

# Terradonis

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**PRECISION ROLLER SEEDER**

## **JAS** *User Manual*



**Terradonis is a registered trademark of ICS**

ZA de Croix Fort - 12 rue du Soleil - 17220 La Jarrie - France

Tel: +33 5 4635 2828, Fax: +33 5 4635 2829

[contact@ics-agri.com](mailto:contact@ics-agri.com)



[www.terradonis.com](http://www.terradonis.com)

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## SUMMARY

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Your detailed seeder

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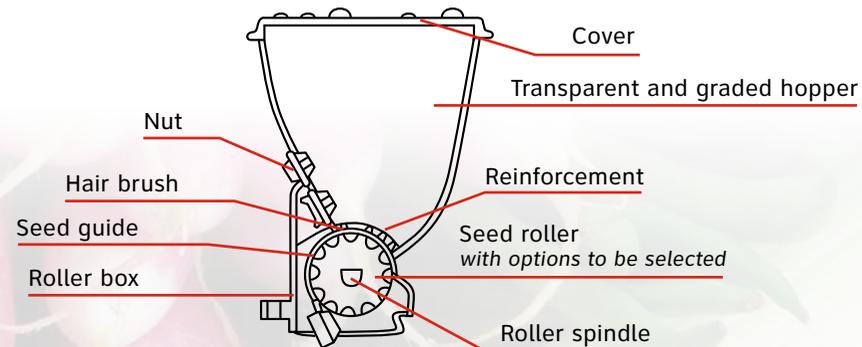
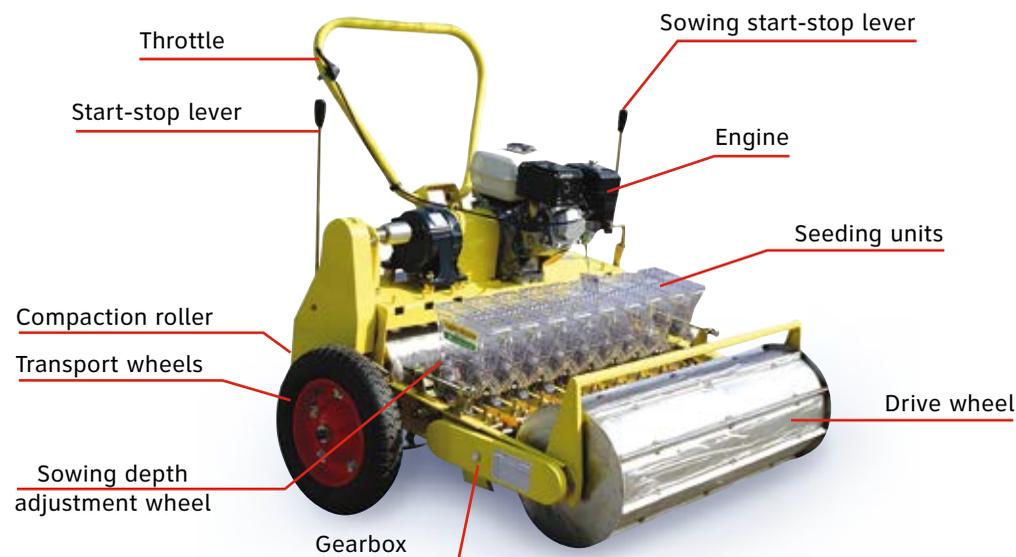
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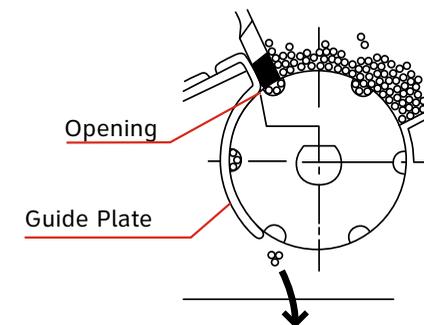
## INSTRUCTIONS FOR USE

- Lubricate all rotating parts except the seed roller.
- The brush and the guide plate are consumables. Check them regularly and replace as necessary.
- Make sure the seedbed is uniform.
- Check whether the seed roller is caked in dirt, pesticides or seed casing residues. If it is, it should be cleaned.
- Prepare a seedbed by carefully hoeing and levelling.
- When you sow beans or grains, a bypass can occur in the seed hopper. In this case, gently tap the hopper and fill the hopper half full instead.
- When you disassemble the sower, make sure the free roller is not caked in dirt, etc...

