Grazing as reduced tillage, weed and nutrient management tool in western Canadian organic systems

Harun Cicke1, Kristen Podolski2, Caroline Halde3 and Martin Entz4

1ICARDA, Diversification & Sustainable Intensification of Production Systems Program (DSIPS), Amman, Jordan. h.cicke@cgiar.org
2Manitoba Pulse Growers Association, Canada. kristen@manitobapulse.ca
3University of Manitoba, Canada. m.entz@umanitoba.ca

Organic farms in western Canada rely on green manures for fertility building, as well as, disease and weed control. Inclusion of green manures in rotation not only increases the reliance on tillage but also incurs cash crop opportunity loss. Grazing of green manures can be used to reduce tillage, control weeds, enhance nitrogen availability and generate income in the form of live weight gain.

Figure 5: Effect of green manure termination method on soil nitrate in the first autumn after grazing in direct and no-till seeded plots.

Figure 6: Soil N in the first autumn after grazing in direct and no-till seeded plots.

Figure 7: Weed biomass in various rolled/mulched green manure systems at Carman (5-12), 4mc, and blade cultivation (Noble blade), blade roll.

Figure 8: Effect of green manure termination method on soil nitrate in the first autumn after grazing in direct and no-till seeded plots.

Figure 9: Effect of green manure termination method on soil nitrate in the first autumn after grazing in direct and no-till seeded plots.