Nassella News

September 2006

Compiled by the NORTHERN AREA BIOSECURITY TEAM at Environment Canterbury

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- Ecology study update - when is nassella seed viable?
- Regional Pest Management Strategy reviewed - What has changed?
- Monitoring update - how is the trend looking?
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Russell and Suzanne Walker receiving their prize from Errol Monk

See page 4 for Survey article

YOUR REPRESENTATIVES

Hurunui Nassella Tussock Pest Management Liaison Committee

Members of the committee geographically represent the ratepayers of the Hurunui District. The committee meets four or five times a year to discuss nassella tussock issues and makes recommendations that will help Environment Canterbury manage the nassella tussock programme.

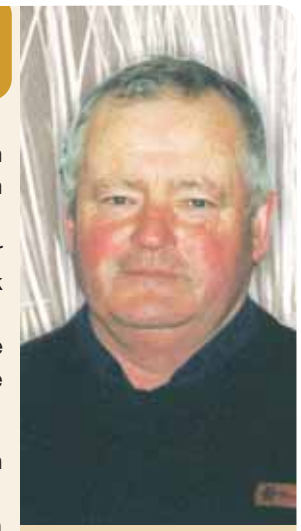
The members are:

Errol Monk, Chairman	Hawarden	(03) 314 4087
Graham Uren	Waipara	(03) 314 6893
Gerald Herbert	Waipara	(03) 314 6808
Bruce McLachlan	Omihi	(03) 314 5869
Alan Lowry	Omihi	(03) 314 5893
David Hyde	Scargill	(03) 314 3894
Kerry Prenter	Motunau	(03) 314 3838
Stewart Gibb	Greta Valley	(03) 314 3893
Neil Macfarlane	Rotherham	(03) 315 6121
John Ford	Cheviot	(03) 319 8055
Jamie McFadden	Cheviot	(03) 319 8152
Max Winskill	Cheviot	(03) 319 8575
Jeff Wilkinson	Cheviot	(03) 319 8621

Who's who?

Photos of the committee members appear throughout this edition of the Nassella News. Keep an eye out and put a face to the name of your local representative.

Chairman's comment



Errol Monk
Chairman
and representing the Hawarden/Waikari area

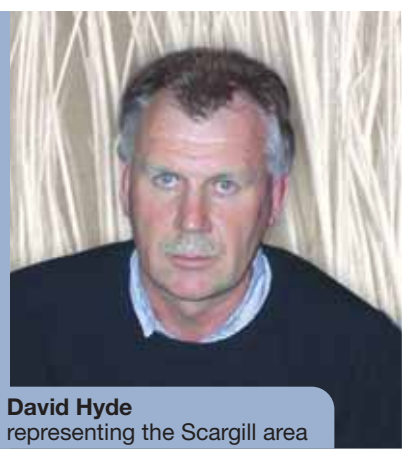
With winter fast making way for spring, those farmers on a winter grubbing programme should be a fair way through their work. Results from the nassella tussock ecology study being conducted by AgResearch show that winter grubbing is the best option for the timing of control work because nassella tussock is easier to find in the short grass. Grubbing early gives the landowner time to double check any areas of concern. Seed is viable from the time that panicles start emerging in the late spring.

The Hurunui Nassella Tussock Pest Management Liaison Committee has met at approximately three monthly intervals and is responsible for providing a link between the community and Environment Canterbury. It is important that the community takes ownership of the nassella tussock problem, carries out the control work and Environment Canterbury maintains only a minimal involvement by providing a regulatory service.

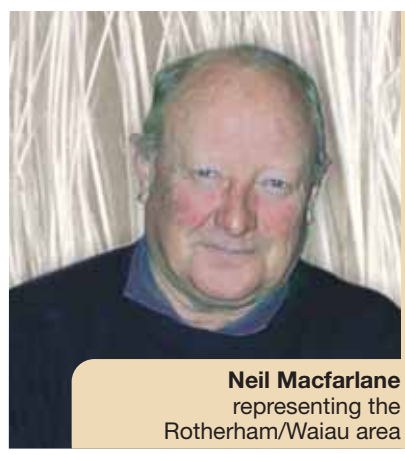
The nassella tussock survey results are being collated. Thanks to all those people who responded. Some good information was gathered and we hope to have this available to everyone soon.

