

## Committee News

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### **New office-bearers**



**Clive Marsh** has agreed to take the chair of NZWIG committee after **Paul Visser** decided to stand down.

**Grant Rasmussen** has taken on the position of Secretary.

At the end of the year we had 113 members (although some still needed to pay their subscription for the year).



Sales of manuals and second edition updates have now slowed to a trickle which suggests that we may now have saturated the small market.

Since the second edition was published, we have reprinted the full updated manual three times with 20 copies in each run.

Most purchasers have contacted us through the website.

## Research

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One of the most active areas of NZWIG is that of research. A NZWIG Research Group led by Clive Marsh is co-ordinating a range of projects for the benefit of the industry.

The blight research is supported by funding from the Sustainable Farming Fund administered by the Ministry of Agriculture and Forestry. It is also undertaken in partnership with researchers in Tasmania.

Significant aspects of this work is contracted out. Dr Tim Jenkins is a researcher designing and conducting a variety of experiments to determine best spray timing, chemical and method. HortResearch's Monika Walter is conducting research for NZWIG on the potential for preparing and applying a naturally occurring virus to destroy the blight bacteria.

Along with these projects the group is running a pruning and training trial, a trial to test possible new cultivars, a benchmarking project and liaises with the University of Lincoln in the management and care of the Lincoln walnut trial block.

### **Pruning Trial**

Pruning and training of walnut trees is one topic that is guaranteed to prompt a vigorous debate at a field day. Each grower seems to have their own practices, sometimes developed in response to the particular growth habits of their own trees in their particular orchard environment.

The pruning and training chapter in the NZ Walnut Growers' Manual gives excellent guidance on several training options for those starting out with young trees.

However it is not always easy to make the decision whether you will use the normal modified central leader system, or the minimum training option, or some variation in between. The best option probably depends on the growth rates and wind conditions in your orchard as well as your aims for the final form of your trees.

So the Walnut Industry Group decided that some practical experimentation with training options in several different commercial orchard environments would be potentially useful to growers.

We started with the assumption that, in the first 5–6 years, the grower is aiming for:

- (1) Good vegetative growth, i.e., tree height,
- (2) Good tree form, i.e. straight, upright trunk,
- (3) A strong, open branch framework for nut bearing, light penetration and mechanical strength.

But how best to achieve this? Working with 2–3 year-old trees, we are testing four winter-training options:

- (1) Hard training – all branches are removed and the leader is headed back to round wood.
- (2) Medium training – large or competitive branches are removed and the leader is headed back lightly; (a) Medium training with elevated boron levels – which is used to increase apical dominance in some tree species, (b) Medium training with normal boron levels.
- (3) Light training – very large or competitive branches are removed and the leader is not headed back (but nutlets on the terminal bud are removed in spring).

Of course, the exact training cuts evolve as the trees grow (the way you train a 4-year-old tree is not the same as the way you train a 2-year-old tree!) but we will continue with appropriate versions of the hard, medium and light training options over a number of years.

The training options are being applied on three commercial orchards in Canterbury; one on light soil and the other two on more fertile sites. At each orchard we are using a whole block of the Rex cultivar. This means that there are about 15-20 trees of each training option at each orchard.

We first applied the training options in winter 2004. The trees then grew through one season and we measured their growth and form in autumn 2005. We applied the training options a second time in winter 2005.

So we have just one year's measurements at this stage. The full picture on which training options are best will not emerge until we have gathered at least 2 or 3 years' measurements. However there are several initial observations we can make after the first year:

- (1) The overall tree height did not differ between the training options. The heavily pruned trees tended to grow long, straight leaders and reach the same overall tree height as the lightly pruned trees (which tended to grow very little from the leader).
- (2) In the light pruning option, the highest branch often overtopped what was previously the leader (the leader usually stops growing vegetatively because it was not headed).

We will be keen to see if these observations also hold true in the second year of treatments, and expect to have a fuller set of results and recommendations after another one to two seasons.

### ***Walnut Cultivar Trial***

Trees for the new NZWIG walnut cultivar trial have just been planted at the 4 trial sites in Central Otago, Canterbury (2 sites) and Wanganui. The trial is aimed at ongoing improvement of the genetics available to the industry. We currently have an excellent set of 'recommended cultivars', including the Rex and Meyric, from the previous trial. However, the

desire to find a wider range of cultivars for the future demonstrates the far-sighted nature of the walnut industry.

