

Table of Contents

In Press

Article Archive

HORTSCI (45) 2018

HORTSCI (44) 2017

HORTSCI (43) 2016

HORTSCI (42) 2015

HORTSCI (41) 2014

HORTSCI (40) 2013

HORTSCI (39) 2012

Issue No. 1 (1-52)

Issue No. 2 (55-99)

Issue No. 3 (101-148)

Issue No. 4 (149-198)

HORTSCI (38) 2011

HORTSCI (37) 2010

HORTSCI (36) 2009

HORTSCI (35) 2008

HORTSCI (34) 2007

HORTSCI (33) 2006

HORTSCI (32) 2005

HORTSCI (31) 2004

HORTSCI (30) 2003

HORTSCI (29) 2002

Editorial Board

Ethical Standards

Reviewers 2017

For Authors

Author Declaration

Instruction for Authors

Submission Templates

Guide for Authors

Copyright Statement

Fees

Submission/Login

For Reviewers

Guide for Reviewers

Reviewers Login

Subscription

## Comparison between conventional and organic weed management: growth and yield of leek (*Allium porrum* L.)

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<https://doi.org/10.17221/162/2011-HORTSCI>

Citation: Karkanis A., Bilalis D., Efthimiadou A., Katsenios N. (2012): Comparison between conventional and organic weed management: growth and yield of leek (*Allium porrum* L.). Hort. Sci. (Prague), 39: 81-88.

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Leek is a weak competitor against weeds. A field experiment was conducted to determine the effects of herbicides and mulching on weed flora, growth and yield of a leek crop. A randomized complete block design was employed with five replicates per treatment (control, mulching with barley straw, post-transplant application of the herbicide oxyfluorfen at 360 g a.i./ha and pre-transplant application of pendimethalin at 1,650 g a.i./ha). The order of weed sensitivity to mulches was black nightshade (72–85%), venice mallow (80%) > redroot pigweed (70–74%), barnyardgrass (67–77%) > jimsonweed (65%) > common purslane (42–45%). Oxyfluorfen had the highest control of jimsonweed, venice mallow and common purslane. There were no significant effects of the pendimethalin treatment on weed control ratings of jimsonweed, venice mallow and field bindweed. Injury symptoms (small white spots) appeared on leek leaves exposed to oxyfluorfen. The highest yield of leek was recorded with the oxyfluorfen application. Our results indicate that mulching and oxyfluorfen application provides satisfactory control of weeds. The use of mulching is an option for the weed management in organic leek crop.

### Keywords:

herbicides; mulching with barley straw; injury symptoms; light interception; yield

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Impact Factor (WoS)

2017: 0.5

5-Year Impact Factor: 0.819

SJR (SCImago Journal Rank – SCOPUS):

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