Nematol. medit. (1983), *11*: 103-105.

Crop Protection Division National Horticultural Research Institute, Ibadan, Nigeria

RICE CULTIVARS AND *HETERODERA SACCHARI*

by

J. O. BABATOLA

The sugar cane cyst nematode *Heterodera sacchari*, Luc *et* Merny, 1963, has been found in rice fields in Nigeria (Babatola, 1983), the Ivory Coast (Merny, 1970) and Senegal (Fortuner and Merny, 1973). Its effect on the growth of rice has been demonstrated by Babatola (1983). This paper provides evidence of the different levels of susceptibility to *H. sacchari* of a range of rice breeding selections and cultivars.

Cysts from a population of *H. sacchari* cultured on the rice cultivar Faro 11 were used in the tests. Seedlings of the cultivars and selections were planted in 20 cm diameter pots containing 5 l of sterilised soil and 30 cysts were added per pot. For lowland cultivars, unperforated 5 l plastic buckets were substituted for the pots and were flooded with water one week after inoculation to simulate swamp conditions. Each treatment was replicated 3 times.

The plants were up-rooted 60 days after inoculation and cysts extracted from three 200 ml aliquots of the thoroughly mixed soil in each bucket by use of a Fenwick can.

All the seedlings supported populations of *H. sacchari* (Table I). The growth of the upland rice selections and cultivars was obviously affected by the infestation whereas the swamp rice seedlings grew normally, except for some slight chlorosis.

The rates of multiplication of *H. sacchari* varied considerably, the highest population of 2,256 cysts per 200 ml soil was recorded

on the upland rice Var. $13a^2/103/F2591/5/3$ and the lowest population of 92 cysts per 200 ml on the swamp rice cv Sona.

Table I - *Number of cysts of* Heterodera sacchari *per 200 ml soil 60 days after inoculation (6 cysts per litre).*

No of cysts per 200 ml soil	RICE CULTIVARS
	Upland Rice Cultivars
1,000 - 2,256	Var $13_a^2/103/F2591/5/3$; M 1336/1/2; IR 1746-226-1-1-3; Moroberekan; TOS 4172/IAC 5544
500 - 999	949M/1/2; Faro 11; IR 1746-226-1-2-3; Dourado Precoce; Perola; IR 1746-222-1-1-2; 194/1/2; 98/4/6; IR 2043-105; Ikong Pao; Var 123/73 (1-F); IR 2053-52-43; TOS 2583
100 - 499	IR 20; TOS 4131; BP 1761/9 x cv. Dawn; BKN BKN 6517-23-3-2; IR 1134; I.E.T. 1444; I.A.C. 4090; 548/6/6/6; cv IRAT; Igua pelatelo; TOS 4030; AUS 61; TOS 2581; IR 1154-243-1; AUS 76; Var. 63-83; 1808/6/5/6; TOS 4106; TOS 4631; I.A.C. 25; TOS 4631; IR 1750-F58-2; FAROX 56/30; TOS 4090
1 - 99	TOS 4169; 903/1/2
	Lowland (Swamp) Rice Cultivars
1000	BPI - 76 (Biol)
500 - 999	Taichung Native; Os 6; Makalioka 823; Maliong; IR 2823-399-5-6; IR 5311-12-2
100 - 499	IR 2588-60-1; IR 2055-481-2-6; I.E.T. 1789; BR 51-114-2; IR 2031-724-2-3-4; BMN 6819-33-3-2-1-3; IR 2688-43-4-3; TOS 491 (IB); IR 2153-338-3; D 114; BR 51-56-IK I; B 461b-PN-3-2-5; FRRS 162-8; UDR-4-25-1; IR 2070-199-3-6-6; IR 2588-132-1-2; Adnyi II; Sinthane Biofor; TOS 4685; FRRS 43/3-3; Farox 56/30; BG 94-1; Kav 12; KbG 6987-216-4; IR 2071-625-1-252; IR 2021-175-3-2-2; IR 934-450-1; IR 2053-205-2; Kakatiya; IR 2053-375-1-44; IR 937-55-3; BG 79; TOS 3813; Muani; SML 140/10; Chianung-Sen-7U-8; I.C.B; Rok 5; IR 627-131-4-37; Mas 2401; Segad 15; Kang Dang Ratong; IR 2763-E1-1-2-1; IR 2151-745-3-1; I.E.T. 1996; TOS 4157; 2071-770-2-4; FRRS 168-8-3-2; TOS 42; IR 147-B-2-6; IR 4215-409-2-1; TOS 3859; Tjina; Sindano; IR 20; De Gaule; IR 1614-138-1-3-3; Taichung Native 5; IR 26; IR 2049-120-2-3-3; TOS 4729; IR 8; IR 5-47-2
92 - 99	Siam 29; Sona

LITERATURE CITED

BABATOLA J. O., 1983 - Pathogenicity of *Heterodera sacchari* to rice. *Nematol. medit., 11*: 21-25.

FORTUNER R. and MERNY G., 1973 - Les nématodes parasites des racines associés au riz en Basse-Casamance (Sénégal) et en Gambie. *Cah. ORSTOM Biol., 21*: 3-20.

MERNY G., 1970 - Les nématodes phytoparasites des rizieres inondées de Côte d'Ivoire. I. Les especes observées. *Cah. ORSTOM Biol., 11*: 3-43.

Accepted for publication on 19 October 1982.