

Effects of Sheep Grazing on Weed Control in Saffron (*Crocus sativus* L.) Fields

Rashed Mohassel, M.H., *Ghorbani, R., Makarian, H., Rastgoo, M.
*Faculty of Agriculture, Ferdowsi University of Mashhad, Iran
reza-ghorbani@ferdowsi.um.ac.ir

To study the effects of sheep rates and grazing duration on weed control and saffron biomass, a field experiment was conducted during the year 2006, in a saffron (*Crocus sativus* L.) field located in Boshrooyeh (33° North latitude, 57° East longitude), Razavi Khorasan, Iran. A split plot design based on randomized complete blocks with three replications was used. The treatments comprised three sheep rates, 200, 400 and 750 sheep per hectare, allocated in main plots and three grazing duration, 2, 3 and 4 days (8 hours per day) allocated in subplots. The factors studied consisted of aboveground dry weight of common grasses (*Hordeum murinum*, *Lolium rigidum*), broadleaf weeds (*Cardaria draba* and *Carduus pycnocephalus*) and aboveground biomass of saffron. Results showed that sheep rates had significant effects on aboveground dry weight of grass and broadleaf weeds. Duration of grazing had a significant effect on saffron aboveground biomass. With increasing sheep rates from 200 to 400 per hectare, dry weight of weeds (grass and broadleaf) decreased significantly. In the highest rate of sheep (750 per hectare) with increasing the duration of grazing from 2 to 4 days, dry weight of saffron leaves decreased significantly. Our results nominate this idea that grazing with 400 sheep per hectare for duration of 3 days is required for acceptable control of weeds in saffron field without any significant reduction in saffron aboveground biomass.

Keywords: Saffron, weeds, biological control.