

## HERBICIDES AND HERBIGATION IN POTATO PRODUCTION

by

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### THE TECHNIQUE OF HERBIGATION

The application of Herbicides to the soil through irrigation water has become a common practice in irrigated agriculture in the United States. Practically every new technique that has been introduced to agriculture has usually involved new skills, knowledge and some new equipment. Herbigation is in that category. New skills involve the set up and calibration of the specialized equipment being used. New knowledge involves the particular precautions to be taken along with an understanding of the particular chemical being used. Characteristics such as phytotoxicity, solubility, volatility and mode of action should be well understood before herbigrating. Equipment is probably the most important of these three items due to the various types of irrigation used in agriculture.

Farmers using furrow irrigation systems can readily use the "Drip Device" for metering the flow of chemical into the water. Sprinklers, such as wheel moves and hand lines which operate out of a pond can also use the drip device, however, if the pump should turn off automatically the chemical would continue to run into the pond unless an electric solenoid is used.

For applying herbicides to individual wheel lines a device called a "Silas Jones" can be used. This is a small tank which is connected between the main line and the lateral and meters the chemical into that particular line by means of the venturi principle.

Due to the large acreage of potatoes grown under center pivot irrigation, the injector pump is the most common device used for herbigation by potato growers.

Modern herbigation equipment is no longer an injector pump hooked up to a fertilizer tank, it is a complete system which allows accuracy and dependability over a long period of time. The most modern system available today allows the injection of straight chemical without dilution with water. This method omits the need for agitation. The complete herbigation system now includes an injector pump with a small piston, a filter, several check valves, a calibration tube, an anti-siphon device, an electrical circuit breaker to protect the system and special tanks, valves and hoses. The most modern and thorough herbigation systems to date have been developed and marketed by Agri Systems of Spokane, Washington.