## SETTINGS

- **BRUSH:** In its default position, the brush lightly touches the seed roller. To increase the volume of seeds, put the brush in a high position (loosen the wing nut and lift the brush).  
**If you use coated seed:** The brush should touch the seeds, and exercise slight pressure on them. It is necessary to find the right adjustment for your seeds, because if the brush is too low, it will wear very (too) quickly. If it is too high, the seeds will break.

- **GUIDE PLATE:** The guide plate forms a cavity between the roller, the brush and the guide plate. Without this space, the seeds might break. The end of the guide plate must be in close contact with the roller. If the guide plate becomes misaligned, you can realign it using the diagram opposite. In a general way, guide plate should be removed as soon as the brush is raised.



- **PLANTING DEPTH:** Planting depth may be adjusted by lowering or raising the shoe.



The sowing depth can be adjusted individually for each row by loosening the nuts on the front of the seeding unit.

**Important:** avoid over-tightening the nut so as not to exert excessive pressure on the shoe beam. Tighten only sufficiently to hold the shoe in place. It is also possible to simultaneously adjust all seeding units by operating the cranks located on either side of the chassis.



## ...SETTINGS

## SOWING SEEDS IN ROWS

→ **SEEDING DISTANCES:** The distances between the seeding can be adjusted by adjusting the pinions and the number of holes in the roller, see the seed distance table.

**Note:** the actual planting distances may vary depending on soil quality and speed of work. Test intervals based on the ground before you start planting.

→ **SOIL COVER:** Adjust the angle of the filler blade for optimal soil cover.

→ **CLEANING:** If soil sticks to the compaction wheel, the contact surface must be cleaned before it sticks (it might deposit oil or dirt).

→ **HOPPER COVER:** The hopper cover is made of different molded holes representing the holes of the different rollers offered. They will enable you to verify that seeds and rollers are well-chosen and suitable. Under each mold, the size of the hole. The table below shows the sizes of the roller holes enabling you to find the roller that you need.

**TABLE OF ROLLER HOLE SIZES (in mm)**

Ref.	Hole size	Hole depth	Length if hole in X	Ref.	Hole size	Hole depth	Length if hole in X
<i>The letter indicates the type of hole. Refer to the table of distances to decide on the right number of holes for your needs.</i>							
A	13,50	6,00	-	R	9,00	3,50	-
AA	12,00	6,00	-	S-4	SPECIAL FORM (19mm x 8mm)		
C	11,00	5,50	-	U-4	SPECIAL FORM (19mm x 10mm)		
F	5,00	2,50	-	X	4,00	2,00	-
FJ	5,00	3,00	-	XY	2,50	1,20	5,00
G	9,00	4,50	-	XYX	2,00	1,20	4,00
J	SPECIAL FORM (½ hole of 1.5mm)			Y	3,50	1,50	-
L	7,00	2,50	-	YJ	3,00	2,00	-
LJ	7,00	3,70	-	YK	3,50	2,30	-
M	5,00	2,00	-	YX	2,50	1,50	-
MJ	6,00	3,50	-	YXX	2,50	1,80	-
MM	6,00	2,50	-	YYJ	3,00	1,70	-
N	SPECIAL FORM (16mm x 6mm)			YYX	2,00	1,8	-
Q	8,00	3,00	-	Z without hole	External diameter 59.85mm		

Feel free to contact us for any special request of seed rollers (for other dimensions than the one quoted in the table).

