

New Experience on Carrot Organic Production in Sicily

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Abstract

Introduction

Brio founded "Terre del Sud" in 2005 to grow carrots and other vegetables in Sicily under the strict rules of organic production in order to give more transparency to the produce that is more difficult to grow.

In Sicily, the main problem in organic carrot production is weed control and a poor crop rotation. In comparison with Austria, Germany, The Netherlands, and Denmark, the conditions in Sicily are different, and as a consequence, the weeds grow continuously. Moreover, several botanical weeds appear during the entire carrot growing season: first autumn weeds, then winter (graminaceae) weeds, and finally spring weeds. The critical stage for the carrot is the period of growing leaves. It lasts about 40-50 days. In that period, daylight enhances the growth of weeds. After that period, when more leaves grow, their shadow becomes a hindrance to the daylight and the growth of weeds slows down and stops.

The weeding near the young carrots is possible only by hand, and it should be done before the third leaf grows, in order leave the young roots undisturbed.

The hand weeding of grass also removes young carrot plants.

Proceeding in our farm

Our carrot production in these three years has been made in three different ways.

During the first year, we used both the usual Sicilian way with two beds and two seeding rows on the top (14 ha), and then a new strategy with one bed and 5 single rows (2 ha). As far as the new strategy is concerned, we collaborated with prof. A. Peruzzi from the University of Pisa. Differently from the usual Sicilian organic system, we used a flame weeding prior to crop emergence (close-flamed rod burners) and a Hatzebichler machine. In the new system, the strategy for physical control was: two false seed-beds with rolling harrow (patented by MAMA, the University of Pisa), flame weeding, and three post-emergence inter-row hoeing.

In the usual cultivation, the main problem was weed control at the top of the double beds and between the double carrot rows. Instead, in the new system, the harvesting costs are little higher.

In the season 2006/07, we grew 18 ha of carrot with the 5 single row system with good yield and quality, but with high cost due to the rain and so not well-timed mechanical interventions.

In 2007, we are growing four ha of carrots with a three-bed system and double rows on the top, five ha with one bed but three double carrot rows, and ten ha with five single rows. I will refer to production costs and marketing output of the last year. Furthermore, I will present the different cultivation system for this year and the expected yield.

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