

**5.6 EFFECT OF ELEVATED ATMOSPHERIC CARBON DIOXIDE CONCENTRATION ON RICE BLAST IN OPEN-TOP CHAMBERS IN BRAZIL.** R. Ghini and W. Bettiol. *Embrapa Environmental*, CP69, 13820000, Jaguariúna-SP, Brazil. Email: [raquel@cnpma.embrapa.br](mailto:raquel@cnpma.embrapa.br)

Atmospheric carbon dioxide concentration is projected to increase rapidly and is expected to affect agroecosystems. Rice production is severely limited by blast, caused by *Pyricularia grisea*, worldwide. The effect of elevated atmospheric CO<sub>2</sub> concentration on rice blast incidence was studied in open-top chambers (OTC) in Jaguariúna, São Paulo state (latitude 22° 41' S, longitude 47° W), Brazil. The OTCs were roofless cylinders measuring 1.9 m in diameter by 2 m in height, and constructed with aluminum frame covered with transparent plastic. The trial included three treatments: OTC with elevated CO<sub>2</sub> concentration (approximately, 550 ppm), OTC with ambient atmosphere, and control without OTC. The treatments were randomized in blocks with three replications. Air sampling, gas measurement and gas injection were automatically performed at 10-min. intervals, 24-hours a day. The pathogen was inoculated using a conidial suspension. The experiment was repeated twice with two rice cultivars (IAC 202 and Agulha Precoce). For both cultivars, the occurrence and severity of the disease were higher for plants grown under elevated CO<sub>2</sub> concentration as indicated by the increased number of diseased plants, lesioned leaves per plant, symptom severity and number of sporulating lesions per plant.