Quoted dimensions may vary, our website [www.terradonis.com](http://www.terradonis.com) is updated accordingly.

→ **The quantity of seed is adjusted by the combination of 3 elements:**

- Number of holes on the seed roller
- Size of the holes in the seed roller
- Number of sprocket teeth used

For the **number of holes you need:** refer to the table of distances below:

**TABLE OF DISTANCES (in mm)**

		NUMBER OF TEETH PER SPROCKET											
		Front	14	14	13	13	11	11	10	11	10	10	9
		Back	9	10	10	11	10	11	11	13	13	14	14
Number of holes per seed roller	2	Small grain seeders	320	360	380	420	460	500	540	580	640	700	760
	3		210	230	250	280	300	330	360	390	430	460	510
	4		160	180	190	210	230	250	270	290	320	350	380
	6		105	115	125	140	150	165	180	195	215	230	255
	8		80	90	95	105	115	125	135	145	160	175	190
	10		64	72	76	84	92	100	108	116	128	140	152
	12		53	58	63	70	75	83	90	98	108	115	128
	16		40	45	48	53	58	63	68	73	80	88	95
	20		32	36	38	42	46	50	54	58	64	70	76
	24		27	29	32	35	38	42	45	49	54	58	64
	30		21	24	25	28	31	33	36	39	43	47	51
36	18	20	21	23	26	28	30	32	36	39	42		

→ **PLANTING DISTANCE:** see table above.

## SOWING SEEDS IN ROWS...

## ...SOWING SEEDS IN ROWS

### → NUMBER OF SEEDS/HOLE:

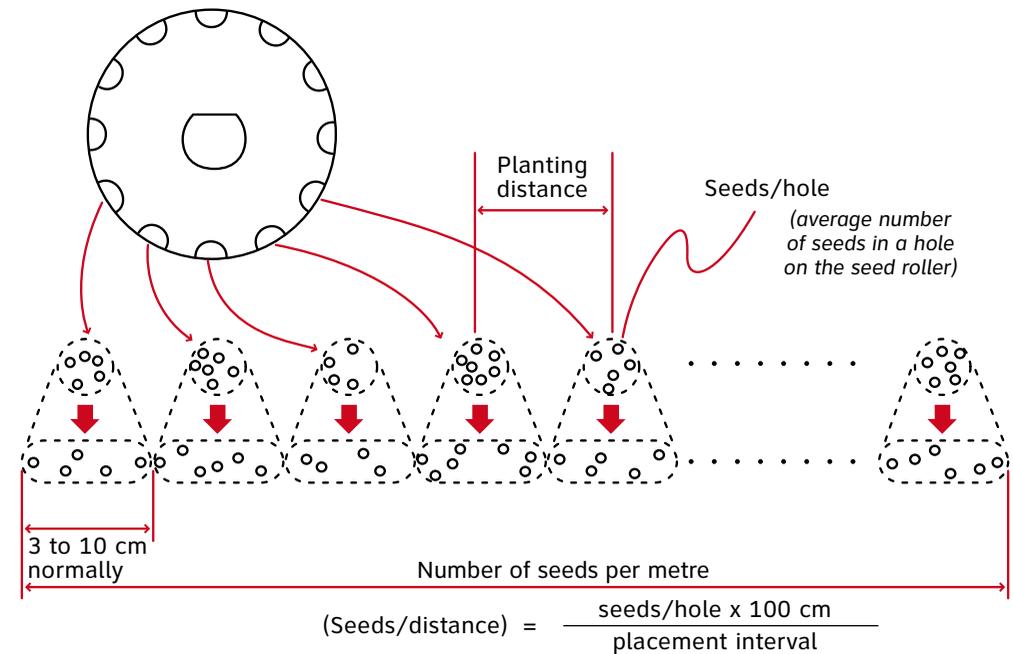
The number of seeds differs depending on seed size, which in turn depends on the species and the year and the adjustment of the brush.

