ing or when two "safe" compounds are applied to one crop or what happens biologically when a cow eats sprayed forage crops.

A good example of the care taken to protect against pesticide poisoning is the minimum tolerance set for milk: zero.

If there is the remotest possibility that a compound could injure human beings, no trace of it is permitted in milk. Recently a zero tolerance was set for methoxychlore and malathion. The establishment of the "no residue" ruling for milk for these widely used compounds focuses attention on a relatively new kind of 'cide: "natural" killers.

Natural Safe 'Cides

Pyrethrum is perhaps the best known of the botanical insecticides which leave no residue. A plant product, it has been approved for uses where other compounds cannot be used because of the residue danger.

Biological warfare against insects, while still in its infancy, is expected to eliminate effectively specific insects without doing other harm.

Scientists working on this problem have found viruses and other disease-causing organisms such as nematodes that are specific for particular insects. Treatment of crops or protection against insect invasion by means of biological controls is also inexpensive. It costs only a few cents to spray a field or a forest with a water solution containing an insect virus. Already, effective control of some diseases affecting forest trees has been brought about through biological controls.

For the foreseeable future, however, chemistry will continue to provide the compounds that have helped assure a growing food supply, protection against some diseases, and leafy forests.

Science News Letter, July 19, 1958

ZOOLOGY

700-Legged Millipede Discovered in Panama

➤ A MILLIPEDE that comes close to really being a "thousand-legs" has been discovered living in a Panama valley.

A grand total of 700 legs keep the animal's wormlike body in action. Its body consists of 175 segments, strung one after the other, each with four legs. Each set of legs can act more or less independently of the others.

H. F. Loomis of Miami, Fla., an expert on millipedes, discovered the new species while investigating this class of invertebrates at Barro Colorado Island, the Smithsonian Institution's tropical-life preserve in the Panama Canal Zone.

He also found more specimens of a new family of millipedes, one with only 20 segments and 80 legs, that are capable of rolling themselves into very tight and very small balls.

Millipedes, Mr. Loomis says, are different from centipedes in many ways other than their number of legs. While centipedes feed on small insects and lower forms of animal life, millipedes are vegetarians. Their favorite food is decaying vegetable matter and they are sometimes found living under rotting logs.

Even though the millipede is probably one of the least aggressive animals, Mr. Loomis warns that some species are poisonous. There seems to be a poison gland in most segments of these millipedes. They are able to coordinate the glands' action, sending out a spray of a highly caustic substance. Mr. Loomis reports being temporarily blinded in one eye, and part of his face temporarily paralyzed, when he "got in the way" of this poison spray.

The newly discovered millipede has the second largest number of legs yet known. Some years ago, Mr. Loomis discovered an American species with 190 four-legged segments, more than 750 legs.

Science News Letter, July 19, 1958

MEDICINE

Alcoholics Classify Selves Into Different Types

➤ ALCOHOLICS classify themselves into two groups: the solitary or the sociable drinking alcoholic.

The solitary drinker recognizes himself as such and prefers complete solitude in which to engage in drinking.

The sociable drinking alcoholic, on the other hand, feels uncomfortable alone, both when sober or drunk, and will go to extremes to find at least one person to drink with him. He prefers, however, to do his drinking with a crowd of friends.

This is revealed by a study of 245 white male alcoholics made by Dr. Joan K. Jackson of the University of Washington School of Medicine and the Firland Sanatorium, Seattle.

The study also showed the following characteristics of alcoholics:

1. Sociable alcoholics had been heavy drinkers for a median of 17.5 years, while the median for solitary alcoholics was only 15.3 years.

2. The solitary alcoholic experienced anxiety about having enough to drink, gulping drinks and needing more alcohol to get the same effect, more frequently than the sociable alcoholic. The solitary alcoholics seem more anxious about morning drinking and protecting the supply of alcohol than do the sociable alcoholics.

3. The solitary exceeded the sociable alcoholics in justifying their neglect of family responsibilities, feeling that others should show them more consideration and suspecting that others felt pity or contempt for them.

4. More solitary than sociable alcoholics came from the middle class. The pattern of all-male drinking in bars tends to be most characteristic of lower class groups. The middle class emphasis on respectability, self-control and achievement may influence the solitary alcoholic to withdraw from social participation when drinking.

The common belief that periodic alcoholics will eventually become steady alcoholics was not substantiated by this study, Dr. Jackson reports in the *Quarterly Journal of Studies on Alcohol* (June).

Science News Letter, July 19, 1958

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