

WEED CONTROL IN INDUSTRIAL AND NON CROP SITUATIONS IN
NEW SOUTH WALES

Reviewed by

A. Nelson Johnston

Geigy Australia Pty. Ltd.

This review covers weed situations of concern to the functions of public authorities and utilities, semi Government bodies, local Government, development authorities both public and private, industry and commercial enterprises in New South Wales.

SIGNIFICANCE OF WEEDS IN INDUSTRIAL AND NON CROP SITUATIONS

Weeds are often viewed by administrators, engineers, and industrialists on the basis of their own pressing needs only, or the sensibilities of the public they serve.

The significance of the weed problem to the successful functioning of the utility or industry and their capacity to take action depends on many factors, such as the basic objectives and functions of the authority; nature of weed problem; finance available; a suitable programme which integrates into the authority's operations; safety and freedom from public concern or environment effects.

The needs of the Department of Railways and other Departments and public authorities concerned with communication, transport, power, water and sewerage and local Government can be assessed in light of the above factors.

Similarly, the needs of water conservation, irrigation and the industrial or commercial firm can be assessed.

On the weed front, the significance of weeds is largely dominated by rapidly invading annuals, predominantly of spring and summer species (although winter weeds such as Skeleton weed, Volunteer cereals, and winter grasses dominate many railway and highway situations in winter rainfall zones) by vigorous perennial summer growing grasses (Paspalum, Couch); by scrub regrowth (Eucalyptus) and introduced species such as Blackberry, Lantana and Crofton weed.

Aquatic situations are variously influenced by emerged weeds such as Cumbungi, Water Couch, Docks, Rushes or by floating and submerged species.

PRESENT PRACTICAL CONTROL

The strategies adopted and the methods used vary with the objectives of the authority or enterprise and the factors mentioned above.

Weed control in this field must be accepted as vegetation management, with the 'soil sterilization', often requested, being unacceptable from the practical and ecological point of view.

Site inspection, appraisal of objectives in terms of type of weed control required, planning, budgeting, programming and evaluation of results has been the basic approach of New South Wales Department of Railways, Department of Main Roads, State Electricity Authorities and Councils.

Emphasis on vegetation management is placed on such techniques as knockdown of existing species, residual control against existing species and subsequent 'invading species'; inhibition by chemical or mechanical mowing; species conversion from undesirable species to a desirable plant community and in cases eradication of specific weeds.

Herbicide programmes figure largely in practical weed control associated with mowing or other mechanical means.

In view of the availability of a wide range of herbicides varying in herbicidal properties, all authorities aim to keep their options open in regard to use of specific herbicides.

Summer knockdown treatments involve a programme of one or two sprays based on amitrol 2,2 DPA combinations, 2,2 DPA and other knockdown chemicals with tank mix additives of 2,4-D 2,4,5-T and ametryne as required. For residual control and to encourage species conversion, selection is made from products containing triazines, ureas or uracils (often combination products contain knockdown herbicides as well). Most authorities prefer to conduct their own weed control programmes. Some councils use contract services.

It is pleasant to observe, particularly in the urban and industrial development sector (both public and private) that a programme of integrating landscape architecture with vegetation management is being adopted.

Practical weed control measures including herbicides must avoid programmes likely to contribute to pollution, environment effects or losses on non target species.

RESEARCH, EDUCATION, EXTENSION AND LEGISLATION

Considerable research in New South Wales has been done by the chemical industry - Technical officers from industry have been active in operation research, and extension by working closely with the various authorities.

On the research side, projects include: a better information base on situations, ecological studies on site, operational research on a cost performance basis, improvement of formulation and techniques with special emphasis on environment and pollution aspects.

In education, a policy of increasing awareness of authorities and public is necessary to ensure that proper resources are employed. In extension chemical industry has been active by schools; demonstrations, etc. in introducing herbicide technology. Extension work must continue on the principles of safe use of herbicides and their integration with other practices.

On the legislation side, while herbicides are approved for use by appropriate registration authorities, other weed situations created other than noxious weeds are not under legislative control with some notable exceptions (firebreaks on railways).

WEED CONTROL IN THE STATE FORESTS OF NEW SOUTH WALES

Reviewed by

R. Truman

Department of Agriculture, New South Wales

In forestry there are four main situations in which weeds have a significant effect on the growth of trees or the management of forests. Since in each situation the control of these weeds requires a different approach, they are dealt with here separately.

PINE NURSERIES

Seedlings used in the establishment of plantations are raised in nurseries, the period between sowing and lifting for most species being approximately nine months. At the time of sowing the beds are weed free, but weeds are usually present before the pines have germinated. Subsequent growth of these weeds is such that they 'smother' the pines and compete for essential elements in the soil.

At the present time post-emergence weed control in nurseries in which *Pinus* spp. are being raised is carried out using mineral spirits having an aromatic content of approximately 20%, at 40 g.p.a. This method, while being generally satisfactory, has its limitations. To avoid damage to pines, application cannot be made until they have hardened up. This is usually about four weeks after emergence. During this time weed growth may have