If any person has a concern relating to nassella tussock, please do not hesitate to contact a committee member or me.

Errol Monk
Chairman - Hurunui Nassella Tussock Pest Management Liaison Committee

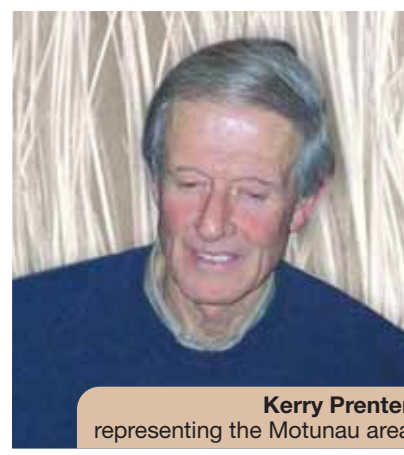


David Hyde
representing the Scargill area



Neil Macfarlane
representing the Rotherham/Waiau area

Stewart Gibb
representing the Greta Valley area



Kerry Prenter
representing the Motunau area

Nassella Tussock plants ready to be grubbed 2005

Nassella Tussock
THE PLANT

Nassella tussock is a tufted perennial plant with fine leaves, erect when young but slightly drooping when older. The leaves feel rough when rubbed downwards. The plant is very similar to native tussocks in appearance, which makes identification difficult.

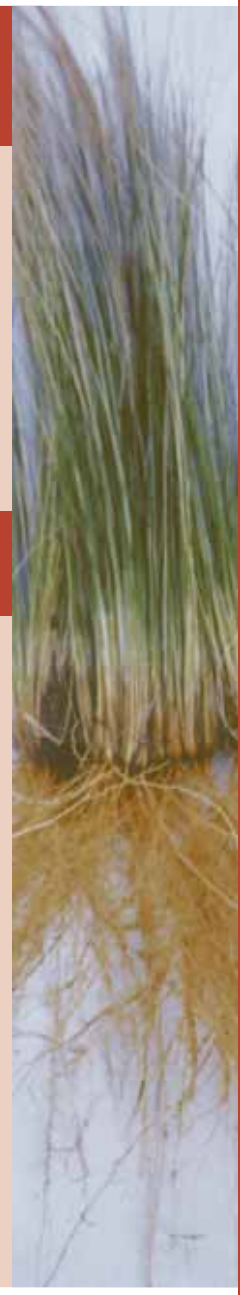
Mature plants are up to 0.5 metres high and 1 metre across. Each mature plant can produce up to 100,000 seeds per year. The seed straw is readily carried by wind and can travel many kilometres. It is also distributed by water, stock, and machinery or on the bark of milled trees.

THE PROBLEM

This plant is fast growing and can rapidly dominate grasslands, eventually smothering them. It is unpalatable to stock. Nassella tussock will grow almost anywhere, but is commonly found on sunny slopes, dry spurs and knobs of tussock grasslands and in stony riverbeds.

Nassella tussock can be found throughout the Canterbury region. The Hurunui District remains the most seriously infested area (commonly referred to as the nucleus area) followed by Banks Peninsula and the Rakaia catchment. Infestation levels decrease to the south of the region. Nassella tussock affects approximately 400,000 hectares.

Currently there are more than 300 properties over 300 hectares in size where nassella tussock occurs. These properties are generally steep, and many are covered in part by vegetation such as matagouri. More than 500 plants are eradicated from 235 of these properties, annually. Some properties can have more than 40,000 plants removed annually and it can take up to 500 hours and can cost $10,000 or more to achieve this.



Graham Uren
representing the Waipara area

Gerald Herbert
representing the Waipara area

Need A Map Of Your Property? It's On The Net!

Colour topographical maps or aerial photographs of properties are available on the Environment Canterbury website as well as regularly updated information on groundwater levels, river flows and rainfall.

in brief

Occupational Safety and Health

Remember that as a land occupier you have a duty to warn authorised persons, such as biosecurity officers, of any significant **man made** hazards that could cause them harm whilst they go about their duties on your property. Provided the warning is issued, you cannot be held liable if a biosecurity officer is harmed while inspecting your property.

