

ENTOMOLOGY

Control Cattle Grub

► THE CATTLE GRUB, which costs the livestock industry an estimated \$100,000,000 annually, can now be kept from developing inside its victims, the U. S. Department of Agriculture has announced.

An organic phosphate chemical fed to the animals kills any grubs in their flesh.

The new preventive technique is still in the experimental stage, but it was hailed by Department of Agriculture scientists as a major step toward development of a grub control chemical that can effectively be used by livestock owners.

Scientists do not yet know whether the chemical, called Dow ET-57, is poisonous to cattle or whether it leaves harmful chemicals in milk or meat. The chemical name of Dow ET-57 is O,O-dimethyl-O-2,4,5-trichlorophenyl phosphorothic acid.

The grub is one of the most damaging pests that attack United States cattle. Besides spoiling the meat of infected animals, the tiny worms irritate their victims, sometimes making them stumble into ditches and water holes. Infected beef cattle frequently do not put on weight normally, and cows fail to yield milk. The animals' hides are damaged by small holes made when the grubs emerge.

The worms live as parasites within their victims. After about seven months they emerge through the hide on the animals' backs, drop to the ground and, a short time later, become heel flies. The heel flies fasten their eggs to the hair of the cattle. The eggs hatch into tiny grub worms that penetrate the hide and enter the flesh of the animals, starting the entire process again.

The grub is now controlled by an insecticide, rotenone, which does not kill the pest until after it has emerged. This helps prevent future infestations but is not a cure.

The research on the cattle grub was carried out by Agriculture entomologists G. W. Eddy, A. R. Roth, W. S. McGregor, and Drs. R. C. Bushland and R. D. Radeleff.

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Science Fair Winners

(Continued from p. 326)

E. Dunn, 17, Central Senior High School, Oklahoma City, Okla.; Leland N. Edmunds, Jr., 17, Newport News (Va.) High School; Marvin J. Feldman, 17, Soldan High School, St. Louis, Mo.; Robert Huth Gaither, 18, Northwestern Senior High School, Hyattsville, Md.; Stanley S. Goldberg, 17, Henry Grady High School, Atlanta, Ga.; Charles Augustus Gray, 17, Woodrow Wilson High School, Washington, D. C.; John Laurent Hodge, 16, Sumner High School, Kansas City, Kans.; (Miss) Segail Jordan Irwin, 17, Ensley High School, Birmingham, Ala.; Robert F. Jennings, 15, Roosevelt High School, Yonkers, N. Y.; Leona Jane Kananen, 16, Negaunee (Mich.) High School; Peter Titcomb Knight, 15, University School, Shaker Heights, Ohio; Donald Wayne Linzey, 16, Baltimore (Md.) City College (a secondary school); Michel Allan Lynch, 16, Northwest Classen High School, Oklahoma City, Okla.; Margaret Patricia Maerten, 17, Norte Del Rio High School, North Sacramento, Calif.; Anne Maino, 15, Thomas Downey High School, Modesto, Calif.; Jack Maniloff, 17, Forest Park High School, Baltimore, Md.; Barry Arnold Maxwell, 16, Winter Haven (Fla.) High School; Katherine Claire Moseley, 16, West Point (Miss.) High School; Yvonne Nasser, 18, Huntington (W. Va.) Central High School; Neil Logan Nininger, 16, Tamalpais High School, Mill Valley, Calif.; Neal S. Perry, 15, Sacramento (Calif.) Senior High School; John Douglas Reichert, 17, Stephen F. Austin High School, Austin, Texas; Roy Glyen Roberts, 17, Chatham (La.) High School; Winston A. Salsler, 17, Wichita (Kans.) High School East; Hubert M. Schmitter, 18, Delphi (Ind.) High School; (Miss) Alwynelle Parker Self, 15, Byrd High School, Shreveport, La.; (Miss) Corrie Evon Simmons, 17, Mabel C. Williams High School, Germantown, Tenn.; Christopher Speeth, 17, West High School, Cleveland, Ohio; Joel Sturman, 17, Brooklyn (N. Y.) Technical High School; Larry Clinton Thomas, 16, Ponca City (Okla.) High School; Stella Elizabeth Thompson, 18, Radford (Va.) High School; Louise M. Veltman, 16, Hackettstown (N. J.) High School; John Heinz Venable, Jr., 17, Northside High School, Atlanta, Ga.; Robley Cook Williams, Jr., 15, El Cerrito (Calif.) High School; George G. Zipfel, Jr., 17, H. B. Plant Senior High School, Tampa, Fla.

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Questions

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CARDIOLOGY—How many diseases can affect the heart? p. 328.

ENGINEERING—How do wide shoulders affect the number of automobile accidents? p. 332.

MEDICINE—What bandages have proved effective in saving lives of badly burned children? p. 329.

METEOROLOGY—Where are pressure jumps often found? p. 325.

VETERINARY MEDICINE—How does farm spring clean-up threaten livestock? p. 325.

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