

HARVESTING MANAGEMENT



Cereal harvesting - chaff spreader and straw cutter.



Corn harvesting with built-in stalk chopper.

Correct management of crop residues is essential for any type of seeding:

- ◆ A correctly-adjusted chaff - spreader and stalk chopper will insure uniform distribution of crop residues over the soil.
- ◆ Avoiding unnecessary traffic and the use of large tires on the drive wheels reduce soil compaction.

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RESIDUES MANAGEMENT



Straw Harrow on devitalized cover crop.



Soybean growing in the same field.

The passage of the Straw Harrow considerably reduces the time required for residues decomposition:

- ◆ chopping of residues;
- ◆ higher contact of residue with soil;
- ◆ high operating speed and extra;
- ◆ working width ensure fast completion of large areas.

WEED CONTROL



Sub-surface cultivator.



Soil after passage with sub-surface cultivator.

When deep tillage is necessary (for example to reduce soil compaction due to harvesting in wet conditions), or when mechanical weeding is performed, it may be useful to till the soil with a sub-surface cultivator. This gives the following advantages:

- ◆ crop residues remains on the soil surface, above the seeding level;
- ◆ reduced soil compaction and improved soil tilth.

UNDER SURFACE SEEDING



Sub-surface seeder.



Growing of autumn-winter cereal.

This method of cultivation effectively eliminates all those operations that have no influence on the fertility of the soil and the development of the plants.

In particular, all operations whose only aim is to allow operation of seeding machines are eliminated. Our low disturbance seeder has been designed to conserve the natural fertility of the soil. It may be used directly after harvesting or on tilled soil.



TONUTTI reserves the right to make changes or add improvements at any time without notice. The information contained herein is general in nature and is not intended for specific application purposes.



Always one step ahead®



Patent pending

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CYCLON is a revolutionary harrow using helicoidal spring tines. Designed by TONUTTI TECHNOAGRICOLA for optimum crop residues management and higher productivity in minimum tillage practices.

Economical and efficient, the CYCLON shatters important quantity of residues, controls weeds and can incorporate seed and chemicals while working at high speed.

TECHNICAL DATA

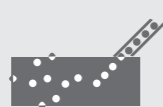
| MODEL CYCLON LD 8000 - SH |                              |
|---------------------------|------------------------------|
| Working width (m)         | 8                            |
| Transport width (m)       | 3                            |
| Frame sections            | 1 x 2 meters<br>2 x 3 meters |
| Tine number               | 65                           |
| Tine diameter (mm)        | 14/16                        |
| Tine spacing (cm)         | 6                            |
| Tines working angle       | Adjustable                   |
| Hydraulic connections     | 3 x DA<br>(Double-acting)    |
| Tire size                 | 600 - 22.5                   |
| Min. HP required          | 140                          |
| Working speed             | 12 to 25 km/h                |



1 - BREAKING & SPREADING RESIDUES



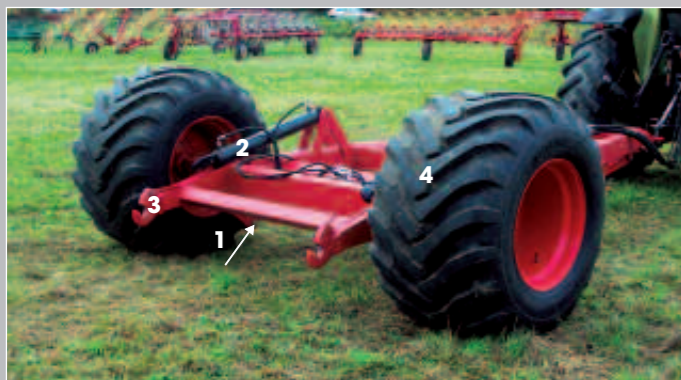
2 - CHEMICAL & SEED INCORPORATION



3 - GROUND LEVELING - SOIL PREPARATION FOR SEEDING

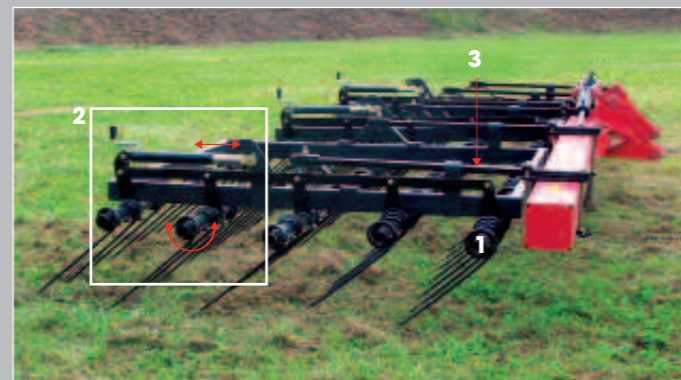


EASY & QUICK ADJUSTMENTS



QUICK-ATTACH DRAWBAR - LD SERIES:

- 1) Lift system using 2 hydraulic cylinders located underneath of the axle: that allows to adjust working height and so the pressure of the tines on the ground.
- 2) Hydraulic cylinders to fold the CYCLON harrow in transport position and to set-up the working angle: that allows to adjust the pressure from front-to-rear of the harrow, based on working requirements.
- 3) Universal Quick-attach to change the type of equipment.
- 4) Flotation tires to limit compaction.



DETAILS OF THE CYCLON HARROW:

- 1) Heavy-duty spring tines break-up and spread most types of residues efficiently.
- 2) The system allows to rotate the 5 bars that support spring tines. It changes tine angle to adapt the aggressiveness of harrowing.
- 3) Each independent harrow sections are linked to the main frame by two spring bars. Their flexibility allow efficient ground contour even at high working speed.

FUNCTIONAL ADVANTAGES:



Crop residues decomposition is a process carried on by various actions, mechanical, chemical and biological activities. The CYCLON harrow is designed for higher productivity:

- ◆ High working speed along with tine vibrations break crop residues.
- ◆ Distribute residues evenly on soil surface, without mixing them to lower soil layers.
- ◆ Put residues in contact to the soil.
- ◆ Low power requirement.
- ◆ Mechanical weed control and promote previous seed crop and seed weed to germinate.
- ◆ Superficial preparation for optimum results with minimum tillage seeders.

