There was significant simple positive correlation between infestation percentage and infestation intensity (r = 0.86*). There was no correlation between infestation percentage and infestation intensity with plant height or with number and external diameter of internodes.

Table 1. Resistance of grain sorghum lines to attacks of sugarcane border Diatraea saccharalis.

Line	% of infestation (1)	Line	Infestation Intensity (1)
	x + 0.5		x + 0.5
E 57 A	7.44 a	SC 109-12	6.71 a
SC 109-12	6.92 ab	REDLAN B	3.71 ab
SC 112-14	5.96 ab	E 57 A	3.65 ab
REDLAN B	5.94 ab	SC 112-14	3.53 ab
SC 170-6-17	5.51 ab	SC 108-14	3.12 ab
SC 108-14	4.49 ab	SC 120-14	2.83 ab
SC 103-12	4.23 ab	SC 170-6-17	2.57 ab
CMS XS 307	4.23 ab	SC 103-12	2.17 b
SC 120-14	3.94 ab	SC 175-14	2.14 b
IS 4757	3.88 ab	CMS XS 307	2.12 b
CMS XS 904	3.09 ab	CMS XS 308	2.07 b
SC 173-12-6	3.09 ab	IS 4757	2.03 b
CMS XS 308	2.87 ab	CMS XS 905	1.98 b
CMS XS 601	2.87 ab	CMS XS 904	1.94 b
CMS XS 905	2.74 ab	SC 599-6 x SC 134-6	1.84 b
CK 60 B	2.61 ab	SC 173-12-6	1.64 b
TX 2536	2.32 ab	CMS XS 601	1.58 b
PU 932242 B	1.97 ab	CK 60 B	1.58 b
CMS XS 109	1.97 ab	CMS XS 109	1.36 b
SC 599-6-10	1.97 ab	SC 599-6-10	1.36 b
SC 5999-6 x SC 134-6	*1.97 ab*	*TX 2536*	*1.35 b*
ICA NATAIMA	1.97 ab	IS 8361	1.21 b
CMS XS 904	1.97 ab	CMS XS 904	1.21 b
IS 8361	1.47 ab	PU 932242 B	1.07 b
SC 599-6-3	1.47 ab	SC 599-6-3	1.06 b
NK 233	1.47 ab	NK 233	1.06 b
SC 170-6-8	1.47 ab	ICA NATAIMA	1.06 b
SC 175-14	1.07 ab	SC 170-6-8	1.06 b
TX 7078	0.70 b	TX 7078	0.70 b
TX 398 (MARTINI)	0.70 b	TX 398 (MARTINI)	0.70 b

(1) Means not followed by the same letters are significantly different at the 5% of probability.

Stink Bugs Infesting Sorghum Varieties Panicles

F. S. Ramalho (Petrolina)

The stink bug, Thyanta maculata Fabricius (Hemiptera: Pentatomidae) was collected from developing sorghum panicles of Icapal and Serena varieties. Grain losses caused by this insect appeared serious in the locality ob Bebedouro Project Irrigation, Petrolina, Pernambuco, Brazil, during the year 1977/78. In sorghum, the damage was localized to grains in the milk stage and the stink bug infestation was highest in plants with compact type panicles. There are no precise statistics regarding the extent of damage caused by this insect, but we estimate that in highly infested sorghum the damage can be serious. The insect has been found in cotton and bean in the Sao Paulo state, Brazil.

Resistance of Sorghum Varieties to Sorghum Midge, Contarinia sorghicola on Different Planting Dates

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The sorghum midge, Contarinia sorghicola, has become a major pest of sorghum in northeast Brazil. The following data were collected at the Serra Talhada Research Station, Pernambuco, Brazil. The resistance of several sorghum varieties planted on different dates was studied in 1977. The plantings were made January 22, 1977; February 12, 1977; March 5, 1977; March 26, 1977 and April 15, 1977. The

different responses of the varieties in relation to the sorghum midge damage were evident. The mean damage ratings for the varieties are given in Table 1. There was significant influence of planting date on sorghum midge infestation. The interaction between varieties and planting date was significant.

