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Strawberry Living Mulch in an Organic Vineyard

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Abstract

A living mulch system can provide beneficial biodiversified phytocoenoses and spatial competition against weeds; however, it may also compete for water with the main cultivated crop under Mediterranean climate conditions. Strawberries employed as living mulch in a rain-fed hill vineyard of central Italy were evaluated for two years through a participative approach involving the farmer. A local wild strawberry was propagated by stolons to obtain small plantlets easily uprooted after the summer and then transplanted to a one-year-old vineyard. The densities of two and four strawberry plants per grapevine were compared with no living mulch in a randomized complete block design. A horizontal blade weeder was used once a year in all treatments. The results showed that strawberries as living mulch plus application of a blade weeder avoided the need for further soil tillage and assured a full soil cover during winter for both initial planting densities. The strawberry living mulch did not alter the grapevine transpiration during an incident of water stress in summer. Moreover, the yield per vine and the grape quality were comparable with those of the soil without living mulch. The growth of strawberry mulch was relevant in the area surrounding the vines. Furthermore, the living mulch guaranteed a constant soil cover reducing the risk for soil erosion while increasing the vineyard's biological diversity. This may imply a higher resilience. View Full-Text

Keywords: phytocoenosis; weed management; soil cover; *Fragaria vesca*; sustainability

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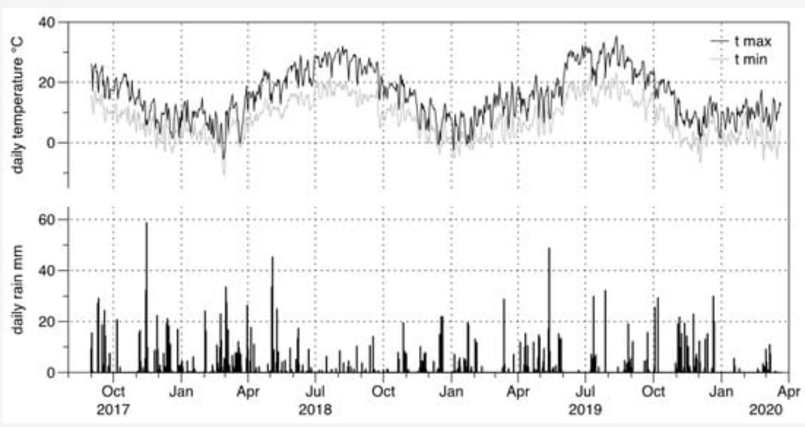

Figure 1

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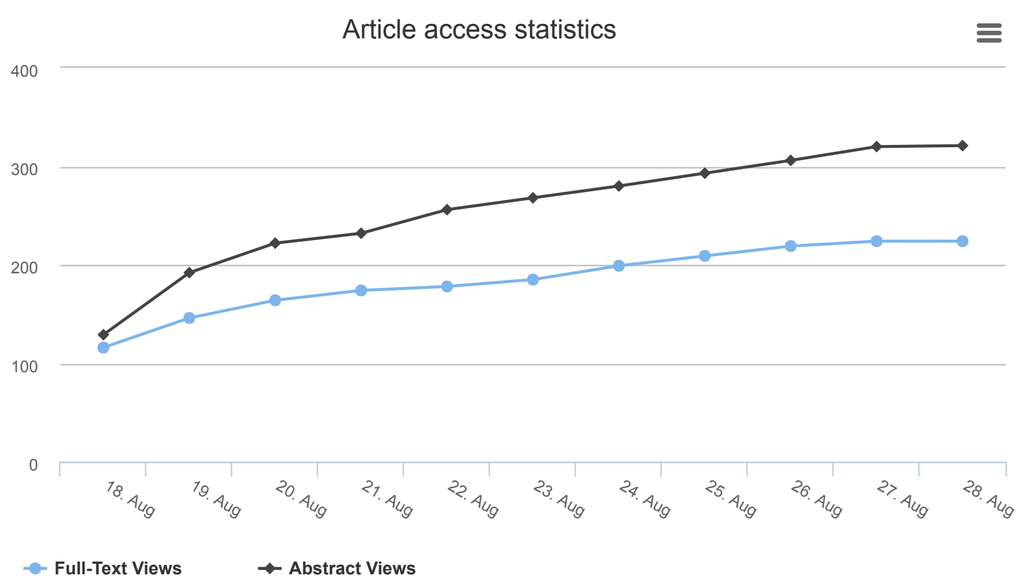

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