and the total assumes alarming proportions.

The struggle for supremacy between insects and man is a very real one the world over. But only by ceaseless struggle can man keep his dominance. In his fight against insects and bugs he has waged against him an incredible feud and power of destruction.

The majority of people—unscientific people, that is—says Professor Eland, think that the locusts and the most destructive insect. This is partly because of the Biblical plague having been fixed in their minds. The locusts have done more damage in South Africa and hindered agricultural progress there more than anywhere else in the world. In one winter alone the locust damage in South Africa was estimated at \$5,000,000.

To cope with the insects the government has established a central bureau for watching them. Flights can be predicted and measures taken to minimize them.

In the latter half of 1912 locust swarms did \$10,000,000 damage in our island of Visaya, in the Philippines.

## GETTING A START

By  
NATHANIEL C. FOWLER, Jr.

(Copyright, 1915, by the McClure Newspaper Syndicate.)  
GUMPTION.

The passing generation will recall the days of the old red telephone— which, by the way, was seldom painted red—when academic education was primarily confined to two distinct institutions: the common school, which did not begin with a kindergarten, but plunged the pupil immediately into the 3 R's of learning; and the college, which confined itself to the classics.

In these days only a very small percentage of boys entered college, and there was no higher institution of learning open to girls than the seminary, with a curriculum similar to that of our present high school. The young man who desired to enter a technical trade or to perfect himself for any vocation, had to learn this business, trade or profession, "at the last," so to speak. Even the lawyer read law in a law office, and the dentist entered a dentist's office as an apprentice.

Today educational conditions have changed, and there are innumerable technical schools as well as those teaching some one concrete profession.

The young man, then, may learn his trade either in the old way, by entering it, or by attending some institution specializing in the vocation which he is to follow.

Which is the better way?

Both, I say.

If one is to take up a technical trade requiring a scientific or other special knowledge, he would better spend a few years in some institution which teaches one this vocation, or those allied to it, and then finish his education in the workshop or the office of a concern devoted to it.

It is obvious that the factory or the office cannot as easily impart the fundamental principles of a vocation as can a well-equipped institution.

While at work the apprentice is obliged to do many things which are not directly contributing to his education. He obtains experience, it is true, but he is not allowed to have that broadness of view which would broaden his horizon.

The atmosphere of a schoolroom is conducive to efficiency. One has nothing else to think about; and, therefore, can devote his entire time to obtaining a better knowledge of the work he is to do for a living.

In recommending the technical schools, I am aware that many of them are altogether too theoretical or too broad instead of specific, but, for all that, the well-equipped technical school places before its pupils the great fundamental principles, which, if rightly understood and applied, are of untold benefit.

Certain lines, however, cannot be taught in school; but a fundamental knowledge of the majority of technical trades can be imparted in the schoolroom and laboratory.

Practically all of our best technical schools, including institutes of technology, are managed by experts, who, fortunately, are composite men, not only understanding science, but having the ability to impart its principles.

A graduate of one of these institutions, while he may begin close to the bottom of the ladder, and while he may work for a year or more alongside of the young man who has not been favored with his opportunities, will eventually, all things being equal, advance more rapidly than will the man who entered the trade as an apprentice without good technical school training.

While this school training does not wholly give the experiences of the workshop, it will teach the fundamental principles, and, secondly, how more easily to apply them.

### DEATH LAID TO BAD HABITS

Shortness of Life in the Human Race is Ascribed to Its Completed Lack of Wisdom.

Dietitians commenting on modern recklessness in eating, quote the philosopher of Seneca the Roman philosopher, "Man does not die, he kills himself." Originally made to live 1,000 years, man has fallen to an average of only one-third of a century.

It has taken 6,000 years, the authorities tell us, to develop a race that will live, by hook or by crook, as long as thirty-three years, which is given as the present-day average. The blame is placed upon our disregard of plain honesty in living.

We secure everything natural and surrender to artificial gratifications and indulgence that tend to ruin the natural health of the body. Our diet cannot be trusted to do the common-sense obvious thing.

It is pointed out that animals live longer on natural food than on man's mixture. A sick horse turned out to pasture will get better, and if fed on grain and other food prescribed by man he dies.

Gumption consists of common sense, rational reasoning, attention to details and persistent observation, that one may see more clearly and act more intelligently.

