



**ANTI-GRASSHOPPER "FIELD PIECE"**

*Invented in Montana and made of an old Ford rear end and drive shaft, an empty oil drum, and some odds and ends of lumber and sheet metal from the farm junk heap is this very effective poison-bait spreader.*

ENTOMOLOGY

## Worst Grasshopper Plague in Years Forecast for Summer

**Since the Year the Sky Was Darkened for Kansas Pioneers, Prospects Have Never Been so Gloomy**

**G**RASSHOPPERS to rival the locust plague of Egypt menace the crops and rangelands of the United States. Unless spring brings persistent, cold rains when the young insects emerge from the eggs now in the ground, 1937 will go down in history as the worst grasshopper year since the sky-darkened days of the Kansas pioneers—maybe even worse. Such is the warning of scientists in the U. S. Department of Agriculture.

They are in position to prophesy this creeping, flying, devouring doom because they have been making a careful survey of the overwintering eggs now in the ground. Never in this century have there been so many—and the winter weather has done them practically no harm. They are ready to hatch as soon as the ground is thoroughly warm.

The prospective empire of the grasshopper covers practically all of the Prairie and Plains regions, and extends into the intermountain areas of Utah and Arizona. Heavy infestations are reported from the foothills of the Rockies in Montana, Wyoming, and Colorado, eastward to central Illinois. The situation in western, central and southern Iowa is reported as especially menacing. There is an isolated region of severe infestation in the northern part of Michigan's lower peninsula.

Federal and state scientists know how to combat the pest, and farmers have learned to serve as shock troops with the poisoned bran bait which government funds have supplied. A bill to provide a war chest for this year's campaign against the insects is now pending in Congress. If the grasshopper plague develops to its full anticipated

strength, 84,000 tons (twice a modern battleship's displacement) of poisoned bran will be required for effective control.

### Poison Bait Effective

Bran bait is made by mixing coarse bran with an arsenic compound, usually sodium arsenite. Molasses was formerly added, but is now usually omitted. It has been found that sawdust can be substituted for part of the bran—the 'hoppers apparently do not notice that they are being cheated.

The prepared bait is spread thinly over the areas where the young grasshoppers, their wings still ungrown, are crawling. It is sown by hand or with a broadcast sowing machine. An ingenious homemade piece of anti-grasshopper artillery was built by a Montana farmer, and has been copied by several thousand others. It consists of the rear end of an old Ford, with the drive shaft still in place. The shaft is raised up vertically and a light circular tray with radial slats atop is fixed to it. As the wheels are drawn along, the tray whirls round. Bran bait is poured onto the tray from an old oil drum, and thus flung out in a wide swath.

Grasshoppers threaten not only sown crops like corn and the small grains, but also the range plants of the West. Their uncountable billions devour vast quantities of provender that would otherwise become beef or mutton. The rangeland grasshopper problem is aggravated, too, by the fact that some thirty species are involved, whereas the principal mischief done by grasshoppers in the grain-raising areas is the work of less than half a dozen species of the insects.

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GEOLOGY

### Violet-Headed, Red-Tailed Meteor Seen From Ship

**A** METEOR that should be fairly entitled to rate as "extra fancy" is reported in the *Hydrographic Bulletin* of the U. S. Navy, by Third Officer Lagrange of the French steamer *Marigot*.

The fiery visitor had a brilliantly violet head, he reports, about the apparent diameter of the full moon. Its tail "appeared to consist of a powder containing thousands of reddish sparks."

The meteor was observed during a voyage from Rouen, France, to St. Thomas, Virgin Islands.

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