

On farm

# Giant Rats Tail Grass

*Train the Trainer Workshop Series*

**Project number DAQ.106A**  
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## 2001 Series

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## **ABSTRACT**

The giant rats tail best practice manual (BPM) was a key output of the original GRT project. Its distribution and use by key stakeholders has been greatly enhanced through the Train the Trainer workshop series.

The project had three broad areas:

- Train “change agents” in the use of the BPM.
- Update and re-print the manual.
- Promote the BPM at field days and industry seminars.

Over 350 “change agents” attended in excess of 32 workshops in coastal and sub-coastal Queensland. A broad cross section of “change agents” was represented.

Participants at the workshops found the BPM easy to use and found the Train the Trainer format very effective

The BPM was updated and re-printed. The distribution network is explained.

The range of associated activities is described and linkages to other projects and initiatives are discussed.

Examples of the uptake and use of the BPM in on ground management of GRT are reported.

## **EXECUTIVE SUMMARY**

Giant rats tail grass (GRT) (*Sporobolus pyramidalis* and *S. natalensis*) is an aggressive and unpalatable weed that has become established in an estimated 200,000 ha of coastal and sub-coastal Queensland. GRT reduces the productivity of grazing lands and reduces biodiversity.

The original giant rats tail grass project was initiated and led by the GRT Producer Advisory Group and was jointly funded by Meat and Livestock Australia, the Dairy Research and Development Corporation, the Natural Heritage Trust, Department of Primary Industries, Department of Natural Resources, NSW Agriculture and University of Queensland.

Based in southeast Queensland, the project had two sub-projects:

The research project investigated the ecology of GRT, its containment, suitable competitive pastures and herbicides for control.

The extension project facilitated the linkage between the research and producer/community knowledge of GRT, and developed targeted strategies for disseminating available information on GRT management.

A major output of the combined extension and research project was the Giant rats tail grass Best Practice Manual (BPM). The manual contains information on the ecology of GRT, a basic understanding of pasture management to reduce the risk of weed invasion, strategies for GRT control and containment in each of 6 different commonly occurring situations and describes operational best practices for each control option. It is supported with illustrations and colour photos of many of the situations and control measures.

### **Train the Trainer project objectives**

Following on from the success of the initial GRT project it was evident the Best Practice manual needed further distribution and awareness of GRT management needed to become more targeted. It was apparent that the best way to achieve these objectives was to incorporate into an extension project, a means of training people who offer advice on the management of GRT. The specific objectives were:

#### **To update the GRT Best Practices Manual**


To increase distribution of the manual in Queensland.

To have landholders, and support services such as Land Protection Officers, Council Weeds Officers and Public Utilities Weeds Containment Officers in the relevant areas, adept in using the manual for best practice GRT containment and control.

To use the GRT Manual as a basis for training workshops with district beef producer groups and Landcare groups

### **Project structure**

The project had three main components: -

- 
- A series of training workshops targeting “change agents”;
  - To re-print the BPM manual (including an additional information with respect to the use of flupropanate);
  - Extension staff presenting information on integrated best practice management of GRT at seminars and field days.

Each of these aspects of the project is reported on in detail below.

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# **1. TRAIN THE TRAINER WORKSHOP SERIES**

## **1.1 Target audience**

The training targeted people who able to directly influence, mostly through providing technical advice, a landholder's ability to managing GRT. Such people can be termed "change agents" and include:

- Shire weeds and environmental officers
- Landcare and catchment care coordinators
- Agri-political personnel
- Agribusiness suppliers
- Landholder group representatives
- Public utility operators
- Weed control contractors
- Officers from government departments

The areas targeted were those most at risk of GRT infestation. The target area generally comprised districts in coastal and sub-coastal Queensland. Workshops were held in areas where there was sufficient interest. Training providers from outside a given area relied on the goodwill of departmental and local government staff in that area for their client contacts and to generate interest in the workshops.

This approach led to difficulties in some areas. How actively the training was promoted relied on how the contact person viewed the relative priority of the GRT. In some isolated cases, contact staff seemed reluctant to take advantage of the training being provided.