Searching

Land outside of the endemic infested area of North Canterbury is regularly searched to ensure nassella is not spreading to new areas. Ground searching throughout the autumn and winter months is supplemented with aerial searching during November/December. Environment Canterbury plans to search all land believed to be most susceptible to invasion by nassella tussock at least once every five years. Some new sites are being found every year. If you have a plant you think may be nassella tussock or you simply cannot identify it biosecurity staff at Amberley or Cheviot can help.

Your Compliance Return

Don't forget your compliance return. The completed form is an integral part of the management of nassella tussock in the Hurunui District. Information supplied on the return assists in selection of properties for inspection as it lets biosecurity staff know your work is finished and is ready to be checked. If a return is not received Environment Canterbury will assume that the work has not been done and an inspection will need to be carried out. Please remember to send your return in to the Amberley Office as soon as your control work is completed.

Nassella Tussock Contractors

Environment Canterbury can provide a list of contractors who carry out nassella tussock control work. **Remember to book your contractor early** so that your control work is completed by the due date. For a copy of the list call the Amberley Office.

Aerial Inspections

Aerial inspections are an integral part of the annual inspection programme. They enable the inspection of a significant area of nassella infested land that could not be achieved from the ground given the small window of time available for nassella tussock inspections.

Aerial inspections are normally restricted to the larger properties in areas that are less accessible, however smaller blocks are also included if they fall within a flight plan area.

During flights the inspections are not restricted to properties selected for inspection only. All land is observed and if plants are sighted the relevant land occupier is notified. If the sighted infestation is significant, a reinspection will be necessary to ensure that the plants are destroyed. Reinspection costs will be charged to the occupier.

Effective Control

A one-off annual grubbing programme does not necessarily represent effective control. If you carry out your control work earlier in the year it may be necessary to recheck areas of heavy infestation again before November to ensure any plants that may have been missed are destroyed before seed is produced. This is also relevant for any scrub-covered areas that normally produce significant plant numbers. In fact, a recheck of your entire property is recommended.

Remember that the overall objective for nassella management in Canterbury is to progressively reduce plant numbers. In order to meet this objective we need to ensure that plants are not left to produce seed.

Direct Charging

The policy to directly charge for the cost of inspections, where an occupier has not complied with the rules of the Regional Pest Management Strategy (RPMS), was adopted by the Canterbury Regional Council in March 1997.

Pest Management Liaison Committees who represent the ratepayers throughout Canterbury recommended the adoption of the policy. The consensus among the committees was that ratepayers should not have to pay for extra inspections on properties where land occupiers have not carried-out plant pest control work to an acceptable standard. In accordance with Section 128 of the Biosecurity Act 1993 the Council can recover all actual and reasonable costs for these inspections.

Under the direct charging policy the first inspection for nassella tussock is paid for by rates irrespective of whether the inspection finds compliance with the Regional Pest Management Strategy or not. People pay their rates to ensure their land is protected from nassella tussock seed being distributed from plants that have remained undetected, either on their own land or on an adjoining property. Where non-compliance is found at the first inspection, the cost of preparation of a Notice of Direction, the second inspection and any subsequent inspections are charged directly to the occupier this ensures that the costs of any extra inspections required to bring non-complying properties to an acceptable level of control do not impact on the people who do a good timely job. It also keeps rates as low as possible for the ratepayers within the district.

How Can We Help?

Biosecurity Officers can provide assistance to landowners and will visit properties on request to identify nassella tussock if you are unsure what it looks like. We can advise you on developing a control programme and explain your obligations. There are also brochures and leaflets available. Displays of plant pests including nassella tussock are normally on show at Agricultural and Pastoral shows.

Seed Viability and THE SEED BANK

In addition to the ongoing ecology trials in North Canterbury, the viability of seed on grubbed plants was investigated for a second year in the 2004/05 season.

The aim of this study was to investigate the viability of seed at four flower development stages. These stages were:

(1) Panicle beginning to emerge from the plant, unopened and green in colour

(2) Panicle emerged but not yet extended above the leaves, partly opened and mostly green in colour

(3) Panicle fully emerged with spikelets (flowers) extended above the leaves, fully opened and purplish in colour

(4) Panicle fully extended, feathery, drooping to ground and purplish or straw coloured

(A panicle is the branching cluster of flowers)

Plants were grubbed at two-weekly intervals between early November and late January and panicles from each development stage were removed and tested for viability.

