

Roller crimper or cut-roller

The roller crimper is a tool for mechanical termination (kill) of the cover crops, to obtain a dead mulch that obstacles weeds development.

DID YOU KNOW?
Some rollers can substitute the use of PTO mulcher for the management of crop residue.

Readiness for use: 

Efficacy: 

How it works

- The roller crimper works by flattening the cover crops to the soil surface, crimping their stems, and obtaining their devitalization, figure 1.
- The formation of a thick layer of vegetal residues (dead mulch) on soil surface can counteract weed germination and development
- The use of roller crimper can reduce the use of chemical herbicides for devitalizing cover crops
- In organic farming systems, combining the use of roller crimper with flame weeding machines can be useful to increase the efficacy of the devitalization of the cover crop, figure 2.
- In reduced tillage soil management, crop establishment in dead mulch can be performed after using strip tillage equipment provided of row cleaner
- In no-till soil management crop establishment in dead mulch can be performed using proper planters or trans-planters, able to operate with thick layers of vegetal residues figure 3.
- Different types of roller crimpers or cut rollers are available on the market, each of which has a proper design that should fit specific farmer's need
- Phenological stage of the cover crop is a crucial factor for the efficacy of the mechanical devitalization. Best performance occurs at milky-dough (grass cover crop) or 70% flowering (legumes)



Figure 1. Dondi Cut-Roll RT300 terminating a cover crop of rye.



Figure 2. Flame weeding operative machines, working after the roller crimper.



Figure 3. No-till vegetable crop establishment on dead mulch.

Read more

<https://www.youtube.com/watch?v=UtxH4CJa-jk>

<https://rodaleinstitute.org/our-work/organic-no-till/organic-no-till-roller-crimper/>

<http://www.dondinet.it/products/cultivators-and-minimum-tillage/dondi-cut-rollers.html>

<https://journals.plos.org/plosone/article/comments?id=10.1371/journal.pone.0211573>

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