Therefore numbers shown in the table of distances are given as a guideline only. Below are some examples of correspondence between rollers and crops, on the basis of one seed per hole:

### EXAMPLES OF CORRESPONDENCE BETWEEN ROLLERS AND CROPS

CROP	ROLLER	CROP	ROLLER
Basil	YX12	Endive	XYY12
Beetroot	MJ12	Radish	X24
Broccoli	YYJ6	Rocket	X12
Carrot	X24, XYY24, XY24	Wheel with no hole	Z
Camomile	YYX24	Tomato	X2
Celery	YYX12	Thyme	YYX12
Chicory	XYY12	Spinach	FJ24
Cabbage	YYJ6	Fennel	X12
Pak Choi	YYJ6	Green beans	N6
Frisée	YYJ6	Lettuce (coated)	MJ12
Spring onion	Y24	Lettuce (raw)	XYY12 or 24

CROP	ROLLER
Flax	Y24
Lamb's lettuce	F24, FJ12
Mint	YYX 12 or 24
Onion (raw)	X24
Sorrel	YYX12 or 24
Parsnip	L12, L24
Parsley	YYJ24
Leek	Y24
Peas	AA12



**Caution:** the planting distance depends on the combination of sprocket teeth (11 adjustment positions) and the number of holes on the metering roll. The drive wheel may slip depending on soil quality and placement speed. Therefore, the number of seeds is a guideline only. If the transmission wheel skids, planting distances will be larger, reducing the number of seedlings. So make sure that the wheel does not slip.

**Seed dispersal:** Seeds are dispersed in a hole according to the direction of the motion until they are sown, and roll on the ground. The dispersal length varies depending on the size of the hole, the soil quality, the seed size and can vary between 3 and 10cm.

## REMOVAL OF THE HOPPER FOR

## POSITIONING OF THE ROLLER

**1** Press the metal element to unclip the hopper, then lift.



**2** Unclipped element.



**3** Unscrew the white knob and open the retractable portion of the hopper



**4** To remove the pin, turn it as shown in photo below and pull, to release the pin and the roller.



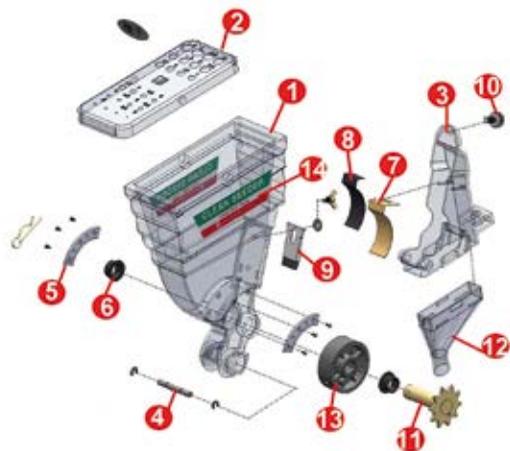
**5** The roller can now be changed.



## SPARE PARTS...

## ...SPARE PARTS

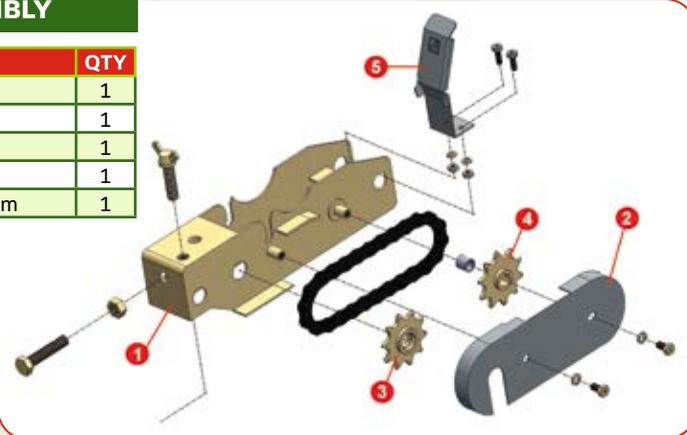
### → HOPPER ASSEMBLY



N°	DESCRIPTION	QTY
1	Hopper	1
2	Hopper cover	1
3	Seeding roller carter	1
4	Seeding roller carter rod	1
5	Reinforcer	2
6	Seal ring	2
7	Seed guide	1
8	Thin felt cloth of the seed guide	1
9	Brush	1
10	Knob	1
11	Sprocket shaft	1
12	Plastic seed	1
13	Seeding roller	1
14	Sticker	2

