not be confused with the nodules of nitrogen-fixing bacteria which grow on the roots of legumes and a few other plants. Nodules are usually smaller and on any given plant are approximately uniform in size and shape. They are attached loosely to the root and may be pulled off easily. The galls of root-knot-infected plants, on the other hand, are swellings in the root itself and vary greatly in size and shape.

Severely affected plants soon turn yellow, cease growing and die prematurely. Those less severely affected, may remain alive for some time, appearing sickly and stunted and producing but little fruit and that of small size and poor quality.

The minute worm, *Heterodera radicicola* (Atkinson), which causes this peculiar root disease, bores into the roots to feed upon the sap. As it feeds it gives off a poison which stimulates the root to form the gall or knot. The worm is a member of a large group, including the hookworm, "vinegar eel" and many intestinal worms. All are known as "round worms," or "eel worms," and as nematodes technically. The males and young are long and slender and can make their way thru the soil from plant to plant; but the adult females are pear-shaped and capable of little or no motion. Even the young can make their way but slowly thru the soil, only ten or fifteen feet a year.

These worms are very small, even the adults being barely visible to the naked eye. Most of them are found in the top foot or two of soil. However, they may occur in small numbers considerably deeper, particularly in loose soils. Only in small numbers are they ever found in the surface of dry soils. It has been determined that soil dry enough to blow about contains few or no living nematodes. Wind is, therefore, not much of a factor in the spread of the disease.

HOST PLANTS

Many plants are more or less immune to root-knot, i.e., the worms do not find their roots a suitable medium in which to grow and reproduce. Probably there are substances in the sap which poison the worms. As a whole plants of the true grass family, including corn, oats, rye, canes, sorghums and millets, as well as Crab and Bermuda grasses, etc., are quite resistant. Still some varieties of corn, oats and cane are sometimes seriously attacked. Velvet beans and beggarweeds are practically immune.