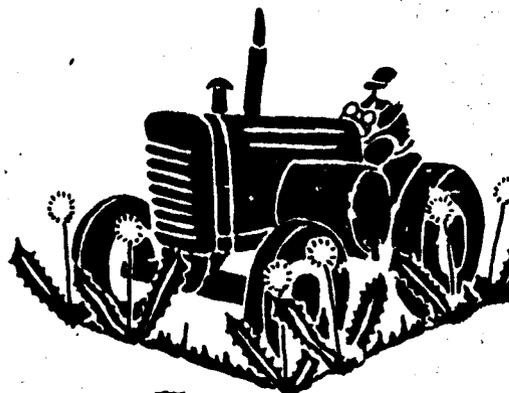
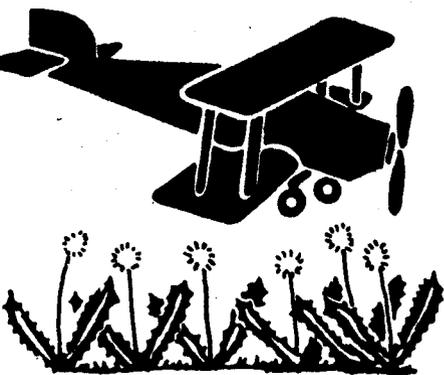


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West Valley

Herbicides: The Cost/Benefit Ratio



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Leafhopper
of
glyphosate
of pods
herbicide

GLYPHOSATE AS A HARVEST AID IN SOUTHERN PEAS

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ABSTRACT

Glyphosate [N-(Phosphonomethyl)glycine] was used as a preharvest desiccant on southern pea (Vigna sinensis var. Miss. Purple) in 1976 and 1977. Four stages of pod development were selected and tagged at the time of herbicide application in order to make comparative studies of seed quality. These four pod stages, ranging from completely green to a completely dry, were harvested one week after desiccation of the parent plants. Pods of the same stage of maturity were harvested from untreated plants for comparison.

Average seed weight, standard germination tests, and accelerated aging tests indicated very little reduction in seed quality with glyphosate desiccation as long as the pod at the time of treatment was either fully colored or dry. Seed from pods which were green or partially colored at the time of treatment were lower in quality as indicated by the accelerated aging test.

Seeds from treated plants were planted in the field in 1977. There was a delay in emergence of the seed from the less mature pods, but only those treated in the green pod stage had a significant reduction in overall emergence and yield. There was a trend toward reduced yield with less mature pods in the other three stages.

Pods on southern pea plants grown in the greenhouse were treated with glyphosate at the same four stages that were selected in the field experiments. Seed weights were reduced with treatment at earlier stages, however, the seeds were capable of field germination. Yield from pod treated seed was reduced with each stage of development prior to the dry pod stage.