



Greensmen who attended the Rutgers University (New Brunswick, N. J.) 13th annual one-week course in turf management, held Feb. 17-21, are shown above. F. G. Helyar was chairman of the conference.

these materials consist in spraying or sprinkling a comparatively concentrated solution over a designated measured area and then washing the material into the ground with a liberal watering. One pint of pyrethrum extract containing $1\frac{1}{2}$ to 2% pyrethrum diluted sufficiently to permit its being sprayed or sprinkled over 1,000 sq. ft; 1 lb. calcium cyanide dissolved in 50 gal. of water and sprayed or sprinkled over 1,000 sq. ft. and then watered in is the usual way of applying these materials. Carbon disulphide emulsions can be best applied by using a proportioner.

One of the things to be considered in dealing with webworms is the possibility of confusing cutworms and webworms. This is easily done unless one is fairly observing. Again it may be noted that the state experiment station entomologist in every state is always glad to determine insects, and what seems to be sometimes a highly technical question for a greenkeeper is merely the matter of a glance to one trained in such matters.

Generally speaking, cutworms are smooth, heavy-bodied, and anywhere from one-half to two inches in length and rather slow moving. On the other hand, webworms are slim, and show pronounced tubercles or knobs on the different segments of the body, and the length seldom exceeds one inch. Webworms are very active. Cutworms can be readily controlled through the use of poison bran bait applied in the evening because the insects feed at night, the cost not to exceed 50 cents per green, whereas the matter of controlling sod webworm is, as has already been pointed out, a matter requiring the application of expensive materials.

When indications lead to the belief that

webworms or cutworms are working in the greens it is a good idea to mix up about a tablespoonful of any of the better known pyrethrum extracts in 10 qts. of water and pour it upon a suspected spot on the green. Any webworms or cutworms present will immediately pop out on the surface and can be examined.

Poison bran bait consists of bran, molasses, white arsenic, paris green and water. The material is mixed as follows: the white arsenic or paris green, and molasses are added to a gallon or a gallon and a half of water and poured upon the bran and thoroughly mixed together. This can be done on a garage floor or some other surface which can be thoroughly scrubbed afterwards, inasmuch as the material is quite poisonous. After the initial mixing more water should be added and mixed with the bran and arsenic until it forms nicely but will not drip water when squeezed. Some brans require more water than others because they contain more flour.

The wet bait is scattered in the evenings upon the greens, or other affected area where cutworm control is desired. The formula given will make approximately 50 pounds of wet bait which is sufficient for an acre of land; or, depending upon their size, from four to seven greens. The material should be broadcast late in the evening inasmuch as the insects come upon the surface at night to feed, and if the operation is carried on according to the directions and the bait spread at the rate indicated it should not be noticeable after the greens are clipped once. As a usual thing, if there is a population of cutworms present sufficient to warrant the use of the poison bran bait, there will not be enough left to be noticeable the next day whether the green