

NZ Focus Grove Project funding approved

Olives New Zealand received great news in May, with the approval of funding for its Focus Grove Project (FGP) via the 2016 round of Sustainable Farming Fund (SFF) allocations. The initiative will receive a grant of \$35,660, which boosts the strong support provided to the project by member pledges. This support was in fact critical to the success of the SFF application and is an important contribution to the industry's future strength and viability.

"Grass-roots" project

The Focus Grove Project is one of 25 primary sector projects which received funding in this year's SFF allocations, which were spread across the horticulture, dairy, arable sector, meat, fibre and forestry industries. In

total \$6.9 million was allocated for a diverse range of industry-relevant projects, described by NZ Minister for Primary Industries Nathan Guy as "... grass-roots projects that help farmers, growers and foresters to tackle problems and develop new opportunities. They are driven by local stakeholders and will make a real difference to regional communities."

Timelines

Being led by plant physiologist Dr Stuart Tustin from Plant and Food Research, the FGP project officially starts on 1 July, but preliminary visits and regional field days undertaken already will see the first formal feedback provided at the 2016 ONZ Conference in October.



Plant physiologist Dr Stuart Tustin from Plant and Food Research is leading the Focus Grove Project on behalf of Olives New Zealand.

Project overview

We took an in-depth look at the Focus Grove Project in the March 2014 edition of *Olivegrower & Processor*, during its planning stages. If you missed out on that introduction, here's a brief overview of the project background, structure and aims:

- the New Zealand olive industry produces a high quality product but struggles with financial viability;
- NZ groves average a max crop of 4T/ha, compared with the international average of 10T+/ha;
- the low crop loads adversely affect economies of scale in terms of processing costs and increase final production cost;
- the FGP therefore aims to identify olive grove practices which will achieve a consistent average yield of 10 tonnes/ha;
- other outcomes include a benchmark for fruit production of the studied variety, to be used to assess the suitability of other varieties and as a benchmark for production at varying levels of latitude; directed by ONZ in partnership with Plant and



Food Research, the project will use tree physiology specialists to review crop management practices on an annual basis;

- four groves across the main olive-growing regions, and a standard olive variety (Frantoio), are being studied. Each has two blocks of trees set aside for the project, one for control/usual practice and the other experimental;

- the groves are: Hawke's Bay – Aquiferia; Wairarapa – Leafyridge; Nelson – Kakariki; Canterbury – Terrace Edge;
- a baseline for the pilot groves has been established, and the growers provided with initial advice on spraying and pruning as required; the regular follow-up expert visits will see ongoing improvements made to grove management regimes and annual measurements of olive production made;
- some comparisons will be made between groves, but the major comparisons will be between the control and experimental blocks on a single grove. Comparing productivity levels, results will detail: canopy sizes, pruning methods and frequency, spray regimes and overall crop load.



Initial Focus Grove field days have seen great turnouts in all regions, including Leafyridge Olive Grove in Wairarapa, where there were nearly 40 members in attendance.

Focusing on solutions

With the project's completion now guaranteed by the funding announcement, Olivegrower spoke with the FGP's expert consultant Dr Stuart Tustin about the methodologies being used and how the project is unfolding.

Focus on the grove

The Focus Grove Project's primary objective is to make commercial olive growing for extra virgin olive oil extraction more economically viable, by ascertaining which specific olive grove practices will enable consistent cropping rates of 10T/ha. But just how do you go about identifying those practices?

Tustin said it all happens within the groves themselves.

"It's actually by first principles: by visiting the focus grove with discussion groups in the area, considering its condition and then deconstructing the state of the grove," he said.

"That means looking from the grove down to the individual trees. We look at the general structure of the trees, which is generally fairly freeform so highly variable between groves, and also at leaf retention in the canopy. That's another key point, as there's a lot of disease happening due to moisture.

"So it's really those two basic features: the suitability of the structure of the canopy to provide enough light inception; then whether there enough leaves on the trees, and what's the condition of those leaves. An individual leaf on an olive plant can expect to live for three years but disease can reduce