The 2004/05 flowering season was shorter than the 2003/04 season; however results of both seasons were similar and showed that seed viability was low early in the season (stage 1) and highest late in the season (stage 4).

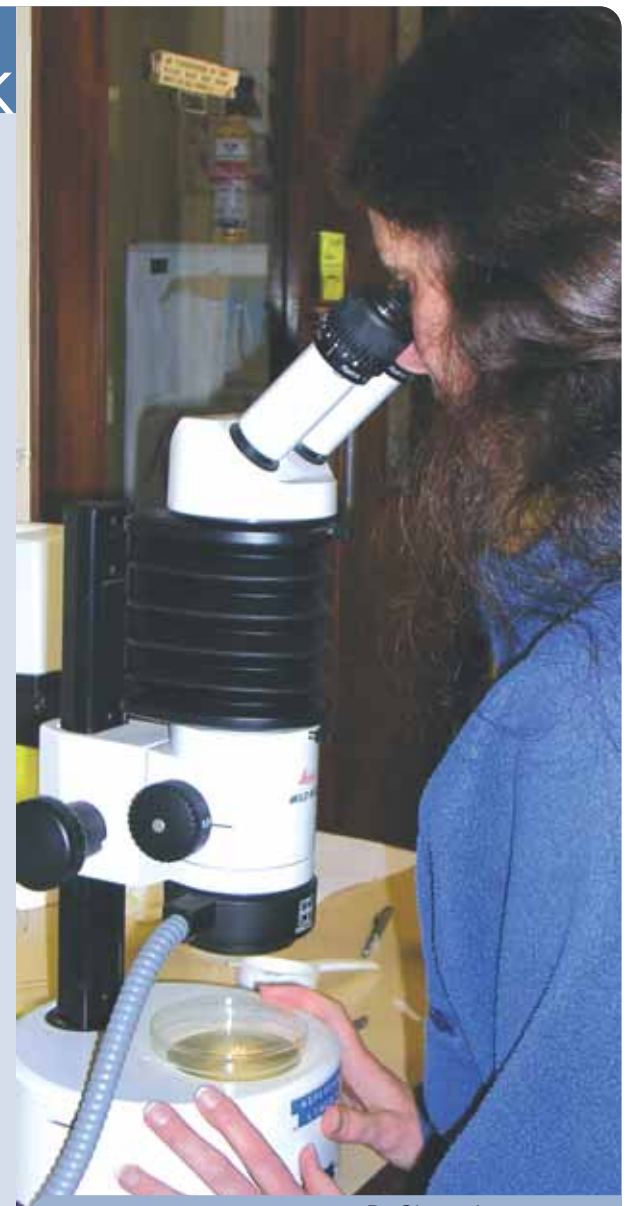
It is important to note, the study revealed that some seed was viable when the panicle was only just emerging. Also, the viability of seed on the plant increases as the flowering process progresses. Hence it is imperative to complete grubbing before November when panicles emerge. Also, the longer into the flowering process the plant remains non-grubbed, the higher the amount of viable seed released.

In the 2003 edition of the Nassella News we reported that some of the initial results of the ecology study revealed that up to 90% of seed is lost from the soil seed bank within the first three months of entering the bank through death, rotting, predation or germination. Beyond the first three months after addition to the seed bank the overall viability of the seeds continues to decline, but at a much slower rate.

