

Simplify the implanting of maize with the Strip Till

Summary

On dairy farms, farmers must balance the field work and monitoring their herd. At certain periods of the year, time is running especially when planting maize.

The strip till has been developed as an alternative to conventional tillage to prepare the soil before planting maize.

This tool reduces up to 2x the work time but also fuel consumption by 50 to 70%.

However, the success of this technique is part of a global approach to the farm level which requires a good knowledge of its soil and the installation of a optimized plant cover.

Background

In the Pays de la Loire 19% of the agricultural area is composed by maize. A large part is exploited by dairy farmers. The implanting of this crop in spring represents an important working tip in these dairy farms.

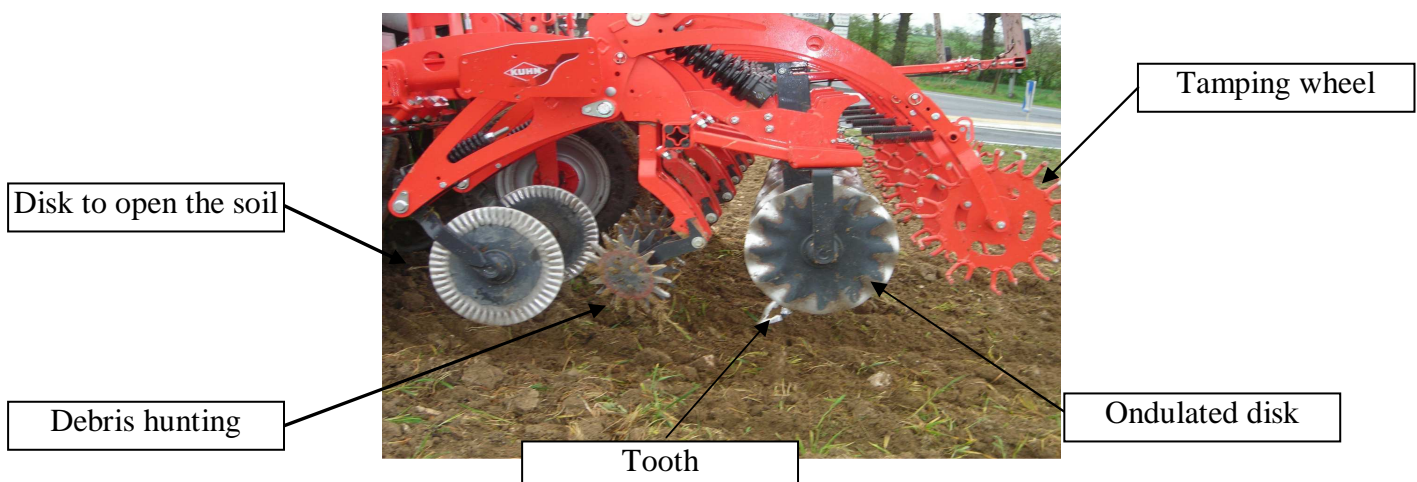
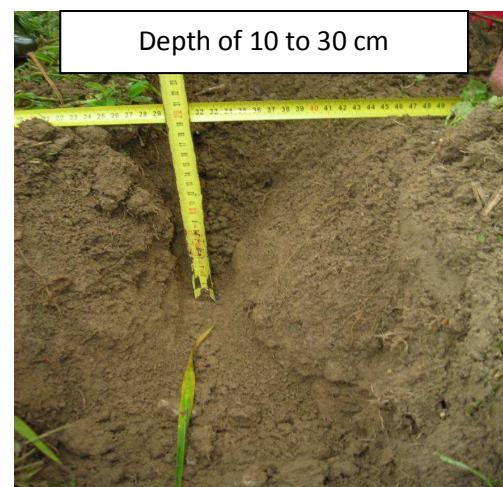
Farmers are looking for techniques allowing them to sow maize rapidly by maintaining the yield of the crop.

Solutions are searched by material constructors to help farmers. The "strip Till" was developed and allows to the farmers to till the soil only on the seeding row.

The Strip Till

The strip till is a tool equipped by :

- Teeth permitting a soil tillage at a deep of 10 to 30 cm;
- Discs to crumble the soil on 10 to 20 cm in order to prepare the seed bed.



The effects

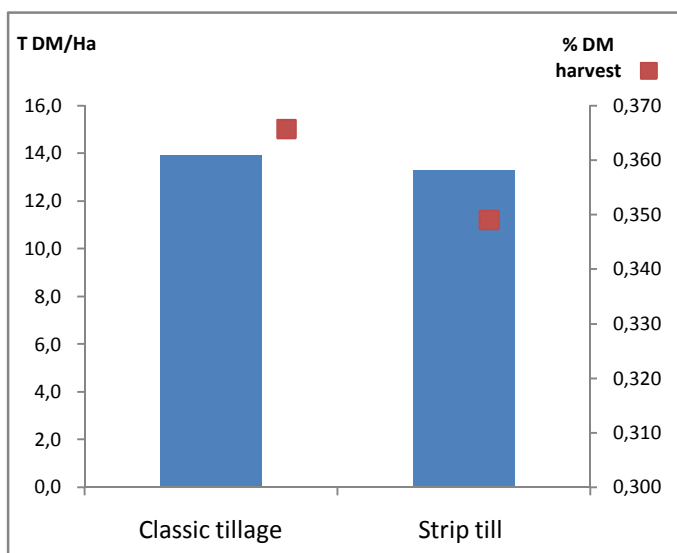
The Strip Till was tested on Derval farm in 2012 to compare the classic tillage to the use of this new tool.

The soil presented a silty sand clay texture.

The previous crop was a maize (12T DM) and the intermediate culture was a white mustard destroyed by grinding in the middle of january.

	DATE					
	19/01	3/04	22/05	24/05	25/05	29/05
Classic Tillage	Destruction of white mustard		Slurry Labour	Seedbed cultivator + Roller	Combined seeding	
Strip Till	Destruction of white mustard	Glyphosate	Slurry	Strip Till	Solo seeding	Glyphosate

Yield and % of DM according to the soil tillage



There are no significant differences in yield between the 2 techniques of cultivation.

Fuel consumption in the sowing of maize

Operation	Classic Tillage		STRIP-TILL	
	Liter/Ha	Hour/Ha	Liter/Ha	Hour/Ha
Classic Tillage	20.5	0.9		
Strip-till			6.4	0.6
Recovery of tillage	10	0.5		
Seeding	11.2	0.7	6	0.7
TOTAL	41.7	2.1	12.4	1.2

With the Strip Till, the fuel consumption is reduced by 50 to 70 % compared to classic tillage.

The planting of maize requires half as much time with Strip Till (when slurry is not buried).

Recommendations

- Burying of organic matter (slurry) : prefer a superficial incorporation with a cultivator.
- Prefer a plant cover adapted to mechanical destruction or a total weed control (herbicides).
- Work on a shipping dry soil