

SOMACLONAL VARIATION IN EASTERN
COTTONWOOD FOR RESISTANCE TO
LEAF RUST DISEASE

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Abstract.--Adventitiously regenerated plants of *Populus deltoides* (somaclones), derived from leaf callus, were screened for leaf rust reaction to two races of *Melampsora medusae* using a leaf assay technique. Most of the somaclones exhibited disease reactions similar to the parent but some were either more resistant or more susceptible than the parent. Somaclonal variation for leaf rust resistance was race-specific in nature as we observed a significant somaclone x race interaction. Complete resistance was not observed in any of the somaclones but a few somaclones exhibited a longer latent period and reduced sporulation when compared with the parent. If field studies confirm these laboratory observations, then the somaclonal variation may be an useful approach to increase the partial resistance in elite lines of eastern cottonwood to leaf rust disease.