Table 1. Sorghum midge damage ratings for varieties at different planting dates. Serra Talhada, 1977.

Variety	Planting date*					= *
	01.22.77	02.12.77	03.05.77	03.26.77	04.15.77	X
AF-28	0.0Aa	1.0Bab	0.0Aa	1.0Ba	1.0Ba	0.5a'
SC-175	0.0Aa	0.0Aa	1.0Bbc	1.5Ba	3.0Cbc	0.9a'
IS-8100-C	0.0Aa	0.43ABab	1.0Bbc	1.0Ba	2.0Cabc	0.8a'
IS-2508-C	0.0Aa	0.43ABab	1.0BCbc	1.0BCa	1.5Cab	0.7a'
IS-4757-C	0.0Aa	0.0Aa	0.43ABac	1.BCa	1.5Cab	0.5a'
TP-8R	0.0Aa	2.0Bbc	2.0Bbd	3.0Bb	3.0Bbc	1.8a'b'
SGIRL-MR-1	0.0Aa	1.0Bab	2.0Cbd	1.0Ba	2.5Cbc	1.2a'
IS-2579-C	2.0Cb	0.0Aa	1.0Cbc	1.0Ca	3.5Dc	1.3a'
IS-2501-C	2.0Bb	1.0Aab	1.0Abc	1.0Aa	2.5Bbc	1.4a'
1-B	2.5Ab	4.0Bc	3.0ABa	3.5ABb	3.0ABbc	3.2b'
= X*	0.5A'	0.8A'B'	1.1A'B'	1.4B'C'	2.3C'	

* Means not followed by the same letters are significantly different at the 5% of probability.

*** FRANCE ***

Milling Properties and Color Indexes of Tan Sorghum Varieties

J. C. Miche and E. Jourdan (Montpellier)

Previous studies made in this laboratory regarding the milling aptitude and the potential use of sorghum grains in pasta processing (1,2) have shown that booth milling yields and organoleptic properties of sorghum pasta products are strongly dependent of the grain varieties used. The best results were obtained with one tan variety - the stabilized line CE 90 - cultivated in SENEGAL.

In order to confirm these preliminary observations, twelve experimental tan sorghum lines, bred by IRAT in MALI, as well as one line (CE 67) bred in SENEGAL, were submitted to the same semolina milling diagram. The purest milling products obtained were then used to manufacture spaghetti on laboratory pilot scale.

Grain characteristics and composition, yields and composition of the various milling products, as well as brown and yellow indexes (3) of raw and dried pasta products were determined.

The milling process consisted in breaking on scratch rolls, in five stages, the cleaned grains tempered at 17% moisture content and to purify in two stages the semolina obtained, according to a milling diagram described by ABECASSIS in NIAMEY (4). Spaghetti were made according to a procedure described in VIENNA in 1976 (2), using gold extrusion of pregelatinized sorghum flours composed of a blend of the purest semolina (S1) and the floury inner part of the endosperm (F).

The analytical figures given in tables 1 and 2 enlighten the broad differences existing among the histological and physiochemical characteristics of the grains studied. Various factors, like vitreousness, epiderm thickness, grain volume or biochemical composition may have, alone or simultaneously, some influence on either yields or quality of the milling products. But only a further correlation analysis will be able to ascertain which are, in the prevailing milling conditions, the most important technological factors influencing the milling aptitude of sorghum grains.

According to the analytical results shown in table 3, all the semolina 1 and the flours used to make the spaghetti were of fairly good quality. Fibre and ash contents are low, thus indicating that a rather good separation of endosperm and outer layers of the grains have been achieved in almost all cases.

If there is a well known correlation between ash and fiber content of the milling products, results obtained are not indicating the same positive correlation between the purity of the flours used - as defined by their ash and fiber content - and the brown color of the spaghetti made thereof. We obtained