

Hypericum: current control strategies in the Australian Capital Territory

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The ACT situation

The ACT Agriculture Bulletin in 1950 described the distribution of St. John's wort in the Australian Capital Territory (ACT) as found in only scattered patches. This Bulletin went on to comment that St. John's wort is potentially one of our worst weeds. Today, St. John's wort is widespread throughout the ACT, particularly in forest plantations, nature reserves, roadsides, rural lands, and Canberra's urban landscape. The rate of increase has been considerable over the last five years (ACT Weeds Committee 1996).

Early attempts in controlling this weed had been largely unsuccessful. Boyd (1950) gave the following recommendations for controlling St. John's wort:

'Isolated plants - sterilize the soil with one pint of coarse salt per plant. After removing plant, place salt in cavity, add half to one gallon of water, and fill in hole with earth to stop stock from licking up the salt. In hilly country, plant with conifers. Lucerne and sub-clover will smother this plant if judicious stocking is carried out to encourage vigorous growth.

'Chemical control:

'Arsenic pentoxide: 1 gal. to 3 gal. of water.

'Sodium arsenite: 1 gal. to 29 gal. of water.

'Sodium chlorate: 1 lb. to 1 gal. of water.

'Common salt: apply about 1 pt. per plant.'

Current control strategies

Today our knowledge of the physiology, ecology and the control of this weed has increased considerably. In the ACT a broad range of management techniques have been applied.

Chemical control

A range of herbicides have been assessed for the control of St. John's wort. Roundup®, Trounce® and Grazon DS® have all given effective control for spot spraying when applied at the recommended rate. However both Roundup and Trounce are non-selective, whilst Grazon DS has caused problems with the loss of some eucalypt species (notably *Eucalyptus pauciflora*) in some reserve areas.

Recent broadacre control trials by the ACT Parks and Conservation Service has incorporated the combination of Grazon® and Starane®, at the rates of 1 L ha⁻¹ of each chemical at or just prior to flowering. Results have been encouraging with >95% control after 11 months. We will be hoping to repeat this success with further trials in December 1996.

Biological control

In the early 1950s the *Chrysolina* beetle was released by the CSIRO. Whilst the beetle has survived and spread throughout the ACT it has had little effect on St. John's wort populations.

In 1992 and 1993 the ACT Parks and Conservation Service in conjunction with the CSIRO Division of Entomology successfully established approximately 30 nursery sites of the mite *Aculus hyperici* throughout the ACT. Since then landholders, Landcare groups and Service staff have successfully spread the mite to many of the ACT's major infestations of this weed. It is too early to make an assessment of the effect of the mite.

Grazing management

Infestations of St. John's wort on agricultural land in the ACT is considerably less than in public parks. The worst infestations occur where horses graze as these animals are particularly selective feeders. The ACT houses over 2000 horses in broadacre agistment. Much of this land has to some degree, infestations of St. John's wort.

Properties that principally run sheep have low levels of this weed, whereas adjoining farms that carry cattle or horses may have relatively high infestations of St. John's wort. Farmer observations are that sheep tend to selectively graze small seedlings limiting establishment.

The ACT Weeds Strategy

In October 1996 the ACT Government released the ACT Weeds Strategy, a ten year program for implementing a co-ordinated approach controlling weeds in the ACT.

The strategy is essentially simple. It involves gathering information to determine weed control priorities, ensuring resources are applied effectively in a co-ordinated manner, and monitoring the results. The strategy sets out nine broad actions:

1. Roles and responsibilities
2. Priorities for weed control
 - 2.1 Regional co-ordination
 - 2.2 Co-ordination with other plans
3. Identifying and recording the extent of the weed problems
4. Resources available for weed control
5. Creating awareness of weeds
6. Preventing introduction and minimizing spread
7. Control measures and site rehabilitation

8. Monitoring and evaluation of the weed control program

9. Legislative support for the weed control program

Determination of priority weed control programs is the foundation of the ACT Weeds Strategy. This recognises the impossibility of effectively dealing with all weeds in all locations at the one time. Determination of priority management programs will ensure strategic and focused allocation of available resources.

The ACT Landcare Committee will call for nominations—based on an established list of criteria which includes factors such as species, location and available resources—to enable a priority weed control program to be established every six months. Priority programs will be those to which additional resources (beyond routine control work) will be applied and for which techniques are available to ensure a high success rate.

How does the ACT Weeds Strategy help control weeds like St. John's wort?

Given current technology, it is neither economically nor environmentally feasible to control all the St. John's wort throughout the ACT. The extent of the problem daunts most land managers. Under the principles of the strategy, St. John's wort can be nominated as a priority for control in a particular area. This will be appropriate only where sufficient human, financial and technical resources have been secured. This is in addition to routine weed control programs.

The Priority Weed Control Program for Spring-Summer 1996 targets isolated plants and patches of St. John's wort along two major roads entering and leaving the ACT. The control of infestations in these areas is achievable within allocated budgets by the government and the community. Additional funding from Capital Works will assist agencies to control larger infestations within these areas.

Conclusion

The ACT Weeds Strategy will assist to focus resources and create greater awareness of weeds and their control throughout the ACT. However, given the level of infestations of St. John's wort in Canberra's open spaces and current management technologies we can only hope to contain the rate of spread.

References

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- Boyd, J.A. (1950). Weeds and their control. Australian Capital Territory Agricultural Bulletin, No. 2/50, Canberra.