The distribution of stem eelworms in the Netherlands shows a distinct relation to soil type. According to DEWEZ (1940) attack by stem eelworms in rye in the province of Limburg occurs only on the brown sandy river loam soils along the river Maas and on inland dune soil but this disease is of no importance on black sandy soils. If forest or heath is converted into arable land, stem eelworms spread very easily to these new fields if they are on brown sandy loam and dune soils but only very slowly or not at all if they are on black soils.

All Dutch river and marine clay soils seem to be infested with stem eelworms. However investigations on the island Goeree-Overflakkee by the Agricultural Advisory Service and the Dutch Onion Growers Association showed that onion bloat is a persistent menace on all heavy clay soils, whereas on light soils it only becomes important, when onions are grown too frequently i.e. more than once in three or four years. Fig. 1 shows two maps of the island Goeree-Overflakkee, one showing the areas which are suitable and non-suitable for growing onions, the other map showing soil areas containing over 30% and below 30% of clay particles. It is clear that there is a great degree of coincidence between the area non-suitable for onions because of the persistent menace of bloat and the area with clay content higher than 30%. Also in other regions of the country stem eelworms occur on certain soil types and not on other types. Soil maps and geological maps show so much diversity in these regions that only a close comparison of the infested areas with detailed soil maps can confirm the impression which is obtained in the field.

Crop rotation practices cannot be the cause of the distribution of stem eelworms. On the contrary, the rotation follows the degree of eelworm infestation. Rye is grown more in uninfested and lightly infested areas in the sandy region than it is in heavily infested areas. Onions are grown on the very lightly infested light clay soils of Flakkee but are not common on heavy soils.
Fig. 1. Maps of Goeree-Overflakkee (scale 1:200,000) showing relation between soil type and occurrence of serious stem eelworm attacks in onion.