Some thirty workshops were held in southeast Queensland, central Queensland and north Queensland. A broad cross section of primary industries and regional communities were represented at these workshops. The average number of attendees at these workshops was between twelve and fifteen. In excess of 350 change agents were trained.

## **1.2 Workshop format**

The workshop program (including relevant workshop materials) is included in the appendix. The training was a half-day format.

Following a brief introduction, participants were led through the manual on a section-by-section basis. Particularly relevant information was highlighted, and the inter-connectivity of separate sections emphasised.

Following this, the case study property was introduced and participants led through a scenarios exercise. The scenarios exercise involved looking at a given paddock of the case study property and developing an integrated management plan for GRT. Strategic planning and operational best practices were highlighted and discussed.

Participants then broke into small groups to develop similar management plans for other areas or paddocks on the case study property.

There was a report back session where groups explained their management plan (having filled in a pro-forma on OHT sheets). Group reports were discussed by all participants from a whole of property perspective.

The report back session led into an open forum where participants had the opportunity to have specific questions addressed by the presenter or the group as a whole.

The training concluded with a brief evaluation and review session.

### **1.3 Participants profile**

The feedback from the workshops was evaluated (see appendix for examples of the evaluation forms). A sub-sample of this feedback revealed the make up of attendees and was typical across regions.

<b>Group represented</b>	<b>%</b>	<b>Group represented</b>	<b>%</b>
Beef	8	Shire/city councils	20
Dairy	3	Public utilities	5
DNR	3	Landcare/catchment groups	6
DPI	3	Agribusiness	10
EPA/QPWS	2	Private contractor	2
Company/supplier reps	5	Private consultant	2

A number of participants represented more than one client group. Local government was the group most strongly represented. This is explained by the fact that local government has the primary regulatory role for declared pests in Queensland.

### **1.4 Workshop evaluation summary**

Evaluation of workshop participants revealed the following:

- (a) 43% had previously received a copy of the GRT BPM; 57% received it for the first time at the training workshop.
- (b) 29% had previously used the BPM when advising clients; 61% hadn't used the BPM for this purpose and 10% failed to respond.
- (c) With reference to how easy it is for participants to find specific information, 67% considered it very easy and 33% considered it OK.
- (d) 90% were able to follow or understand information in the manual; 5% were unable to follow some information and 5% failed to answer the question.
- (e) 31% suggested ways in which the manual could be modified (see below for details); 64% made no suggestions; 5% didn't respond.
- (f) 88% considered the training workshop assisted them in finding and understanding relevant information on GRT management; 12% didn't respond.
- (g) 81% considered the workshop format to be very effective in training people in the practical use of the manual; 7% considered it of limited value; none considered it ineffective and 12% didn't respond.
- (h) 33% considered the GRT extension program had been very effective in achieving better management, isolation and control of GRT; 45% considered it somewhat effective; 2% considered it ineffective; 5% didn't know and 15% didn't respond.

Suggestions for improving the GRT BPM included:

- more on available herbicides
- more on plant identification
- cover all weedy *Sporobolus* grasses
- cover extensive grazing as a separate situation
- use of case study properties.

## **2. BEST PRACTICE MANUAL**

The original GRT Best Practices Manual contained three main sections. The first outlined the ecology of GRT and its responses to various management strategies. This set a background of understanding for the implementation of the second and third management sections. Section two gave the "Do's and Don'ts" and best practices for preventing the spread of GRT. The third section provided integrated strategies for GRT control in seven commonly occurring situations/infestation levels.

### **2.1 Re-print and addendum**

There was a need to include strategic and technical information on the use of the selective herbicide flupropanate following its re-registration in Australia in September 2000. After consultation with the publishers, it became apparent the most cost effective way to include information on the use of flupropanate, was to present it as an addendum.

The quote to design and desktop the addendum and reprint 500 copies of the manual was \$ 4,661.50.

### **2.2 Distribution networks**

The re-printed manuals have been distributed through the training workshops and on a request basis to specific "change agents". They have also been available on request at field days and seminars that project officers have attended.

There has been a strong call for manuals from central and north Queensland, which to some degree negates earlier criticisms based on a perception that the recommendations in the manual did not apply to areas north of the tropic of Capricorn.

