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An Expert System for Weed Management in Winter Wheat

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Abstract:
Making weed control decisions is often a challenging process. The broad spectrum of weeds found in many fields, combined with the many herbicides on the market, can make choosing an herbicide or tank-mixture for a particular field difficult. Because of the important strategic role of wheat, a practical expert system is necessary to manage of weed control in wheat fields. This expert system has a step-by- step problem-solving procedure based on important factors relating to weed management. Expert system for weed management provides advice on the base of interactions of weeds and wheat including chemical and mechanical weeds control treatments and selects the best herbicide with optimum dosage and method of application. Economical recommendation can be made by estimating yield loss due to the weeds, wheat price, expected yield and herbicide cost. Recommendations are base on wheat variety, date of planting; growth stages of wheat, weed species, weed and crop density, history of herbicide use and climatic factors.