



## Stress Combination and their Interaction in Plants (SCIP) Database

Website link: <http://www.nipgr.res.in/scipdb.php>

### Effect on maize/corn cultivars (*Zea mays* L.)

The interaction between the fungus and insect pathogens under the combined stress treatment at the plant interface

**Stress 1:** *Fusarium graminearum*  
**Stress 2:** Corn borer (*Pyrausta nubilalis*)  
**Stage of plant:** One week prior to tasseling

The table shows the interaction between the fungus *F. graminearum* and insect *P. nubilalis* affecting the development of insect *P. nubilalis* and causing necrotic lesion on corn cultivars

Cultivar	Treatment	Response under combined stress (Type B parameters*)					
		Necrotic tissues (%)	Larvae (%)	Population of corn borer (%)			
				2nd larval instar	3rd larval instar	4th larval instar	5th larval instar
WF9×M14	<i>F. graminearum</i> + <i>P. nubilalis</i> (20 eggs per mass) + 2 week interval (Sequential stress)	27	58	4.075	46.24	20.26	11.15
	<i>P. nubilalis</i> (20 eggs per mass) + 2 week interval	16	73	14.81	45.11	N/A	17.04
	<i>F. graminearum</i> + <i>P. nubilalis</i> (20 eggs per mass) + 4 week interval (Sequential stress)	29	51	—	—	—	—
	<i>P. nubilalis</i> + 4 week interval (20 eggs per mass)	25	53	—	—	—	—
Oh43×Oh51A	<i>F. graminearum</i> + <i>P. nubilalis</i> (20 eggs per mass) + 2 week interval (Sequential stress)	27	72	N/A	49.99	38.29	25.11
	<i>P. nubilalis</i> (20 eggs per mass) + 2 week interval	17	65	8.64	47.17	22.10	5.05
	<i>F. graminearum</i> + <i>P. nubilalis</i> (20 eggs per mass) + 4 week interval (Sequential stress)	27	49	—	—	—	—
	<i>P. nubilalis</i> + 4 week interval (20 eggs per mass)	23	44	—	—	—	—

(N/A- Not available)

For raw data– Click here (.xlsx file)

Reference– Chiang HC, Wilcoxon RD (1961) Interaction of the European corn borer and stalk rot in corn. J. Econ. Entomol. **54**: 850–852

**Note:** *Values are presented as it is from the source article without subjecting to the calculation.*

‘\*’- *For more information on parameters classification, please refer to ‘methodology’ tab*

**The inference from the study:** Chiang *et al.*, 1961 studied the interaction between the fungus *F. graminearum* and insect *P. nubilalis* in corn cultivars WF9×M14 and Oh43×Oh51A. The pre-inoculation of fungus increased the percentage of insect larva and resulted in the more rapid development of the larvae in the cv. Oh43×Oh51A in comparison cv. WF9×M14. **The overall observation concludes that cv. Oh43×Oh51A favored insect development more than cv. WF9×M14.**