

Vistik: The New Thickener For Improved Drift Control And Increased Equipment Efficiency

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INTRODUCTION

Vistik is a special extra-high-viscosity grade of hydroxyethyl cellulose which effectively thickens herbicide sprays to improve drift control and yield more economical use of spray equipment. Vistik is readily dispersible in water, water solutions, and water-based emulsions. It can be used in the field to thicken the herbicide mixture to a viscosity that is optimum for the specific application. Properly thickened, the liquid will spray in relatively large drops, minimizing or eliminating the fines that cause most drift problems, and is sprayable with all conventional ground and aerial equipment. The droplets of thickened spray cling to the leaves instead of running off, washing off, or blowing away.

Vistik produces viscous solutions at concentrations of less than 1 percent in water. Additions of 0.25 to 0.75 percent Vistik to water-borne herbicide formulations (emulsions or solutions) are usually sufficient for drift control. Vistik solutions generally are unaffected by variations in water hardness.

PROCEDURE

Vistik solutions can be prepared rapidly in most conventional spray equipment. For convenient solution preparation, the appropriate amount of Vistik is first dispersed in water, with agitation (preferably mechanical). A small amount ($\frac{1}{4}$ lb./100 gals. of water) of soda ash (sodium carbonate) should then be added, to speed the solution rate of Vistik. Dispersion will be complete, and a stable viscosity achieved in 6 to 8 minutes. The herbicide can then be mixed with the Vistik solution, and will disperse rapidly.

When the herbicide is thoroughly dispersed, the viscosity of the solution should be checked. This can be done very quickly by using a Vistik viscosity cup (available from a Hercules sales office or your Vistik supplier).

USE RATES

The amount of Vistik required varies with the type of equipment being used to apply the herbicide spray. In general, the use level is not affected by the type of herbicide. Viscosities pertain to the Vistik Cup.

Sprays applied from helicopters at altitudes of 75 to 100 feet should have a viscosity of 75 to 80 seconds. They should be thickened with about 5 pounds of Vistik per 100 gallons of spray mixture. The use of hollow cone tips,

either D8 or D10, on standard diaphragm tee-jet nozzles, is recommended. When spraying from around 20 feet, as you would for ditches, the use of number 8 fan jet nozzles has given good results. Pump pressures of 25 to 35 p.s.i. are sufficient.

Recommended viscosity for hand gun or spray boom application is 30 to 35 seconds. Use $3\frac{1}{2}$ pounds of Vistik per 100 gallons of spray mixture. Number 8 or Number 10 tips are most satisfactory on hand guns operated at 75 to 100 p.s.i. With spray booms or fixed nozzles using fan-tips, Number 60 or Number 80 tips with pump pressures of about 50 p.s.i. are recommended.

Use of Vistik is beneficial for reducing drift from mist-blowers; however, it can also reduce the output of the unit. Therefore, only low Vistik concentrations (around $3\frac{1}{4}$ pounds per 100 gallons of spray mixture) and a viscosity of 23 to 27 seconds are recommended.

OPERATIONAL GUIDE

Although thickening with Vistik markedly reduces the drifting tendencies of herbicide sprays, it does not, of course, completely eliminate the threat. The viscosity should be checked before spraying begins. Under no conditions should sprays be applied in winds over 8 m.p.h. When using Vistik-thickened sprays, all normal precautions should be taken when spraying in the vicinity of crops, ornamentals, or other plants that might be especially sensitive.

When using Vistik with certain water-soluble herbicide formulations that contain surfactants, there may be a tendency for bubbles to form and be stabilized by the viscous solution. These bubbles can usually be eliminated by adding to the spray mixture about 1 percent kerosene or diesel oil, or small amounts (1/10%) of a defoamer, such as Hercules Defoamer 357. Be sure to follow all instructions appearing on the herbicide label.

Vistik is compatible with virtually all herbicide sprays—solutions, emulsions, or suspension. It has been used commercially with phenoxy esters and amines, Tordon, silvex, Diquat, MH-30, and also with DDT and other insecticides.

Vistik-thickened herbicides have been shown to be more efficient. This is attributed to the reduction of drift and increased cling of the spray. Longer operating hours permitted with Vistik-thickened sprays greatly increase equipment efficiency.