

The Victorian Strawberry Industry Certification Authority: The story of healthy runners

Have you ever wondered what the Certification label on your box of strawberry runners really means? It is an important label that certifies you are receiving the healthiest runners possible.

The Victorian Strawberry Industry Certification Authority Inc. (VSICA) is an independent body that inspects runners and ensures nursery growers produce them using the best protocols and practices available. VSICA only issues labels for runners if they meet rigorous standards of plant health. The Certification label also symbolises a long and successful history of delivery of healthy runners to fruit growers (Figure 1).

History of healthy runners

Back in the 1950's, strawberry runners were infected with viruses and spread diseases to the fruit sector. The diseases dramatically reduced yields of strawberry crops and threatened the establishment and viability of the industry as you can see from the stunted crops in Figure 2.

The Victorian Department of Agriculture responded by initiating the Victorian Strawberry Runner Certification Scheme (the Certification Scheme) in the early 1960's to provide healthy runners to strawberry fruit growers across Australia. Scientists at the Department developed the production practices within the Certification Scheme based on extensive research. Their analysis showed that Toolangi is the ideal location in Victoria to grow strawberry runners because it has the correct elevation and temperatures to 'chill' runners and condition them for berry production in the fruit sector. The area is also surrounded by state forest, which reduces flights of airborne pests like aphids that can carry viruses.



Figure 1. The Certification label on a box of strawberry runners



Figure 2. Strawberry runner crops suffering from diseases caused by viruses (stunted patch) prior to the introduction of the Victorian Strawberry Runner Certification Scheme in the 1960's

Owing to its unique environment, the Victorian government declared Toolangi a 'Plant Protection District' for growing nursery crops. This strict measure prohibits the unauthorised entry of strawberry and other horticultural plants into the district and maintains a very high level of biosecurity in the area (Figure 3).

The adoption of the Certification Scheme resulted in the immediate decline of diseases in runners caused by viruses, fungi and bacteria, and tripled strawberry yields in the fruit sector. It was a key factor in allowing the strawberry industry to establish and flourish in Australia.

The Victorian Strawberry Industry Certification Authority

In 1995, the Department entrusted the management and development of the Certification Scheme to the Victorian Strawberry Industry Certification Authority (VSICA). VSICA is an independent, not-for-profit organisation set up to serve the strawberry fruit and runner sectors. It is governed by a Board of Directors comprising of two fruit growers, two runner growers and an independent chairperson.

VSICA is located at Toolangi in Victoria, but serves the national strawberry industry by overseeing the health of runners produced in the Certification Scheme. The runners are purchased by fruit growers from all states of Australia.

VSICA has built a strong research and development capability to continually improve the science underpinning the Certification Scheme. More recently, scientists from VSICA have collaborated in research to improve control of diseases such as charcoal rot in the strawberry fruit sector.

Summary of the Scheme

The Certification Scheme involves the multiplication of runners over four generations (Figure 4), with specific procedures, practices and standards for each stage of production.

Nucleus plants (Generation 1) enter the Certification Scheme from national or overseas breeding programs following extensive testing for exotic and endemic pathogens that cause disease. VSICA maintains Nucleus plants for a range of clients in a high-security glasshouse. Each year government scientists from AgriBio independently test all Nucleus plants for viruses, fungi and bacteria.



Lionel Stubbs (L) and Karel Kroon (R) were the leading scientists at the Victorian Department of Agriculture who established the Victorian Runner Certification Scheme in the 1960's



Figure 3. Growers at Toolangi produce Certified runners within a 'Plant Protection District', which assists in maintaining very high levels of biosecurity



Healthy runners growing at Toolangi

VSICA multiplies the Nucleus plants to produce daughter plants (Generation 1) and uses these to produce Foundation stock (Generation 2) as plug plants using a hydroponic system in an insect-proof greenhouse. Runner growers in the 'Toolangi Plant Protection District' multiply the Foundation stock to produce Mother stock (Generation 3) and then Certified stock (Generation 4).

Under the rules of the Certification Scheme, nursery growers must produce runners in soil treated with the fumigant methyl bromide. This is because research shows that methyl bromide is currently the only registered fumigant that can disinfest soil at Toolangi to the levels required in the Certification Scheme.

Figure 4. Flowchart of the Victorian Strawberry Runner Certification Scheme

VICTORIAN STRAWBERRY RUNNER CERTIFICATION SCHEME



Nucleus glasshouse where VSICA maintains pathogen-tested plants of different varieties of strawberry and produces daughter nucleus stock - Generation 1



VSICA Tissue Culture Laboratory



Foundation stock - Generation 2 - produced by VSICA in a hydroponic system



Field inspections of Generation 3 & Generation 4 runners



Foundation stock screenhouse

VSICA only issues a Certification label if runners meet all the conditions of the Certification Scheme through all four generations of multiplication. This means that when fruit growers receive runners with a Certification label they can be confident they have purchased the healthiest plants possible.

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