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*Effects of Cogongrass (Imperata cylindrica) Extracts on the Growth of Mature Winter Wheatgrass*

Research has been conducted on the allelopathic inhibition Cogongrass for native species in seed germination already; however, there is little documentation on reaction of fully grown plants to Cogongrass extracts . The objectives of this experiment were to determine the how effectively Cogongrass (*Imperata cylindrica*) extracts inhibit growth of mature Hard Red Winter Wheatgrass (*Triticum aestivum*) to further understand why Cogongrass so quickly and successfully forms a monoculture.

Cogongrass residue extract solution was created by combining water and mortar-and-pestle-ground Cogongrass leaves. Germinated Hard Winter Wheat seeds at 30 degrees C and planted at 1 cm depth when sprouted. Sprayed the 50 control plants with pure distilled water and the variable group with the Cogongrass solution from a ~3 cm distance. Measured growth weekly using a ruler in centimeters.

My data indicates that in addition to inhibiting germination. that Cogongrass extracts do indeed inhibit growth of already germinated Wheatgrass plants. This is supported by the fact that the control group of Wheatgrass grew, on average, 36% higher than the Wheatgrass treated with the Cogongrass extracts in the entire three weeks of the experiment.

The implications of this finding suggest that Cogongrass is able to create monocultures so easily because it is to not only inhibit growth of germinating seeds but also maturing plants with its allelopathic qualities. By inhibiting the growth of other plants it is able to invade the other plant's niche and is therefore even more invasive.