As with previous trials, all candidate cultivars have been tested to ensure they have excellent nut quality. The purpose of the trial is to determine how well the trees grow, how easy they are to manage and how good the yield is under commercial orchard conditions across a range of climates. There are 9 new candidates in total. Some are grafted clones of 'wild' trees which have been identified as having excellent nuts, some are candidates from previous trials which have been given another chance, and some are trees which have been 'discovered' by propagators. Rex and Meyric have also been planted for comparison in the replicated trials.

So, we look forward a few years to obtaining comparative results of the candidates' performance, and hope that some will supersede the current technology.

### **Benchmarking**

This project was given a great start by the work in 2004 by Robyn Adams, Tim Jenkins and Jane McKenzie.

The aim is to gather data from orchards over time that will help show the kind of tree performance that can be expected under a range of conditions and management approaches.

Several orchardists have already chosen to join in. It involves them taking annual measurement of the trunk diameter of random sample trees, and recording certain management practices. We need more orchardists to sign-up as part of this project because the more data collected the more useful it will be.

Some orchards are also being visited by volunteers from the Research group. These are 'monitor orchards' where a few orchards are intensively analysed. This approach would have a smaller range of

data (as the diversity of orchard conditions would be less) but the data would be reliable. The two approaches are complimentary.

This year six orchards have been visited to monitor blight levels. Results show Meyric trees had more blight than Rex this year. There was significant variation between orchards and between blocks within orchards. It is not easy to determine the reason for the variation but we are motivated to try to find out.

### **Blight**

Two projects are running in parallel. Research to establish best practice for chemical spraying, and exploring the potential of bacteriophages in fighting blight.

In the spray research treatments have been completed for the season and measurements are being made. Results will be collated ready for a field day in March.

Phage researchers are developing bio-assay using seedling trees where the phage-bacteria interaction will be studied on real walnut material. This is a significant step beyond working in artificial media.



Barbara Nicholas digs walnut seedlings for use in the bacteriophage research

Tim Jenkins, Barbara Nicholas and Graeme Nicholas will visit Tasmania in February to compare notes with the research being carried out there.

# Demand for Fresh Walnuts

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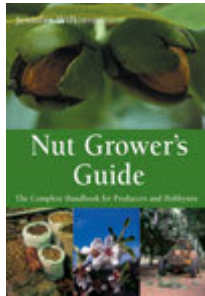
From time to time we get requests (through the website) from people wanting a supply of walnuts. Most recently we have had a request for a supply of fresh walnuts for some restaurant clients in Auckland. We will make these requests known to members through the newsletter and emails.

If you would like to respond to the Auckland enquiry contact the editor for the contact information.

## The Complete Handbook

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A new publication in Australia promises a comprehensive guide to nut growing. Written by Jennifer Wilkinson former editor of *Australian Nutgrower* the book deals with a range of nut crops and covers soil preparation, irrigation, planting and propagating.



For more information go to [www.landlinks.com/nid/21/pid/4986.htm](http://www.landlinks.com/nid/21/pid/4986.htm)

Available for A\$59.95

## Events

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Check our website: [www.walnuts.org.nz](http://www.walnuts.org.nz) for up-dated information on field-days and events.

### **Getting Started**

A field-day for new growers or those considering walnut growing –

**Saturday March 11<sup>th</sup>: 10.00 am, Canterbury**

- Visit orchards at various stages

- Learn about key set-up issues
- Discover more of what NZWIG offers growers

Please promote this opportunity to others who may be interested but may not yet be members of NZWIG.

Meeting place and further details available soon on [www.walnuts.org.nz](http://www.walnuts.org.nz) or contact Frank Brenmuhl: 03 318 1565.

### **Monthly Walnut Gathering**

Each month, on the 2<sup>nd</sup> Wednesday, meet at the Yaldhurst Hotel, Main West Coast Road, at 7 pm.

#### **First gathering: Wednesday 8 February**

The idea is to give a regular opportunity for walnut growers or those interested in growing walnuts to meet up for discussion and socialising.

Those who turn up decide what they want to do. This may include discussion, eating, drinking or orchard visits.

### **Visit to Cromwell**

The events committee is interested in gauging interest in a possible visit to walnut orchards in Central Otago.

If you are interested, please contact Frank Brenmuhl: 03 318 1565 [brenmuhl@xtra.co.nz](mailto:brenmuhl@xtra.co.nz)

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