Gumption, like common sense, becomes a habit. To some extent it may be inherited, but the brand of gumption that is good for anything, that may be applied to the affairs of life, is largely acquired and comes to one because he makes an effort to get it.

Ask the successful business man what appears to be the matter with many of his employees, and he will say that the inefficient ones lack gumption. They are inattentive, unambitious, and, as a rule, fault-finding. They do not make an effort to see what nature has given them. They waste their time and their talents. They are indolent; they perform the duties prescribed, but avoid responsibility; they do not love their work, and they do what they have to do as automatically as machines. Few of them think intently, and most of them are not amenable to reason. They are always looking at the clock, seldom realizing that automatic action in itself does not stand for promotion, or for more than ordinary accomplishment.

Because they do not make strenuous effort, because they do not do their best, their ability, even though it may be great, is below par in every market. They begin as clerks, and remain clerks, seldom rising above subordinate positions, allowing others of no greater ability to supersede them.

It is obvious that ability is not distributed equitably—or at any rate does not appear to be—and some men are undoubtedly able to do things which others cannot accomplish; but it is nevertheless an indisputable fact that those who try and try hard, even though they may possess only ordinary capacity, outpace those of greater ability who plod along dissatisfied with everything save themselves.

The man with gumption thinks while he works. He makes an effort, he makes his mind to do the same thing better next time. He is faithful, but more than that—he is energetic and looks upon his capacity, whether it be great or small, as a commercial asset, to be used as any other commodity.

Every man is a statesman of himself. Unless he considers his ability a marketable commodity, as he would a sack of flour or a keg of molasses, to be sold or stored, he is not likely to rise above a mediocre state, but probably will remain at the bottom, or near to it, a plodder, not a pacer.

Get gumption.

You can have gumption if you will; perhaps not as much of it as can be obtained by greater ability, but enough of it to lift you beyond the ordinary and place you in the thing class, even though you have a master. It is for you, not the man for whom you work, to say whether you will stay down or go up.

Medical Man Has Placed Them in a Class That Might Be Called Hypocrites.

Don't use the word "rheumatism," for it means nothing. The same may be said of "neurosis." According to Dr. Louis Casamajor, chief of the Vanderbilt Clinic and instructor in neurology at Columbia university, in an address at Bloomingdale hospital, New York, "rheumatism" is a term which has been spread, in popular and indeed in medical use, in such a thin layer of truth as to make a large number of conditions that it has ceased longer to have a diagnostic significance, and conveys now no more real meaning than does the original word "pain" for which it is substituted. The same may be said of "neuritis," merely another way of saying pain—an explanation which explains nothing, and when combined with the foregoing in "rheumatic neuritis" we have a term of scientific inaccuracy to satisfy the most fastidious neurotic.

Doctor Casamajor went on to assert a critical study of a neurotic person's talk "quickly reveals the fact that it is a wealth of details with no point . . . for if he should get the point he would cease to be a neurotic. Possibly he might be something worse." Doctor Casamajor calls neurosis an asset. "Every neurotic has something to gain by being a neurotic, and he ceases to be so when this element of gain disappears. At any rate, he has discovered an excuse for leading a more or less easy life, surrounded by the sympathy which civilized people feel is due the sick."

A Friend Indeed.

"Did I understand you to say that Professor Gaspiet is a scientist?"

"I don't know whether you would call him a scientist or a philanthropist. At any rate, he has discovered a face preparation that is guaranteed to make a woman look ten years younger."

## MRS. THOMSON TELLS WOMEN

How She Was Helped During Change of Life by Lydia E. Pinkham's Vegetable Compound.

Philadelphia, Pa.—"I am just 62 years of age and during Change of Life I suffered for six years terribly. I tried several doctors but none seemed to give me any relief. Every month I was more intense in both sides, and made me so weak that I had to go to bed. At last a friend recommended Lydia E. Pinkham's Vegetable Compound to me and I tried it at once and found much relief. After that I had no pains at all and could do my housework and shopping the same as always. For years I have praised Lydia E. Pinkham's Vegetable Compound for what it has done for me, and shall always recommend it as a woman's friend. You are at liberty to use my letter in any way."—Mrs. Thomson, 649 W. Russell St., Philadelphia, Pa.



Change of Life is one of the most critical periods of a woman's existence. Women everywhere who remember that there is no other remedy known to carry women so successfully through this trying period as Lydia E. Pinkham's Vegetable Compound.

