

## ABSTRACT

### SALT CEDAR CONTROL WITH ROTARY AND FIXED WING AIRCRAFT

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Rotary- and fixed-wing aircraft have been compared in various research, demonstration and commercial trials on saltcedar since the late 1980's in Texas and New Mexico. For this presentation saltcedar control data following treatments with imazapyr or imazapyr+glyphosate spray mixtures are standards for comparison. Success and failure in controlling saltcedar have occurred with both aircraft types. Two specific trials in Texas and two conducted in New Mexico that directly compared spray results from these aircraft suggest that results are easily influenced by the experimental protocol. This is especially true when experiments are applied in situations that are favorable or advantageous to one platform or the other.

Experience gained from comparative spray trials indicate that aircraft model and its guidance system, coupled with how the spray delivery system is configured, directly influence spray results. Application timing and plant coverage with the optimal herbicide mixture are key reasons for success. Plant coverage is enhanced when medium to large sized droplets (750 -1000 $\mu$ m) are applied with a relatively high spray volume (7 to 10 gpa fixed wing; 15 gpa rotary). Saltcedar control using either platform has varied by year, weather conditions at the time of spraying, pilot/operator experience and various logistical factors. Fixed-wing aircraft are suited to relatively large monoculture saltcedar stands where the swath overlap pattern provides maximum herbicide coverage. Rotary-aircraft are well suited to areas requiring precise coverage such as along river edges, spraying among desired vegetation and areas where few swaths can be made. Economics is an important consideration but choice of which aircraft to employ for spraying saltcedar should be determined mainly by the type of work to be undertaken.