Extract action

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New Zealand embarks on a new era in marketing velvet

by Trevor Walton

ALTHOUGH MUCH New Zealand velvet does not conform to traditional Korean quality standards — such as size and colour — it contains more active ingredient than velvet from anywhere else in the world.

Convincing the traditional Korean market of this is one arm of the industry's marketing thrust.

The other — and perhaps more exciting — arm is VARNZ, a joint venture company set up by the Game Industry Board and AgResearch Invermay to develop and market velvet extraction technology.

In its dominant Korean market for dried antler sticks, New Zealand is up against thousands of years of Korean tradition, including measures of quality that don't stack up scientifically.

Dr Jimmy Suttie

Quality

New Zealand velvet is said by traditional Korean doctors to be too small and of poor quality. By quality, they believe it is not effective.

"But what is quality?" asks Jimmy Suttie, leader of the Invermay velvet research team.

"If size is the measure of quality, the reality is that a lot of New Zealand antler is not large and it will be that way for many years."

Another traditional measure of quality is colour. Removal techniques (see panel) have some influence, otherwise little is known about the factors which influence it, he says.

"We need to show that our antler is as effective as any other.

"Most of the measures used by the traditional Korean industry show NZ velvet in a poor light, but as measures of quality they don't actually work."

Work at Invermay has clearly shown that size and colour do not indicate levels of active ingredient. Nor do other more modern Korean measurement techniques such as the iron/calcium ratio, or the presence of free amino acids or "gangliocides" (fattysubstances found in nervous tissues).

Suttie says that the development of an objective measure of antler quality for the traditional market is a priority.

The other priority is the development of consumer-ready products for new markets and new sectors in existing markets.

Because such products are wholly processed, the size and colour of the antler is no longer important.

To find out how effective NZ antler is, theAgResearch team at Invermay has analysed velvet from a range of sources. As a result, it is now known that NZ velvet stacks up very well with the competition.

NZ Red, Wapiti and Fallow velvet all have more lipids than Russian Maral — traditionally regarded as the best velvet in the world. Lipids are fat-like substances which are found along with other vital ingredients which make velvet biologically active.

As part of this work, Invermay confirmed the conventional wisdom that yield of extract from the tip of the antler is much higher than at the base.

Grading

They also confirmed the logic of the velvet grading system: using all extraction methods, A grade yielded higher than B and B higher than C.

In all cases, the yield from freeze drying was higher than from traditional drying.

Most importantly, Invermay has developed methods for extracting the active ingredients from velvet which are far superior to the water- and alcohol-based extraction methods used in the past. This technology belongs to VARNZ.

"Both relatively and absolutely, our extract has a very different profile to the alcohol-based pantocrin extract produced by the Russians," says Suttie.

Using the Invermay technology, velvet extract of a known content and concentration is produced, using velvet of different grades and from different origins.

This is a big breakthrough, because it means New Zealand can now offer manufacturers a standardised product.

For the first time, the manufacturer of say, a sports tonic or a pharmaceutical knows exactly how much "active" is in each drink or capsule which comes off the production line.

"Different parts of the antler may have different uses," says Suttie. "We can make different extracts from different parts of the antler and different extracts from the same parts of the antler. We are highly flexible."

Knowing exactly how much "active" is in a given quantity of extract is of vital importance if velvet is to penetrate non-traditional markets, such as the multi-billion dollar western markets for natural foods and tonics.

The key to these markets will be the ability to demonstrate beneficial effects — and a lack of negative side-effects — from the consumption of velvet extract.

Suttie says velvet extract has growth promotant and anti-tumour activity when tested on cell lines in the laboratory.

The next step, he says, is to carry out clinical trials on living organisms and eventually clinical trials with human volunteers.

These trials will begin soon.

"Our objective is to establish the benefits of velvet extract. We do not plan to identify the exact chemicals involved and the specific effects they have.

"Otherwise someone will make a little white powder in the laboratory and run away and forget about deer. Our aim is to maximise the returns from deer."

In its natural state, the extract is a blood red liquid, but it can be produced as a clear liquid. Its composition may also be varied by controlling the extract conditions.

Many of the "actives" in velvet are highly sensitive to heat and are destroyed by many traditional velvet processing techniques, says Suttie.

Licence

VARNZ chairman Andrew Thompson says VARNZ will not be selling or franchising its extract technology at this stage other than to licence a plant which has been set up independently by AgResearch at Invermay.

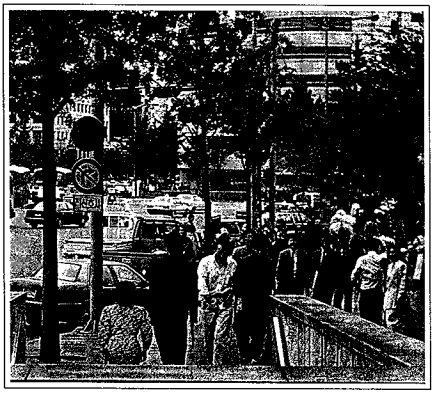
"In that way the protection of the intellectual property and the returns from it are maximised," he says.

Suttie points out that only three people including himself know the technology involved. The joint venture company has done surveys in the main Asian markets which reveal the herbal tonic market is growing rapidly.

In Korea alone, velvet tonics make up $NZ40 million of what is thought to be a $NZ100 million herbal tonic market.

To satisfy the market for velvet and other deer coproduct extracts, the Invermay factory already employs four staff and is producing up to one tonne of various extracts a month, on contract for exporters.

VARNZ neither owns nor trade in product. It simply provides processing technology. Invermay contracts to process the product.



Velvet extracts would suit Korea's new faster paced lifestyle

Hypothetically, at a 20 per cent extraction rate from dried velvet, the plant could provide an outlet for 15 tonnes of green (frozen) velvet a month.

Tourniquets can affect velvet colour

FARMERS CAN improve the colour of their velvet when using Rompun to immobilise their stags. Colour is an important traditional measure of velvet quality.

"Don't put the tourniquets on until you are ready to cut," advises South Canterbury vet Noel Beatson who has studied the influence of farm practices on velvet colour.

"We looked at velvet antler removal techniques, handling after removal and methods of storage.

"The method of removal appears to have no significant influence on colour. The other factors are still being analysed."

He says the only significant factor which showed up was the timing of the use of tourniquets when using Rompun (xylazine). These should not be put on until the velvet is ready to cut, otherwise a proportion of the blood drains away before cutting.

"I also feel – but don't have the data to back it yet – that the velvet should be going into some form of temperature control as soon as possible after cutting.

"Don't leave it hanging on the wall until the job is finished."