

**TEKTRAN**

FATE OF ACRYLAMIDE MONOMER FOLLOWING APPLICATION OF POLYACRYLAMIDE TO CROPLAND

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Interpretive Summary:

Polyacrylamides (PAMs) have begun to receive much attention because of their potential environmental benefit for halting irrigation induced erosion and associated non-point pollution from erosion contamination of return flows and riparian receiving waters. Polyacrylamides have little toxicity and do not degrade to release acrylamide (AMD) monomer (a toxin). Commercial PAMs may contain up to 0.05% residual AMD from manufacturing. Polyacrylamides are safely used in treatment of potable water, wastewater discharging to surface streams and FDA sanctioned food contact applications. AMD is not held by soil, and is chemically and biologically degraded in natural environments, especially under aerobic conditions. There is no evidence of AMD uptake by plants, except for rice grown hydroponically in the presence of extremely high AMD levels. In addition, recent work showed no uptake in potatoes, beans, corn and sugar beets, grown at very high dosages of PAM. AMD was not detected in the crops (detection limit <100 ppb). Reactivity of AMD was demonstrated by spiking studies, in which freshly added AMD was rapidly metabolized in living plant tissue, dropping to undetectable levels in hours. Polyacrylamide is environmentally safe when used according to NRCS application standards.

Keywords:

soil conservation sustainability erosion irrigation water quality infiltration runoff polyacrylamide pam

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