If you want special advice write to Lydia E. Pinkham, Medicine Co., (confidential), Lynn, Mass. Your letter will be opened, read and answered by a woman and held in strict confidence.

The Kind.  
"He was a regular furnace of wrath."  
"Yes—a hot-air furnace."

THICK LOVELY HAIR  
Because Free From Dandruff, Itching, Irritation and Dryness.

May be brought about by shampoos with Cuticura Soap, preceded by touches of Cuticura Ointment to spots of dandruff, itching and irritation. A clean, healthy scalp means good hair. Try these supereminent emollients if you have dandruff or scalp trouble. A sample can be sent by mail with Book. Address postcard, Cuticura, Dept. XY, Boston. Sold everywhere.—Adv.

Give the booster a chance to make good and watch him fade away.

Every woman's great, beautiful, clear white clothes. Use Red Cross Ball Blue. Adv.

It belongs only to the guilty to tremble.

It Never Came Back

Badness Suffer! Thousands will tell you what wonderful relief they have had from Doan's Kidney Pills. They are really good, but having care. If you are lame in the morning, have headache, nervous troubles, dizziness and irregular kidney or bladder action, don't wait until you are gray, drop of Doan's Kidney Pills. The best recommended kidney medicine.

A Michigan Case

Miss Little Watson, Prospect St., Boston, says: "I was a great sufferer from kidney trouble, having my kidneys, through my kidneys, other annoying symptoms of kidney trouble. I had three boxes of Doan's Kidney Pills. Three boxes of Doan's Kidney Pills removed the ache from my back and corrected the urine. I am glad to say that the benefit has been permanent."

Get Doan's at Any Store, 50c a Box  
DOAN'S KIDNEY PILLS  
POSTER-MILBURN CO., BUFFALO, N. Y.

Your Liver Is Clogged Up

These Why You're Tired—Out of Sorts Have No Appetite

CARTER'S LITTLE LIVER PILLS will put you right in a few days. They do their duty. They are a term of scientific inaccuracy to satisfy the most fastidious neurotic.

Doctor Casamajor went on to assert a critical study of a neurotic person's talk "quickly reveals the fact that it is a wealth of details with no point . . . for if he should get the point he would cease to be a neurotic. Possibly he might be something worse." Doctor Casamajor calls neurosis an asset. "Every neurotic has something to gain by being a neurotic, and he ceases to be so when this element of gain disappears. At any rate, he has discovered an excuse for leading a more or less easy life, surrounded by the sympathy which civilized people feel is due the sick."

DOAN'S KIDNEY PILLS  
POSTER-MILBURN CO., BUFFALO, N. Y.

MOORE'S Emerald Oil

THE FAMOUS AND UNEXCELLED ANTISEPTIC AND GERMICIDE

For Varicose Veins, Ulcers, Hemorrhoids (Piles), Eczema, Fungal Infections, Abscesses, Sores, etc., a few drops required at an application. So marvelously powerful is Emerald Oil that Eczema, Glands, Wens and Varicose disappear with its use. Price \$1.00 sent anywhere charges paid on receipt of price.

Generous sample on receipt of 10c from Moore Chemical Co., Dept. W., Rochester, N. Y.

### SNAPSHOTS

Next to a holiday Sunday is the longest day of the year.

Mrs. Tug Watts, who is taking on weight, should have a new pair of trousers. Her husband's are becoming entirely too small for her.

Every advertisement seems to think its remedy for eczema the best one. Red Cloud is dead. But, inasmuch as Red Cloud hadn't rained a drop for 40 years, his demise is of interest only to the bereaved relatives.

A former society whale of this city has been landed by a girl who was fishing for sun perch. As has often been pointed out, it all depends on the bait.

Dr. Wiley says the surgeons who are bragging about the new anesthetic never heard his wife's preacher.

Removing Obsolete Screw. To remove an obsolete screw, apply a rubber foot to the head for a short time, the screwdriver being used immediately while the screw is hot.

Hard Things of Life. Hard things that come our way are not hard when we do them. They are hard only when we don't do them or when we do them imperfectly. Duty when it is done properly is not hard, it is only not properly met—that is, when it is done without good-will, or when it is not done at all.

What's the Use? He—Do you know Poe's "Raven"? She—Why, no, what's the matter with him?—Club Fellow.