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Economic Impact of Withdrawing Specific Agricultural Pesticides in the Lower Rio Grande Valley

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The Air, Pesticides, and Toxics Division of the Environmental Protection Agency (EPA) has encouraged all states to develop a plan to manage the use of pesticides to prevent application that would result in unreasonable risks to human health and the environment from contamination of ground water. In February, 1988, EPA proposed a strategy where by they would regulate certain pesticides by prohibiting their use in areas vulnerable to leaching unless a state develops and implements a management plan acceptable to EPA. However, banning the use of a pesticide in a region is the worst case scenario available to the TWC for managing water quality.

The Texas Water Commission (TWC) assessed the State for areas vulnerable to leaching and found the Lower Rio Grande Valley (LRGV) to be a highly vulnerable area. This study examines three pesticides (atrazine, dicotophos, and aldicarb) currently used in the LRGV that were identified by the TWC as potential contaminants of ground water. Alternative methods of controlling pests in this region were identified, and the economic impacts of withdrawing one or all three of these pesticides from the study area were estimated.

Regional impacts on gross receipts (sales), variable costs, and net returns were determined. If atrazine use were banned in the LRGV, corn and sorghum sales would decrease by approximately \$1 million, variable costs to produce corn, sorghum, and sugarcane would increase by almost \$2 million dollars, leaving farmers in the region with a \$3 million dollar 1088 in net income per year. If dicotophos use were prohibited in the LRGV, variable cost to produce cotton would increase by over \$600,000 for the

region as a whole. Banning aldicarb use in the study area would reduce citrus sales by almost \$3 million, increase variable costs to produce citrus by over \$200,000, and reduce farmer net income by over \$3 million annually.

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