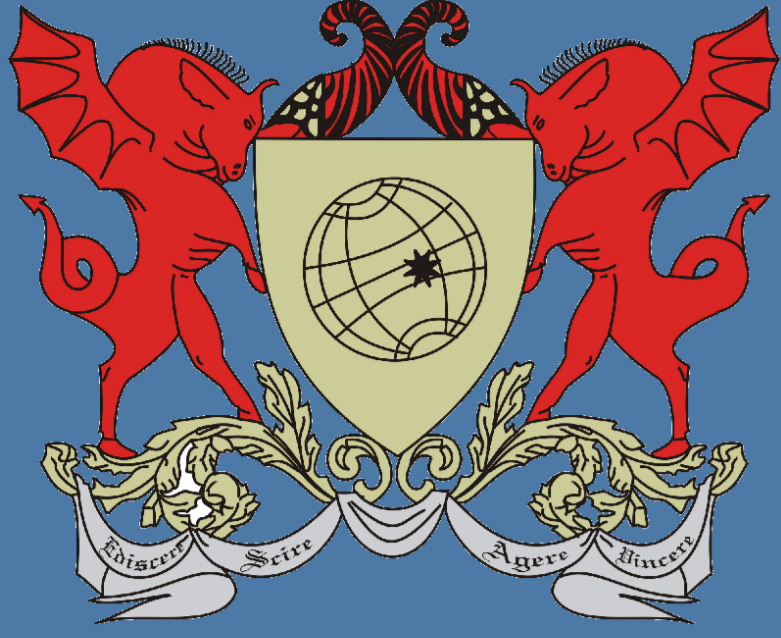


THE OCCURRENCE OF SOYBEAN RUST DEPENDS ON CROP PHENOLOGIC STAGES?



Eder N. Moreira; Rafael A. Rodrigues; Francisco X. R. Do Vale & Luiz C. Costa

Department of Plant Pathology, Viçosa Federal University, Viçosa, MG - Brazil,

e-mail: eder.novaes@ufv.br



INTRODUCTION

In the 2001 growing season, soybean rust, caused by *Phakopsora pachyrhizi*, caused significant damage yield to the soybean crop in Brazil. In the following seasons, it was claimed that the occurrence of soybean rust was closely associated to crop phenologic stages. Therefore, the growth stage was used as a criterion for fungicides application aiming at its control. Early detection has been continuously emphasized to increase management options; earlier detection generally allows for use of a wider range of efficacious fungicides, both preventative, curative and eradivative. Bromfield (1984) reports the pathogen can infect soybean plants at any time after germination.

MATERIALS AND METHODS

- The experiment was carried out at the Experimental Area of the Viçosa Federal University, in the 2007/08 growing seasons;
- It was used different soybean cultivars with three defined cycles: Early (95 – 105 days); Medium (110 – 120 days) and Large (> 120 days), sowed at three different times (03/nov; 19/nov and 02/dez);
- The experiment design was a randomized block in a factorial scheme with three replications per each cultivar;
- Rust incidence and severity were evaluated on ten plants taken randomly from each plot from V4 to the R4 growth stages a frequency of 8 to 10 days;
- The incidence data were tested for normality (PROC UNIVARIATE) in SAS (SAS Institute Inc., 2002). Given the presence of normal distribution of errors, we proceeded with the analysis of variance (PROC GLM) and Tukey 5%.



Figure 1. Picture taken from the experiment, 2007

RESULTS

Table 1. Occurrence of soybean rust in different sowing dates in three cultivars of different cycle. Viçosa, MG, 2007

Date planting	Incidence leaf (%)			Average
	Early	Medium	Large	
03/Nov/07	4.2 (R5)	2.45 (R3)	2.8 (R3)	3.15 a
19/nov/07	4.6 (R3)	3.65 (R1)	2.55 (R1)	3.6 a
02/dez/07	0 (R1)	1.8 (V8)	1.4 (V8)	1.06 b
Average ^{ns**}	2.93	2.66	2.25	
C.V (%) ^{***}	46,77			

* Means followed by the same letters did not differ significantly by the Tukey test (Probability = 5%).

** Not significant, *** Coefficient of variation

- There was no significant difference between cultivars and growing seasons which indicates that the occurrence of rust is not related to the plant growth stages;
- Soybean rust epidemics are more strongly associated with the amount of inoculum present in the field and the climatic conditions favorable to the disease progress inherent in each region.

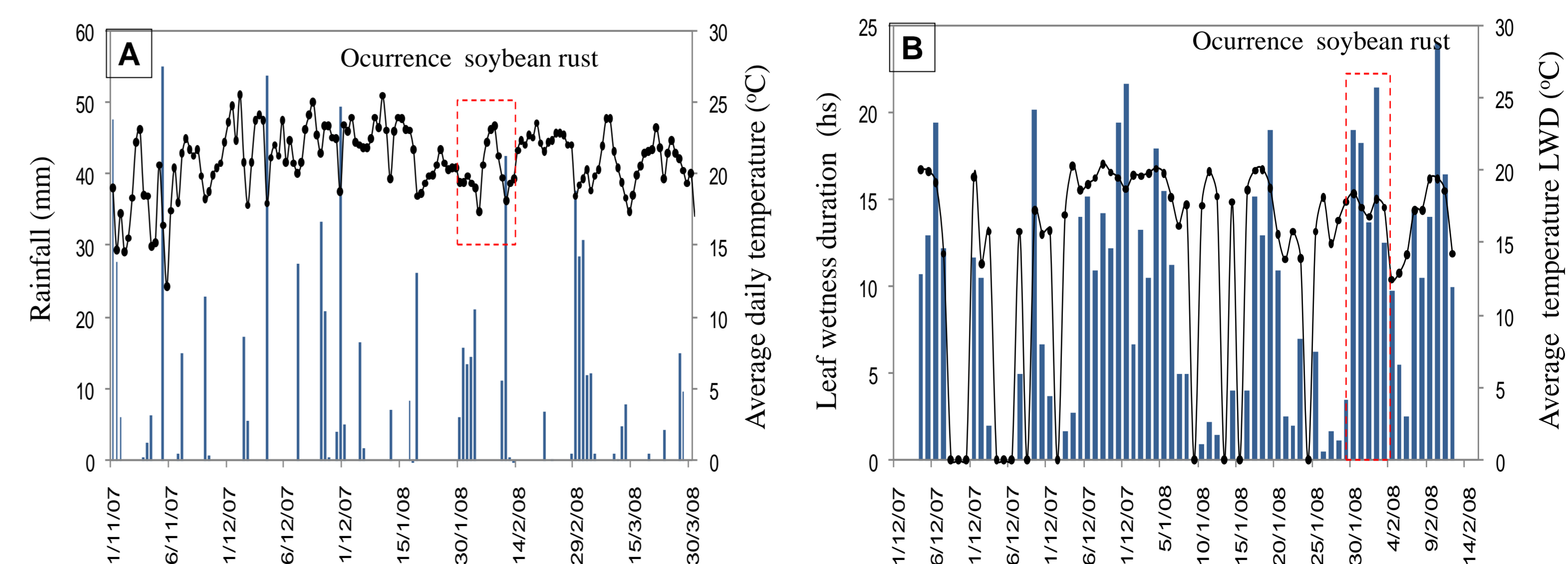


Figure 2 - Rainfall (mm), average daily temperature (° C) (A) and leaf wetness duration and average temperature LWD (B)