

Legal requirement	<p>Application of agrochemicals</p> <ul style="list-style-type: none"> Mixing of agrochemicals is carried out in a well-ventilated area and the necessary protective clothing, is worn Washing of equipment is done in a manner which avoids soil and water pollution 	<p>Application of fertiliser and agrochemicals</p> <ul style="list-style-type: none"> To ensure the correct type and quantities of fertiliser and lime are applied, soil samples should be taken at regular intervals and sent to the SASRI FAS laboratory for analysis. Calibration of fertiliser equipment, placement of fertiliser and timing of fertiliser application all affect crop performance and require careful management. Over-fertilisation can impact on the soil environment and lead to acidification and nutrient imbalance. It can also be washed into rivers and dams, causing pollution. Excessive and unnecessary lime application can accelerate organic matter breakdown and lead to nutrient imbalances and shortages Organic materials such as chicken litter, kraal manure, abattoir waste and effluent must be used with caution and only after obtaining qualified advice and guidance. Refer to SASRI Information Sheets 7.4 (Filtercake) and 7.14 (Use of poultry manure). For any agrochemical to work effectively it must be applied at the correct rate to the desired target crop or surface (e.g. soil). Application techniques must minimise losses when spraying, and ensure that materials reach the desired target. Chemicals that do not reach the target not only waste of money, but are also the cause of environmental pollution and, in many instances, pose a threat to non-target crops growing nearby. <p>A number of factors influence the efficacy of a particular agrochemical. The product must be applied at the correct concentration (application rate), at the correct place (target), at the right time (crop stage) and under the correct weather and soil conditions. Correct dilution (spray volumes) and the correct application equipment (including nozzle size and operating pressures) will influence droplet size and the resultant distribution on the target crop or surface. Weather conditions, particularly temperature, relative humidity and wind speed also play a significant role in determining the amount of chemical product that eventually reaches the target. For example, it is not advisable to spray when wind speeds exceed 10 km/h, and high temperatures together with low relative humidity will result in faster evaporation of droplets (therefore losses).</p> <p>Every effort must therefore be made to apply agrochemicals under the conditions and in the manner specified on the product label. These will be different for each product, so growers must familiarise themselves with each set of requirements. Refer to SASRI Senior Certificate Course notes and AVCASA course notes, Module 6: Basic Principles of Pest Control Application.</p>
Better management practice	<ul style="list-style-type: none"> Fertiliser application is managed in terms of soil requirements, as determined by SASRI's FAS or equivalent laboratory. Soil samples are taken at regular intervals to ensure correct type and quantity of fertiliser Agrochemicals are applied at the correct rate, the specific target, the correct growth stage and under suitable weather conditions. The total mass of active ingredient in all agrochemicals applied is recorded and calculated 	

Better management practice		<ul style="list-style-type: none"> • The safe application of any agrochemical product is regulated by the precautions and requirements on the product label. Details of mixing and disposal procedures, application rates and safety equipment required are also given on the label. Mixing should be carried out in a well-ventilated area and the necessary protective clothing specified on the label must be worn. Empty product containers should never be left in the field (refer to Module 2.1: Health and Safety). • Take cognisance of sensitive crops in adjacent fields or farms and spray responsibly. • After application, ensure that washing of equipment is done in a manner which avoids contamination of soil and water (refer to Module 3.4: Pollution Control). • Extra care is essential when applying Groups 1 and 2 chemicals in sensitive areas and during changeable weather conditions. • For more information see: <ul style="list-style-type: none"> - SASRI Information Sheet 10.6 (Herbicide labels) - SASRI Herbicide Selector available at www.sasri.org.za - A Guide to the Use of Herbicides, 1998, 16th Edition, Vermeulen, Grobler and van Zyl, National Department of Agriculture; - A Guide to the Use of Pesticides and Fungicides In the Republic of South Africa, 1996, 37th Edition, Krause, Nel and van Zyl, Directorate of Livestock Improvement and Agricultural Production Resources, National Department of Agriculture; and - A Guide to the Use of Plant Growth Regulants, Defoliant and Desiccants, Vermuelen and Grobler, Plant Protection Institute, Subdivision Weeds, Pesticides and Herbicides, Department of Agriculture. <p>Recording agrochemical usage</p> <p>In order to establish the amount of agrochemicals used by farmers, the total mass of active ingredients in all agrochemicals applied is recorded and expressed as an average (in kg active ingredient per hectare of area under cane). The intention is to compare against a global standard of 5kg ai/ha/annum and reduce use over time.</p> <p>All herbicides, fungicides, nematicides and insecticides are classified as agrochemicals. The agrochemical label will indicate the volume or mass of active ingredient in the product.</p>
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