The Australian and New Zealand

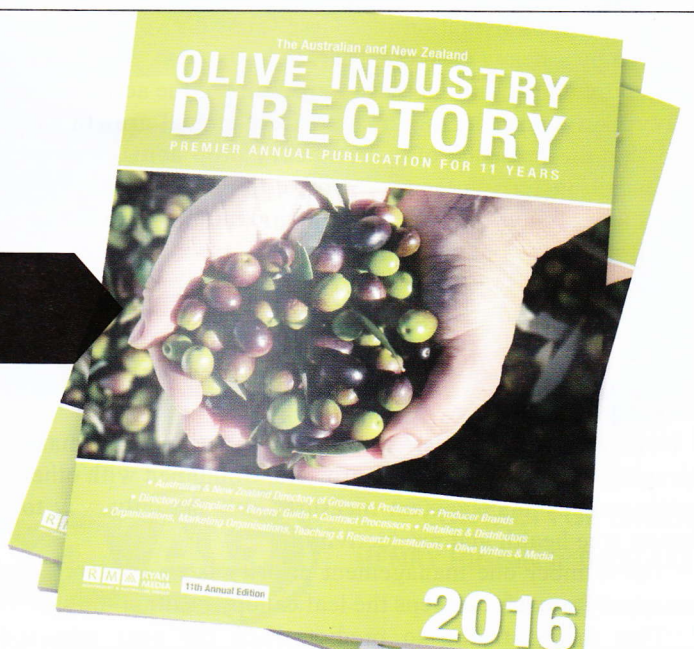
OLIVE INDUSTRY DIRECTORY

Are you listed?

Be part of the Industry's premier annual publication.



Contact Ryan Media on +61 8 8369 9555 or email directory@olivegrower.com.au





New Zealand's moist conditions, Tustin says, make spraying a necessity for olive growers. Combined with other active canopy management measures, it's the only way to ensure tree health and productivity.

that to a matter of months. "That's the major productivity limitation in NZ, we think - combined with almost no canopy management. The form of the canopy has a dramatic impact on cropping levels, but the awareness that you can manage the shape and size of that canopy is very low among olive growers."

Canopy management 101

Tustin said that the olive is actually a stone fruit, with the same basic fruit structure and a similar fruiting practice as almonds, peaches, etc, so we know already how some growth processes work.

"One of the characteristics of that is that they flower on one-year wood, so if you don't have a process for encouraging annual wood, you quickly run out of appropriate flowering tissues," he said.

"These sorts of conditions are not normally a problem in a dry zone production area where there's very little rainfall - provided there's irrigation of course - but it's very heavily affected by a heavy crop one year, light the next, which is a very common pattern in NZ. It's a mixture of the actual very heavy fruit load reducing the amount of annual growth and also that the presence of a very heavy crop actually stops the buds transferring from vegetative to floral buds - that's a hormonal thing. You may have a good number of buds but they'll just grow out as shoots.

"So we're really just trying to develop some simple rules for grove owners, to allow them to take a bit more control and have more management input."

Tackling tree health

New Zealand's moist conditions, Tustin said, make spraying a necessity for olive growers. Combined with other active canopy management measures, it's the only way to ensure tree health and productivity.

"The number one management priority is an appropriate spray program which keeps the leaf canopy healthy," he said.

"That means trying to predict when the next rain is

coming and spraying beforehand or immediately after - for every rain event. And to make that practical, we're trying to formulate simple methods to control the height of the trees to a maximum of five metres, as sprayers can't reach higher than that. We'd like to control the height of the canopy on some of the more vigorous varieties in particular, so we've got to get the trees into that structure in the first place, from whatever we find, which could be quite variable.

"We also want a shape which ensures we don't have too much of the canopy deeply shaded. Too much shade kills leaf growth and makes it difficult to control disease.

... and then yield

Tustin says that once a healthy leaf canopy and good structure are in hand, growers can use supplementary pruning to increase productivity.

"In the years we've got a massive flowering, where we can see the next year may be impacted, we can go around and chop chunks of the tree out to reduce that burden," he said.

"Those secondary cuts would also produce some new shoots to help increase the yield the following year.

"And we really are talking about cutting lumps of tree out. We have to do things in a practical manner without people spending a fortune, or we're not going to gain the viability we're aiming for."

Grove visits

The first cycle of focus grove visits has already been undertaken, and Tustin said some clear results are emerging.

"We were coming into a new season and it was clear most regions were going to have a massive crop, so Olives NZ decided to begin the process as they could see some real benefits coming out of this quite quickly," Tustin said.

"We did five visits - all very well attended - and, not surprisingly, found different situations in each region, mainly depending on how groves had been managed. That was useful because it opened up so many opportunities for discussion.

Making science useful

Tustin said the opportunity to undertake research through projects instigated by industry bodies like ONZ is not uncommon for those in his field, and is professionally as well as practically rewarding.

"For applied scientists like me, our developments are always targeted at having benefit for the particular sector we're working for. For me that's fruit - and olives is on the edge of that," he said.

"So for me there's a personal satisfaction in seeing ideas around basic tree physiology being applied in a commercial situation. It's cool to be able to take principles from other major crop management practices and construct simple variations for a low value crop that can have just as much benefit.

"Quite simply, we like being of use and it's good to know the work you do can help an industry to succeed."

And while olives are new fruit for Tustin professionally, time living in Italy meant he was already an EVOO aficionado.

"I've eaten the Mediterranean diet for most of my life, so have never had anything other than EVOO in the house," he said.

"I think I was converted before any olive trees were even planted in New Zealand."