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Solutions for soil fertility management to overcome the challenges of the Mediterranean organic agriculture: tomato plant case study

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Supplementary material

Table S1. Main nutrient content of organic and mineral fertilizers

EO, Enne-Otto; PX, Phoenix; GN, Guanito; FT, Fosforite; KS, Kalisop

| Fertilizers | N | P ₂ O ₅ | K ₂ O | CaO | MgO | Fe | Manufacturer |
|-------------|------|-------------------------------|------------------|-----|-----|-----|-------------------------------|
| | (%) | | | | | | |
| EO | 8 | - | - | 18 | 1 | 0.1 | Nuova Concimer s.r.l (Italy) |
| PX | 6 | 8 | 15 | 4 | 3 | 0.8 | Italpollina SPA (Italy) |
| GN | 6 | 15 | 3 | 10 | 2 | 0.8 | Italpollina SPA (Italy) |
| FT | - | 27 | - | 49 | 8 | 0.1 | Sacom SPA agricoltura (Italy) |
| KS | - | - | 50 | 0.9 | 5 | 0.2 | K+S KALI GmbH (Germany) |

Table S2. Doses applied in each treatment expressed as C, N, P₂O₅ and K₂O

CON, control; BCH, biochar; OF, organic fertilizer; MVC, cattle manure and vineyard wood compost; DVC, dairy wastes industry and vineyard wood compost; SVC, solid poultry slaughterhouse wastes and vineyard wood compost; SF, supplementary fertilizers

| Treatments | Pre-planting | | | | Fertilization scenarios | Side-dressing | | |
|------------|--------------|----|-------------------------------|------------------|-------------------------|---------------|-------------------------------|------------------|
| | C | N | P ₂ O ₅ | K ₂ O | | N | P ₂ O ₅ | K ₂ O |
| | (kg/ha) | | | | | (kg/ha) | | |
| CON | - | - | - | - | CON | - | - | - |
| BCH | 3786 | - | - | - | BCH | - | - | - |
| OF | 340 | 68 | 120 | 120 | OF+SF1 | 52 | - | - |
| BCH + OF | 340 | 68 | 120 | 120 | (BCH+OF)+SF1 | 52 | - | - |
| MVC | 750 | 91 | 60 | 104 | MVC+SF2 | 29 | 60 | 16 |
| DVC | 750 | 53 | 16 | 17 | DVC+SF3 | 67 | 104 | 103 |
| SVC | 750 | 66 | 36 | 26 | SVC+SF4 | 54 | 84 | 94 |

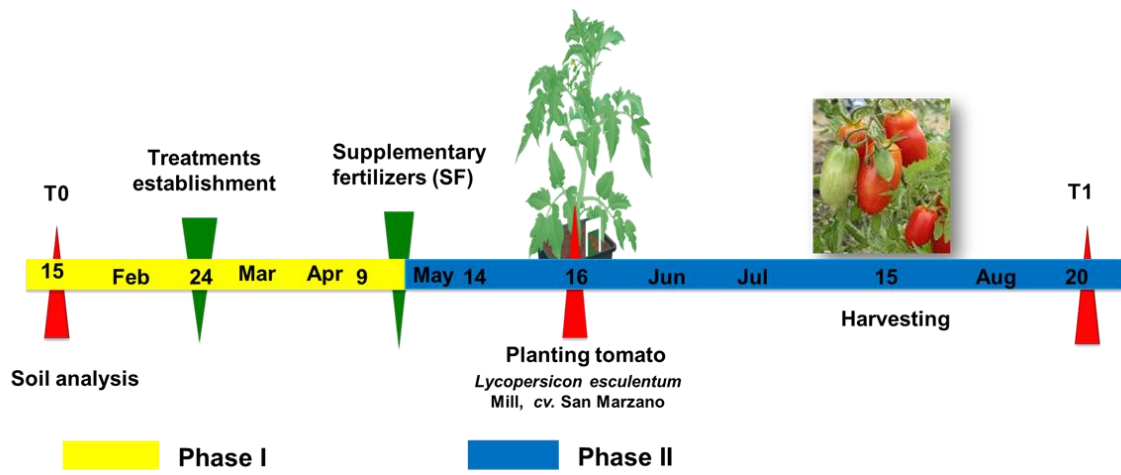


Figure S1. Timing of research activities.