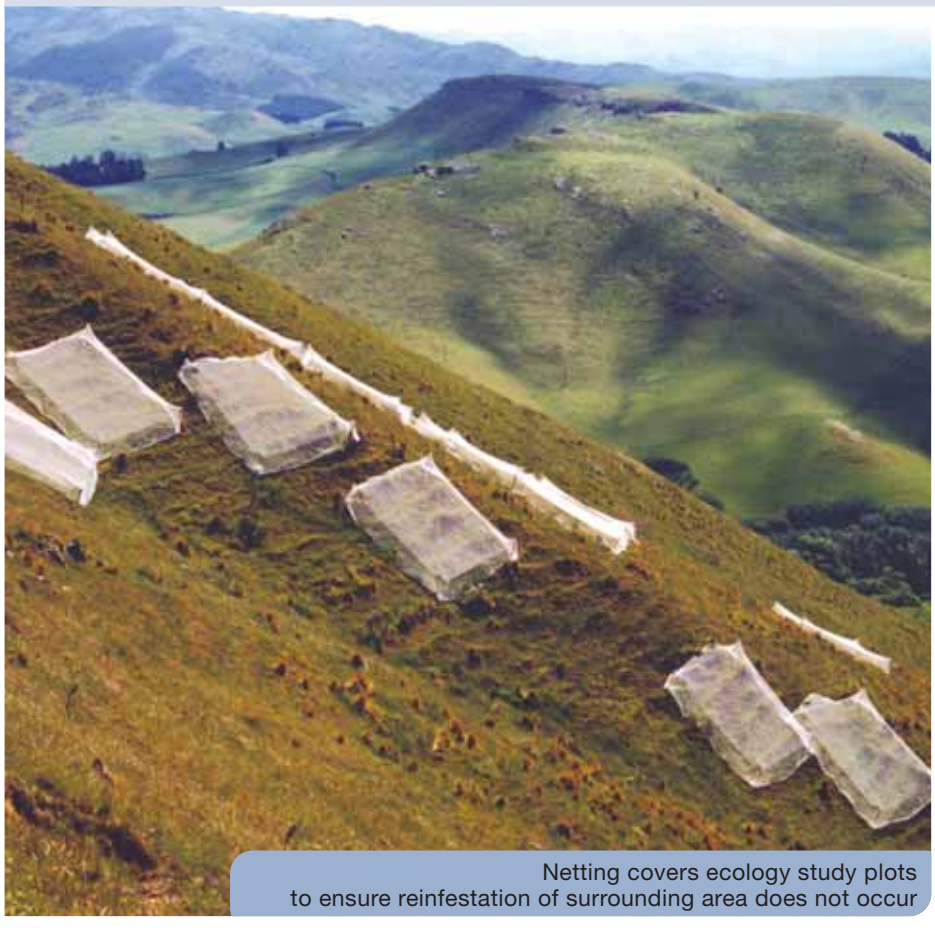
From these two studies the key points to note are:

- Your plant numbers are dictated more by quality and time of grubbing at the previous season rather than seed already in the soil
- Plants remaining non-grubbed at emergence of the panicle will add viable seed to the seed bank
- The amount of viable seed being added to the seed bank will increase as the flowering season progresses if plants remain non-grubbed

All of which highlights the need to prevent nassella tussock from seeding.



Dr Shona Lamoureaux
from AgResearch Ltd testing for seed viability



Netting covers ecology study plots
to ensure reinfestation of surrounding area does not occur

Bruce McLachlan
representing the Omihi area

Alan Lowry
representing the Omihi area

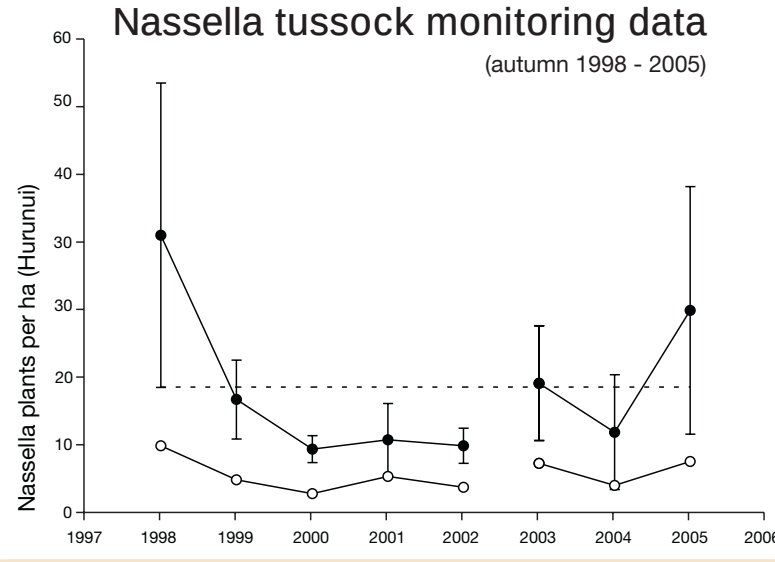
TREND monitoring

Monitoring the effects of the Regional Pest Management Strategy is a requirement of the Biosecurity Act 1993.

For nassella tussock a progressive reduction in plant numbers over time is the desired objective. Comparisons of data from a number of years of monitoring will determine whether the Regional Pest Management Strategy is meeting its objectives. This information will also assist Environment Canterbury in determining whether circumstances have changed to an extent that would necessitate a review of the nassella control programme in Canterbury.

