

Incidence of Red Rot in Productivity and Quality On Sugar Cane in Function of Different Doses of Nitrogen

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INTRODUCTION

Brazil stands out as the world's largest producer of sugarcane (*Saccharum sp.*). Among the species most harmful to the sugar cane in Brazil, stand out the sugarcane borer, *Diatraea saccharalis* Fabr., 1794 (Lepidoptera: Crambidae) which has seriously endangered the yields under cultivation without the use of fire (cane).

OBJECTIVE

The present study aimed to evaluate the effect of the fertirrigation fertilization by means of subsurface drip, on the incidence and the damage caused by red rot on productivity and quality in sugarcane.

RESULTS

Doses of N (kg ha ⁻¹)	04/10	07/10	10/10
	Percentage of infestation (%)		
0	4,99	4,94	5,22
50	5,51	10,93	5,94
100	7,62	12,04	9,06
150	8,11	11,41	7,84
200	12,50	13,74	9,78
CV(%)	44,86	36,71	36,86
F – reg. inear	10,29*	13,74*	6,26*
R ²	0,3829*	0,2226*	0,2438*

Doses of N (kg ha ⁻¹)	04/10	07/10	10/10	04/10	07/10	10/10
	Tons of stalks (ton. ha ⁻¹)			Tons of sugar (ton. ha ⁻¹)		
0	31,11	36,11	59,21	3,8	5,80	10,08
50	38,06	52,78	75,35	4,3	8,04	12,80
100	54,17	83,90	90,74	5,9	12,73	15,91
150	68,06	85,15	109,35	7,5	12,97	18,39
200	74,17	91,54	120,50	7,9	13,46	18,91
CV(%)	26,97	17,64	6,76	25,20	11,27	6,85
F – reg.inear	26,29*	53,99*	259,07*	23,43*	115,04*	199,11*
R ²	0,6447*	0,6771*	0,9174*	0,6359*	0,7128*	0,8728*

MATERIAL AND METHODS

Location: Research and Development Unit of APTA to Jau-SP

Treatments/Design: Five doses of N-fertilizer, in irrigation system drip irrigation: 0, 50, 100, 150 and 200 kg ha⁻¹

Material: Sugar cane SP80-3280.

Analyses: Percentage of incidence of red rot, stalk productivity and sugar content of the treatments.

Statistic: Regression analyzes for the variables. Tukey 5 %.



Incidence of red rot



Sugar cane sampling

Doses of N	Stalk	ATR	Sugar	Gross revenue	Costs CCT	Costs N (Urea)	Total cost	Income
kg ha ⁻¹	t. ha ⁻¹	kg t. ⁻¹	kg ha ⁻¹	-----R\$ ha ⁻¹ -----				
0	59,21	166,22	9830,60	4931,03	1184,12	0,00	1184,12	3746,90
50	75,35	164,15	12329,60	6184,53	1507,07	141,00	1648,07	4536,46
100	90,74	170,51	15475,11	7762,31	1814,73	282,00	2096,73	5665,58
150	109,35	164,41	17936,43	8996,91	2186,98	423,00	2609,98	6386,93
200	120,50	154,15	18567,28	9313,35	2409,92	564,00	2973,92	6339,43

CONCLUSION

Fertirrigation fertilization increases the red rot. However, the productivity of stalks and sugar increased with the nitrogen fertilization, justifying the application of higher doses of nitrogen. The biggest financial yield was obtained with the dose of 150 kg ha⁻¹ of N-fertilizer.