The applicability of the manual to areas other than southeast Queensland is demonstrated by landholders developing management systems based on the BPM.

### **2.3 Evaluation report**

During 2001, a fourth year UQ Agricultural Science student completed a survey of the GRT best practice manual. The student was awarded a MLA bursary to assist in the completion of the survey and report.

In summary, the results of the survey "indicated that the BPM is valuable to a large number of respondents, either to manage GRT or to use a reference material, even to those with little or no training in its use".



The survey also highlighted the need for continued distribution to landholders and the need to use other delivery mechanisms such as a website or CD-Rom. Changes in layout and content were also suggested. Some of these recommendations have already been addressed or are planned for in the future.

### **3. ASSOCIATED ACTIVITIES**

#### **3.1 Field days**

During the course of the project, project staff attended in excess of 15 field days covering the topic of weedy exotic grasses in general and GRT in particular. Delivery style and content varied between field days, but generally focussed on the agronomic practices in managing weedy exotic grasses.

Typically, a field day presentation would commence with a general description of the problem of the weedy grass, including impacts on the productivity of grazing lands and on biodiversity. Local knowledge and examples would be included. Plant identification was often discussed.

The plant's life cycle would be explained with an emphasis on the strengths and weaknesses and how they fit into a strategic management program. Seed transport mechanism would be described and best practices for containment and control explained.

Most field day groups had a keen interest in on-ground control work. The best bet options for each of the infestation situations detailed in the BPM were explained with an emphasis on the technical information. Obviously the information supplied would vary between field days in accordance with key issues.

#### **3.2 Seminars**

Throughout the course of the project, officers attended some six regional or state based seminars.

The information supplied at seminars was similar to that presented at field days. The obvious difference was in the amount of information supplied; generally being less at seminars due to time constraints.

The other major difference with the seminar presentations tended to be an emphasis on strategic management and planning.

#### **3.3 Linkages to other projects**

A major outcome of this project was the strengthening of existing networks and more importantly the development of new ones. Some of the key "spin-offs" are discussed below.

### **3.3.1 New GRT research project**

The new MLA, DPI and NSW Dept. Ag. funded research project in northern NSW and central Queensland, aims to further develop management strategies for the management of weedy exotic *Sporobolus* grasses. Essentially, the outcomes of this applied research will “plug” some of the gaps in the BPM.

For example, there is a need to investigate the effectiveness and financial viability of grazing systems to better utilise an existing GRT infestation. Also, the broader application of flupropanate needs to be investigated (an example is the use of lower rates of flupropanate at pasture establishment). This new project is structured in such a way to incorporate the experiences of landholders and to capture novel or alternative management strategies.

### **3.3.2 Other weeds projects**

One of the ecologists from the original research project (1996 – 1999) is now employed at the tropical weeds research centre (NR&M). Given the allocation of sufficient resources, he plans to conduct further research into flupropanate. The key aim is to determine the rates at which a broad range of native and sown pasture species are tolerant of flupropanate.

There is a project proposal for the development of a commercial DNA test that is still seeking funding.

### **3.3.3 African Lovegrass**

All of the principles for managing GRT apply equally to African lovegrass (ALG), and many of the management strategies have direct application. These linkages have been developed during the course of the ALG “scoping” project. The BPM is a valuable resource to landholders managing ALG.

NR&M have been conducting preliminary field trials investigating herbicide options for ALG. This will be valuable information for managing all weedy exotic grasses.

### **3.3.4 Weed seed spread**

The weed seed spread project of NR&M closely aligned with the recommendations in the BPM. Other initiatives from the weed seed spread project include voluntary vendor declarations.

The recommendations and initiatives from the weed seed spread project have been promoted during the course of the train the trainer project and by groups aligned with GRT management (eg. Weedy *Sporobolus* Grasses Management Group (WSGMG) and the GRT Landcare Advisory Group).

### **3.3.5 Pest management planning workshop**

Individual property pest management plans (PMP) are an effective way in which local government can manage weeds and are an alternative to the traditional approach of serving a notice on effected landholders.

The proposed Pest Management Planning training workshop series, an initiative of the WSGMG, is a means of facilitating the development of these pest management plans. The

proposed approach is one similar to the train the trainer concept. Planning is critical and is based on strategic options for a given infestation situation and the use of appropriate operational best practices.