Two AgResearch scientists, Dr Graeme Bourdôt and Dave Saville, have developed an annual sampling programme that estimates the nassella tussock population per hectare on properties in the Hurunui District. Environment Canterbury Biosecurity Officers gather information on plant numbers from points on randomly selected properties throughout Canterbury. This information is recorded and passed on to Graeme and Dave who apply mathematical formulas to expand into an annual assessment of the general nassella tussock situation.

The sampling programme has been carried out over eight consecutive years and the results can be seen in the accompaning graph.



THE WINNER

In an effort to attract some enthusiasm for the recent Hurunui Nassella Tussock Pest Management Liaison Committee survey, all respondents were entered in a draw for a meal at the Nor'wester Cafe in Amberley.

The winning response was from Mr Russell Walker. Russell and his wife Suzanne can be seen receiving their prize (see photo page 1) from Errol Monk, chairman of the Hurunui Nassella Tussock Pest Management Liaison Committee, at their property near Rotherham.

Russell and Suzanne farm 160 hectares of flats between the Waiau River and Rotherham.

This coming season will be their third in North Canterbury since bringing their dairy herd south from the Waikato.

When Russell and Suzanne arrived in North Canterbury they had no knowledge of nassella tussock, the considerable problem it had been in the past and the threat it still poses to agriculture in the area. Russell made contact with Biosecurity Officer, Terry Charles who, Russell said, "Took the time to come to the property and show me what nassella tussock was, where it was likely to be found and the best method of control. A very helpful and courteous service that was much appreciated."

RPMS 2005 – Your Strategy Reviewed

The Canterbury Regional Pest Management Strategy (RPMS) has been reviewed for the first time since its inception in 1998. The 1998 strategy covered a period of five years and was required to be reviewed by 30 June 2003.

The review process began in 2002 with a discussion document, followed by a series of public meetings throughout the region. The meetings were a good opportunity for people to become more familiar with the proposed new strategy and to air their views on pest management in their area. Environment Canterbury also consulted with a wide range of other groups such as Federated Farmers, Department of Conservation, Tangata Whenua and Royal Forest and Bird Protection Society.

For nassella tussock, the changes are:
Rule 5.1 becomes Rule 6.2.5(a) and requires the earlier completion date of 30 September for approximately 50 percent of occupiers in the Hurunui District and all other areas of Canterbury where nassella tussock is found. The change of date was supported by a recommendation from the Hurunui Nassella Tussock Pest Management Liaison Committee and was approved by Environment Canterbury.

Also recommended by the Hurunui Nassella Tussock Pest Management Liaison Committee was a change to the exemption criteria for nassella tussock control completion. Until now a set of criteria has allowed occupiers to complete their control work after the due date in certain circumstances. While the committee did not want to see this facility removed, it did want to see the criteria tightened up so that the exemption process could be used as it was originally intended - to assist occupiers who, due to **exceptional** circumstances (such as illness or injury), could not complete their work by the due date.

Applications for extensions of time must be in writing, with supporting documentation and received by Environment Canterbury before 20 September for properties required to complete this work by 30 September in each year and 20 October for properties required to complete this work by 31 October each year. Applications will be considered on a case-by-case basis. A successful applicant can obtain an exemption up to (no later than) the 15th of November to complete their nassella tussock control work.

To assess whether or not you and your property meet the criteria for an exemption or if you wish to apply for an exemption please contact the Amberley office. An application form can be sent to you.

Hurunui Nassella Tussock Pest Management Liaison Committee Survey

The Hurunui Nassella Tussock Pest Management Liaison Committee in conjunction with Dr Shona Lamoureaux, Dr Graeme Bourdot and Dave Saville of AgResearch, with the assistance the Biosecurity Team of Environment Canterbury, has recently surveyed all land occupiers who have, or have had nassella tussock on their properties in the Hurunui District.

The number of responses has pleased and surprised all those involved with the survey. Generally a response rate to a survey of around 25 – 40% can be expected. The nassella surveys return rate was greater than 50 percent! Well done to all those who took the time to complete it.