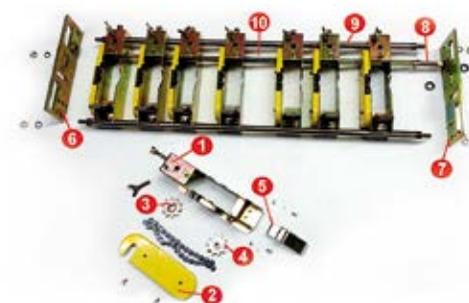
### → SEEDING UNIT ASSEMBLY

N°	DESCRIPTION	QTY
1	Seeding unit	1
2	Chain carter	1
3	Sprocket 10 teeth	1
4	Sprocket 10 teeth	1
5	Hopper release system	1



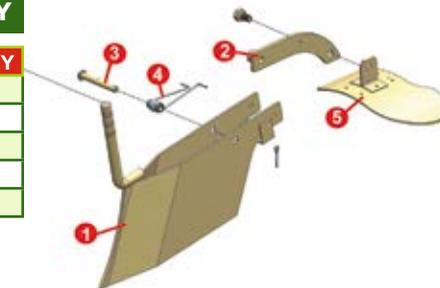
### → SEEDING BLOCK ASSEMBLY

N°	DESCRIPTION
1	Seeding unit
2	Chain guard
3	Sprocket for hexagonal shaft
4	Sprocket
5	Strip for removing the hopper
6	Left-hand bearing plate
7	Right-hand bearing plate
8	Hexagonal shaft
9	Front shaft
10	Roller drive shaft

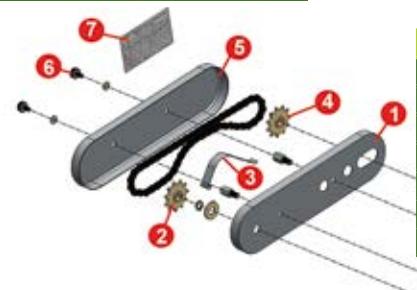


### → SHOE ASSEMBLY

N°	DESCRIPTION	QTY
1	Standard shoe	1
2	Shoe lever	1
3	Pin	1
4	Spring	1
5	Filler blade	1



### → GEARBOX ASSEMBLY



N°	DESCRIPTION	QTY
1	Inner carter	1
2	Sprocket 11 teeth	2
3	Chain guide	1
4	Shaft	2
5	Outer carter	1
6	Knob	2
7	Seeding distance table	1

## ...PIÈCES DÉTACHÉES...

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### → DRIVE AND COMPACTION ROLLER

N°	DESCRIPTION
1	Drive roller
2	Drive roller handle
3	Drive roller scraper
4	Graduation
5	Sticker
6	Compaction roller
7	Compaction roller scraper



### → ENGINE



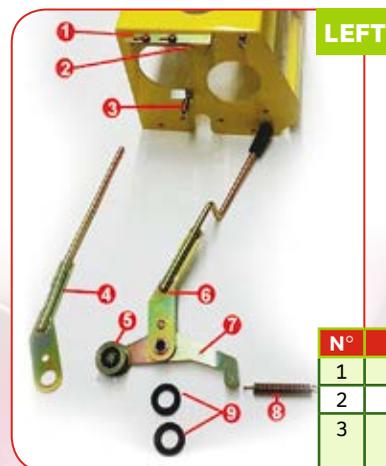
N°	DESCRIPTION
1	Main pulley
2	Drive shaft
3	Support
4	Safety housing
5	Reduction gear
6	Safety housing
7	Engine
8	Reduction gear spacer
9	Flange
10	Drive (+ drum)

