

EFFECT OF *Leucaena* AQUEOUS EXTRACT ON THE DEVELOPMENT, MITOTIC INDEX, AND PEROXIDASE ACTIVITY IN MAIZE SEEDLINGS

Nádja de Moura Pires¹, Isabel Regina Prazeres de Souza², Hélio Teixeira Prates², Trícia Cristina Lessa de Faria³, Israel Alexandre Pereira Filho²

Leucaena (*Leucaena leucocephala*) has been observed to control weeds when used as soil mulch. It contains mimosine which, among other allelochemicals, is responsible for the majority of the allelopathic effect. The objective of the present study was to evaluate the effect of leucaena aqueous extract on the development, root mitotic index, peroxidase activity and isoenzymes in the shoots and roots of maize seedlings. Inhibition of root growth and mitotic index was drastically affected by the increase in aqueous extract concentration. It was observed no cellular division in extract concentration from 8% to 32%. Increase of extract concentration was followed by high peroxidase activity values in roots and shoots, but, without changes in peroxidase isoenzymes pattern. The peroxidase activity in roots was positively correlated with the increase in anionic isoenzymes, pI 4,99 and 4,86, what could explain the thickening of the root diameter and dry weight (mg/root cm). High doses of the allelochemical mimosine was detected in concentrated aqueous extract influencing seedlings development.

¹Bolsista Recem-doutor CNPq/Embrapa Milho e Sorgo. C.Postal 151, 35701-970, Sete Lagoas, MG. E-mail: nadja@cnpmc.embrapa.br.

²Pesquisador Embrapa Milho e Sorgo.

³Bolsista CNPq