This workshop series is currently under development and has the support of DPI and NR&M. It can be seen as a direct descendent of the GRT BPM and the Train the Trainer workshop series.

### ***3.3.6 Grazing Land Management education package***

Many of the principles of weed management and much of the technical information in the BPM has been incorporated into the Grazing land Management (GLM) education package. Weedy exotic grasses are a key issue in the Burnett and are subsequently a high priority in the Burnett version of the GLM package.

### ***3.3.7 DPI Notes and CD-rom***

A series of DPI Notes have been developed from the BPM and are available of DPI's web site and on the DPI CD - Rom.

### ***3.3.8 Dung beetle project***

Although GRT management has nothing to do with the Dung Beetle Project, the delivery mechanism for training was based on the GRT Train the Trainer concept.

As with the GRT project, the Train the Trainer system has been a successful extension and delivery mechanism for the Dung Beetle Project.

### ***3.3.9 Anecdotal reports of uptake***

Landholders across coastal and sub-coastal Queensland are currently managing Weedy exotic grasses using strategies developed from the BPM.

A landholder in the coastal Burdekin is managing a heavy American rats tail infestation using direct pasture replacement techniques. He is sowing humidicola and signal grass pastures using post-emergent Atrazine to control rats tail seedlings.

Landholders on the Atherton tablelands are using broadacre applications of flupropanate to control moderate GRT infestations. Other landholders are using the forage pre-cropping and pasture replacement options.

Landholders in the buffel belt of central Queensland are spot spraying light to moderate infestations with flupropanate and using cropping and pasture replacement options for the heavier infestations.

Similarly, landholders on the Capricorn coast are using a combination of management strategies.

There are many examples of successful management of GRT in southeast Queensland. Strategies used include wick wiping, spot spraying (using glyphosate, glyphosate and diuron,

or flupropanate), broad acre applications of flupropanate, direct pasture replacement and forage pre-cropping and pasture replacement.

It is difficult to evaluate fully all the flow on affects of a project like the original GRT project and the Train the Trainer project. It is even more difficult to attribute a dollar value to the outcomes.

What can be said is that weedy exotic grasses in general and GRT in particular, have a much higher profile in Queensland today, compared with five years ago. The results of the GRT projects as summarised in the BPM provide landholders and local government with the tools to manage the threat that these grasses pose to the productive capability of Queensland's grazing lands and to biodiversity.

## **4. APPENDIX - LIST OF ATTACHED FILES**

### **Appendix I – Workshop materials**

- Workshop program
- Case Study property
- Participants worksheet

### **Appendix II – Workshop evaluation forms**

- Evaluation sheet
- Participants profile

# Marketing the Giant Rats Tail Grass Best Practice Manual Project

## Train the Trainer Workshop 2001 Series

### Workshop Program

**Venue:**.....

**Date:**.....

**Time:**.....

1. Welcome and Introductions  
(5 min)
  
2. Walk through the Manual's Chapters  
(10 min)
  - lifecycle and ecology
  - preventing seed spread
  - strategic planning for control
  - operational best practices
  
3. Scenarios Exercise
  - outline the case study
  - present a scenario model  
(10 min)
  - break into small groups
  - groups fill out the work sheet  
(20 min)
  
4. Report Back by the Groups  
(30 min)
  
5. Question, Answer and Explanation Session  
(30 min)
  - explain the richness in the best bet options
  - establish linkages to the ecology
  - general information
  - training your own staff/clients

6. Evaluation and Review Session  
(10 min)

- fill out feedback sheet
- discussion

# CASE STUDY 3 – Beef property in Central Queensland

## Property Layout

A 6000 ha breeding and finishing property. Male cattle are sold direct to meatworks or through the sale yards as 3 year old finished steers. Cull heifers are either sold as finished animals or as stores depending on seasonal conditions. Cull cows and bulls are sold direct to meatworks.

The property has a mixture of land types. The brigalow scrub has been cleared and developed with buffel grass and minor amounts of green panic and rhodes grass. Some of the best country is cropped. The Eucalypt woodland has been selectively cleared and has native pasture oversown with Seca stylo. There is some rougher range country growing ironbark, spotted gum and some rosewood and cypress pine. A sizeable creek runs through the property.

