Experiences on physical weed control in nursery container production (ref. n° C0706)

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Weed control represents a major issue not only in agriculture but also in nursery production of ornamental species. This is also a key problem in nursery container production, where weeds can relevantly affect the aesthetical and commercial value of the plants.

In this respect, a specific trial has been carried out at the University of Pisa since 2012 in order to test different physical weed control methods, which may be a possible alternative to herbicide application and disk use in nursery container production. The treatments were made in Photinia × fraseri, growth in common commercial pots filled by peat-based potting soil artificially infested by Oxalis corniculata L.

Two different physical treatments were compared:
- flaming performed with a trolley machine connected to a manual lance equipped with a 10 cm wide open flame rod burner;
- steaming performed with a professional steam generator (power 2.4 kW and steam outflow 3.12 kg h⁻¹) equipped with a manual lance and an on purpose designed and realized dispenser.

Two different frequencies were tested for both the thermal applications. This trial is still on-going but the preliminary results showed that steaming could represent a real effective and economically sound system of weed control in nursery container production. However, further studies to closely evaluate steaming performance and long-period effectiveness as well as generator efficiency are needed in order to optimize this technique.