

# 謀定而後動 以滾動式管理守護草莓種苗健康 —劉秉竑 班長

薛道原<sup>1</sup>、邱燕欣<sup>2</sup>

草莓因具特殊香氣、口感宜人且體質嬌嫩脆弱，如同紅寶石般給人夢幻及高貴感。苗栗大湖地區因氣候適宜及土壤肥沃，因盛產高品質草莓而聞名，於冬春季節許多農家都提供草莓園採摘遊憩活動，每年無數旅客慕名而來。但大家常常忽略了，在夏季艷陽高照的天氣下農家也沒閒著，而是步步為營地進行草莓育苗作業，如同蓋房子需打好地基，唯有健康優質的種苗才能在冬季產下豐美的果實。

沿著大湖及三義邊界崎嶇的山間小路爬行，在盡頭映入眼簾的是健生農場草莓育苗圃，每年約孕育了6萬株草莓苗，園主劉秉竑班長本身為農業相關科系背景，且多年來與農研單位密切交流，致力將學術知識轉化並應用於田間實務操作，導入新興病蟲害防治資材及技術，持續在安全永續農業上努力。

依據病害三角環的觀念，環境中如可以直接避免病原殘存即可有效降低病害發生，劉秉竑近年來持續採用種苗改良繁殖場組織培養體系下生產之健康種苗，他說：「使用組培苗可減少苗帶菌率外，因上盆前才會取得母株，減少自留母株於採果期所需照顧之人力，亦減少採種田與採果田

病蟲害交互危害的風險，苗床盡可能設置在有遮雨設施之場域，避免風雨噴濺之病害」，看著草莓植株那碩大翠綠的葉片及健壯的冠部，就可感受他照顧植株的用心。

劉秉竑強調培育健康種苗的關鍵手段不在什麼高深的技術，而是穩穩落實清園工作，苗圃中發現罹病之植株時需立即挖除並以塑膠袋密封後帶離現場，並於種植後的容器須徹底消毒或換新，以避免苗圃罹病株成為病蟲害孳生溫床甚至傳播到子株。其次不同機制之化學藥劑輪替使用，劉秉竑表示：「不要想用單一武器去處理複合的問題，精準判斷病蟲害並對症下藥」，並配合高頻度巡田，觀察病蟲害發生動態，針對防治方針進行滾動式修正。

所謂團結力量大，作為產銷班班長，劉秉竑藉由每個月間的小聚會與班員們進行經驗交流，甚至運用社群快速分享資訊，他說：「班員因有實際經濟效益產生，大家投入精準用藥及病蟲害綜合管理的配合度都很高」，團隊也在大家共同合作努力下入圍第二屆永續善農獎。看著劉秉竑眼神充滿自信並對於管理策略侃侃而談，我們期待未來能有更多夥伴參與共同提升草莓品質，並完善草莓健康種苗生產體系。

<sup>1</sup> 種苗改良繁殖場種苗經營科 助理研究員

<sup>2</sup> 種苗改良繁殖場種苗檢驗科 副研究員兼科長

# Think before you act!

## Safeguarding Healthy Strawberry Seedlings through Rolling Management - Liu Binghong, Team Leader.

Shiue, Dau Yuan<sup>1</sup> Chiou, Yan Shun<sup>2</sup>

Strawberries are renowned for their unique aroma, delightful taste, and delicate and fragile nature, giving people a sense of dreaminess and nobility. The MiaoliDahu area is known for its suitable climate and fertile soil, making it famous for producing high-quality strawberries. During the winter and spring seasons, many farms in the area offer strawberry-picking recreational activities, attracting countless tourists who come from far and wide. However, it is often overlooked that farmers in the region are also busy during the sunny days of summer, meticulously carrying out strawberry seedling cultivation step by step. Just like building a house requires a solid foundation, only healthy and high-quality seedlings can yield abundant and luscious fruits in the winter.

Driving along the rugged mountainous path along the border of Dahu and Sanyi, you will be greeted with the sight of the Jiang-Sheng Farm's strawberry seedling nursery. Approximately 60,000 strawberry seedlings are nurtured here each year. The farm is owned by Liu Binghong, who holds a background in agriculture-related sciences. Over the years, he has maintained close communication with agricultural research institutions, dedicating

himself to translating academic knowledge into practical field operations. He has introduced emerging pest control materials and techniques, continuously striving towards safe and sustainable agriculture.

Based on the concept of the disease triangle, effectively reducing disease incidence can be achieved by directly avoiding the presence of pathogens in the environment. In recent years, Mr. Liu has been continuously



<sup>1</sup> Assistant researcher, Seed and seedling Management section. Taiwan Seed Improvement and Propagation Station, MOA.

<sup>2</sup> Assistant researcher, Seed and seedling testing section. Taiwan Seed Improvement and Propagation Station, MOA.

producing healthy seedlings using the improved propagation system of tissue culture in order to implement this idea. He mentioned, "Using tissue-cultured seedlings can reduce the rate of contaminated seedlings. By obtaining mother plants just before transplanting, it reduces the manpower needed to care for the mother plants during the fruiting period. It also decreases the risk of disease and pest transmission between seedling fields and fruit-bearing fields. It is essential to have rain shelter facilities in the seedbeds to avoid diseases caused by wind and rain splashing." Looking at the large, lush green leaves and vigorous crowns of the strawberry plants, one can truly feel his dedicated care for the plants.

Mr. Liu emphasizes that the key to cultivating healthy seedlings does not lie in advanced technology, but rather in the steady implementation of field sanitation. In the seedling nursery, if diseased plants are found, they are promptly dug out and sealed in plastic bags before being removed from the site. After planting, containers must be thoroughly disinfected or replaced to prevent diseased plants from becoming breeding grounds for pests and even spreading to other seedlings.

In addition, Mr. Liu advocates for the rotating use of different mechanisms of chemical pesticides. He states, "Don't rely

on a single weapon to address complex issues; accurately identify pests and prescribe the appropriate treatment." To support this approach, he conducts frequent field inspections to observe the dynamics of pest occurrence, allowing for continuous adjustments to the pest control strategies as needed. The saying "unity is strength" is well demonstrated by Mr. Liu, the leader of the production and marketing team. He fosters a strong team spirit by organizing meetings every month where members can exchange their experiences. Moreover, he leverages social media to rapidly share information among the team. Mr. Liu stated, "As team members see tangible economic benefits, everyone is highly committed to precision pesticide use and comprehensive pest management." Thanks to the collective efforts and collaboration of the team, they have been recognized and nominated for the second IPM Award.

Watching Mr. Liu confidently discussing his management strategies, we anticipate that more partners will join in their endeavor to enhance strawberry quality and improve the system for producing healthy strawberry seedlings. They will continue making significant contributions to sustainable agriculture and the development of the strawberry industry in the future.

