PRACTICE ABSTRACT NO.007

Reducing weed seed pressure with the false seedbed technique

Problem

Annual crops are especially sensitive to weed pressure during early growth. Intensive weed pressure limits crop growth through competition for light, nutrients and water.

Solution

Grow the weeds, and then grow the crop! The false seedbed technique consists of preparing a regular seedbed (early) and then – instead of sowing the crop directly – you allow the weeds to germinate and then control them repeatedly before planting or sowing the actual crop.

Outcome

The false seedbed technique reduces the weed seed bank in the topsoil and, as a result, significantly reduces competition of annual weeds in the succeeding crop.

Applicability box

Theme
Weed management

Geographical coverage
Global, limited to specific soils, climates

Application time
2-4 weeks before sowing or planting

Required time
Harrowing 1 to 2 times

Period of impact
Succeeding crop

Equipment
Harrow-comb or flexible harrow, chain harrow

Best in
Crops with slow emergence and/or slow establishment; crops with low competitiveness such as soya, beans, peas, sugar beet, carrots or onions.

Practical recommendation

- Prepare a regular seedbed 2 to 4 weeks before the planned seeding date of the next crop.
- Let the weeds germinate and grow to the 2- to 4-leaf stage, the most effective stage for weed control.
- Uproot the weeds to a depth of 3 to 5 cm using a harrow comb or a flexible or chain harrow.
- If (a) weed density is high, (b) if you have 7 to 10 days available for sowing the crop, or if (c) weed competition in the following crop is very critical, repeat the procedure a second time before sowing the crop as usual (figure 1).

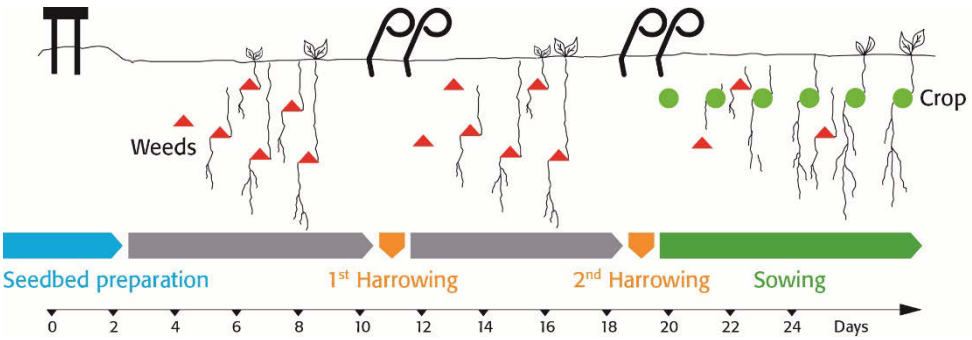

Figure 1: Schematic presentation of the false seedbed technique

Notes

- Weed seed germination is highest in humid soil with a fine tilth. If the seedbed is too dry or cloddy, germination is reduced and the impact of the method is limited.
- Effectiveness of the method can be limited at soil temperatures below 10 °C.
- Preferably use a power take-off or friction-driven machines to avoid soil structure damages.

Research Institute of Organic Agriculture FiBL. Reducing weed seed pressure with the false seedbed technique. OK-Net Arable Practice Abstract.