SPRAYpak / SPRAY APPLICATION

Introduction

Herbicides are the principal component of most weed management plans; hence it is important that they are used in the most effective manner possible. Herbicide efficacy is highly dependant on the use of correct application techniques and procedures. SPRAYpak outlines a number of important factors that need to be considered by growers, applicators and other personnel in the cotton industry. The following section gives a brief overview of the contents of SPRAYpak, highlighting some of the important information to consider before applying a herbicide. The reader should refer to SPRAYpak for additional information.

Managing spray applications

Weather conditions play a critical role in all herbicide applications. Therefore, proper monitoring of conditions before, during, and after the application is critical. During herbicide applications the following key meteorological conditions should be monitored and recorded:

- Wind speed – Spraying should only be undertaken when windspeed is between 3 km/hr and 15 km/hr (0.8 – 4.2 m/sec) and relatively steady,
- Wind direction – Take additional precautions if the wind direction is towards environmentally sensitive non-target areas. In addition, consider chemical odours that may persist after the spraying has been completed,
- Atmospheric stability, turbulence, local wind effects, surface temperature inversion layers, changes in wind effects and any changes that occur whilst spraying is being undertaken,
- Temperature – Generally, optimum temperatures for spraying water-based herbicide mixtures are less than 28°C. Risks of reduced efficacy and off-target movement increase at temperatures greater than 28°C. Spraying should proceed with caution at temperatures greater than 28°C and applicators should exercise extreme care if the ambient air temperature at the time of application exceeds 30°C,
- Relative humidity – It is preferable to spray in conditions where the relative humidity is greater than 45%,
- Rainfall – Do not spray if rainfall is imminent. Rainfall during or within 48 hours of an application may reduce efficacy and/or move the herbicide off-target.

Be prepared to stop spraying if conditions change and become unsuitable.

Proper planning is one of the most fundamental prerequisites of effective herbicide applications. The cornerstone of effective planning is the development of a comprehensive pesticide application management plan (PAMP). Relevant training of all farm personnel is another important part of effective, safe herbicide application and must be part of the planning and management processes.

Efficient record keeping is an essential part of herbicide management. Records of chemicals stored on-farm, together with the relevant labels and MSDS should be maintained so that they are readily accessible by all personnel at all times.

Correct identification of the target weed is often crucial. It is important that personnel involved in the spraying have an understanding of how the target weed influences herbicide type and formulation, and equipment selection. SPRAYpak provides guidelines on other important aspects of pesticides in general, and herbicides in particular. The selection of appropriate spray application machinery, calibration, set-up procedures and the selection of nozzles are all outlined.

The reader should refer to SPRAYpak for more information on each of these areas before applying herbicides.

More information on spray application and registered chemicals can be found in the annual Cotton Pest Management Guide.