The survey was produced to collect a variety of information. The questions were seeking information in the following areas:

- How well the Ecology Study results are reaching the people in the community who are involved with the control of nassella tussock
- Do the public know their representatives on the Hurunui Nassella Tussock Pest Management Liaison Committee
- Are the public supportive of the way nassella tussock is being managed by Environment Canterbury
- Suggestions for improvement to the nassella tussock management programme

Key Points From Survey Responses

- High percentage of respondents unaware of ecology study and results of study
- High percentage of respondents unaware of their Pest Liaison Committee Representatives
- High level of satisfaction with the required standard of control and Environment Canterbury's inspection programme

Anecdotal belief of respondents and scientific evidence differ

- A high percentage of respondents believe that most seed remains viable in the ground for more than 10 years when in fact the ecology study has discovered that up to 90 percent of seed entering the seed bank becomes nonviable within three months (either rots, dies, is consumed or germinates)
- More than 50 percent believe that most new plants emerge from the seed bank, whereas the study has shown that the majority of new plants are a result of reinfestation from seed released in the previous season or two
- Just 6.7 percent believe that nassella tussock seed is viable when the seed panicles are just emerging whilst 56.5 percent believe that the seed is only viable when the seed panicle is fully extended. The study has shown that the seed is, in fact, viable as early as the emergence of the panicle

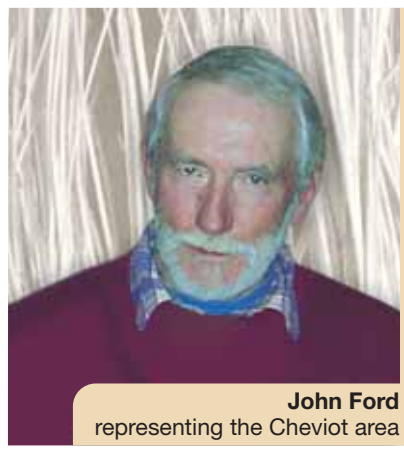
The survey results will be available for viewing on Environment Canterbury's website:
www.ecan.govt.nz/nassellasurvey

Environment Canterbury
Your regional council

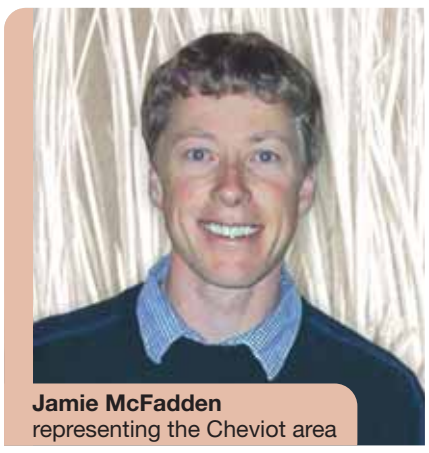
Environment Canterbury BIOSECURITY STAFF – NORTHERN AREA

Amberley Office:	**Phone (03) 314 8014**	**Fax (03) 314 9038**
Laurence Smith	Biosecurity Team Leader	
Terry Charles	Biosecurity Officer	
Jan Crooks	Biosecurity Officer	
Peter Morgan	Biosecurity Officer	
Lance Smith	Biosecurity Officer	
Leanne Lye	Administration Officer	
Cheviot Office:	**Phone (03) 319 8614**	**Fax (03) 319 8891**
Noel Crump	Biosecurity Officer	
Tom Kirkwood	Biosecurity Officer	
Kaikoura Office:	**Phone (03) 319 5781**	**Fax (03) 319 5809**
Peter Adams	Biosecurity Officer	

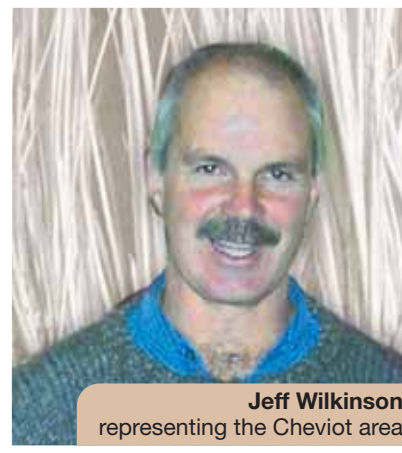
Max Winskill
representing the Cheviot area



John Ford
representing the Cheviot area



Jamie McFadden
representing the Cheviot area



Jeff Wilkinson
representing the Cheviot area