**1. 150 ha** paddock that was sown with buffel, green panic and rhodes grass during the 1980's. This paddock was cropped for several years prior to pasture establishment. The GRT originated from contaminated rhodes grass seed and the infestation ranges throughout the paddock but in general can be classed as heavy. This paddock fronts a council road, has a major access track through it and runs along the creek.

**2. 400 ha** paddock adjacent to the heavily infested ex-cultivation paddock is a predominantly buffel paddock with an elevated ridge with standing and cleared box and broadleaf ironbark growing native pasture and Seca stylo. The paddock is generally clear of timber but there are shade clumps and some areas of regrowth. The GRT ranges from scattered stools and clumps at the back of the paddock to heavy infestations around the two watering points. This paddock also fronts the council road along one side.

**3. 600 ha** paddock of range country. Mill and farm timber has been harvested and the bigger hollows have been selectively thinned with Tordon. The GRT exists as scattered plants and clumps, particularly along the tracks and through the fence adjoining the heavily infested paddock. The hollows and ridge tops can be accessed with machinery but the slopes can not.

**4.** The property is well developed with centrally located yards, holding paddocks and a laneway system. The lanes and the holding paddocks have light to moderate infestations, with the watering points being worst affected.

**5.** The rest of the property is either developed brigalow country or Eucalypt woodland that is easily accessed with machinery. There are several cropping paddocks. Isolated GRT plants and clumps can be found in some remaining



paddocks with the bulk of these plants existing around watering points, access tracks and stock camps.

For one of these five situations on this property, work through the **case study worksheet**. While doing this keep in mind the overall property picture and any specific features such as the council road and highway.

# Case Study Worksheet

1. Find the appropriate **control strategy / strategies** for this particular paddock.

Situation No. ....

Page No. ....

Situation No. ....

Page No. ....

Situation No. ....

Page No. ....

2. Choose the **best bet** option / options.

\* .....

\* .....

\* .....

3. What other **control options** are available for this Situation?

\* .....

\* .....

\* .....

4. What **best management practices** apply in this Situation?

\* .....

\* .....

\* .....

5. Find the **operational best practices** that apply to your “best bet” option / options.

Page No. .... Section Heading.....

Page No. .... Section Heading.....

Page No. .... Section Heading.....

6. Find the containment and hygiene procedures to prevent the spread of GRT seed in this Situation.

Page No. .... Section Heading.....

Page No. .... Section Heading.....

Page No. .... Section Heading.....

7. Could you suggest some **alternative** practices and why?

.....

.....

.....

.....

.....

## Evaluation Sheet – Train the Trainer Workshops

1. Had you previously received a copy of this Best Practice Manual?

yes

no

2. Have you used it when advising clients on managing a GRT infestation or an enquiry?

yes

no

3. How easy is it to find the specific information you want?

very easy

OK

very hard

4. Is there any information that you were unable to follow or understand in the Manual?

none

some

give examples: .....

5. Could you suggest some ways that the Manual could be improved in the next update?

yes

no

information: .....

setting out: .....

other: .....

6. Has today's training workshop assisted you in finding and understanding the relevant information in the Manual on managing GRT?

yes

no

7. How effective do you rate this Workshop format for training people in the practical use of the Manual?

very effective

limited value

not effective

8. Could you suggest some ways that the Workshop could be improved?

walk through:

.....

scenarios:

.....

questions and answers:

.....

9. How effective do you think the GRT extension program overall has been in achieving better management, isolation and control of GRT in South east Queensland?

very effective

somewhat effective

not effective

don't know

# Marketing the GRT Best Practice Manual

## Train the Trainer Workshop 2000 Series

Please indicate which client group or groups you represent?

Beef Industry

Shire/City Councils

Dairy Industry

Public Utilities eg Telstra, RTCS

DNR LPOs/EOs etc

Landcare/Catchment Groups

DPI EOs/Inspectors etc

Agribusiness

EPA/QPWS Staff

Private Contractor

Company/Supplier reps

Private Consultant

Other

Other