### → ENGINE FRAME

#### PRINCIPAL



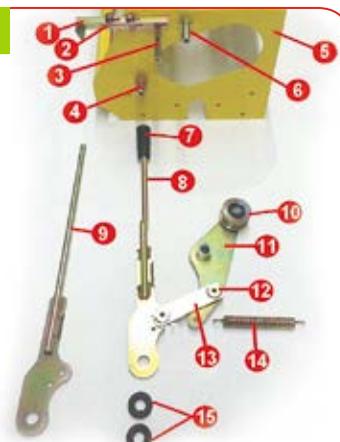
N°	DESCRIPTION
1	Engine mount
2	14-tooth sprocket
3	13-tooth sprocket
4	10-tooth sprocket
5	9-tooth sprocket
6	Right-hand housing



#### LEFT

N°	DESCRIPTION	N°	DESCRIPTION
1	Sowing lever support	5	Tensioning system
2	Stopper	6	Sowing lever
3	Distribution drive shaft	7	Tensioning system support
		8	Spring
4	Sowing lever	9	Rubber tension ring

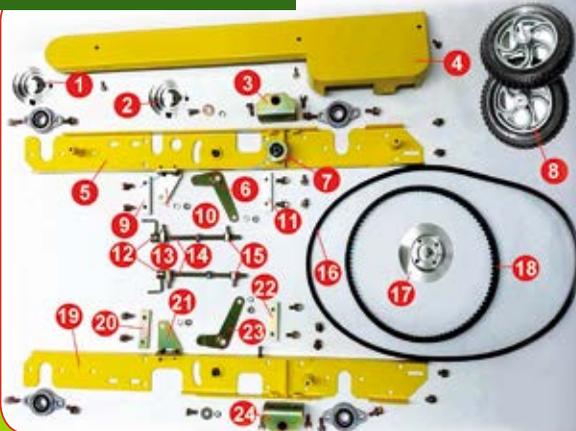
#### RIGHT



N°	DESCRIPTION
1	Drive lever mount
2	Stopper
3	Shaft housing
4	Drive lever mount
5	Shaft housing
6	Drive lever mount
7	Lever arm
8	Drive lever (9-12 rows)
9	Drive lever (6 rows)
10	Tensioning system
11	Tensioning system support
12	Nut
13	Connector
14	Spring
15	Rubber tension ring

## ...SPARE PARTS...

### → FRAME ASSEMBLY



N°	DESCRIPTION
1	Left-hand pulley
2	Left-hand pulley
3	Transport wheel support
4	Left-hand outer housing
5	Left-hand inner housing
6	Hopper lever support
7	Loose pulley
8	Transport wheel
9	Guide plate
10	Support
11	Guide plate
12	Crank
13	Lever arm
14	Lever mechanism
15	Lever arm
16	3V – 590 belt
17	Right-hand pulley
18	REC LB-37 belt
19	Right-hand housing
20	Guide plate
21	Support
22	Guide plate
23	Hopper lever support
24	Transport wheel support

### → MISCELLANEOUS

N°	DESCRIPTION
1	Tube
2	Transport wheel
3	Hexagonal pulley
4	Left-hand wheel shaft
5	Right-hand wheel shaft
6	Arm housing
7	Right-hand housing
8	Hexagonal flange



## ...SPARE PARTS

### → ARM



N°	DESCRIPTION
1	Arm
2	Throttle lever
3	Throttle cable

## CONSUMABLES

NAME	REPLACEMENT
Brush	These elements are subject to wear and tear. They should be replaced therefore when they can no longer carry out their function.
Chain Guide	

## ADD-ON HOPPER

→ THIS OPTION ALLOWS TO INCREASE THE STANDARD HOPPER CAPACITY FROM 1.2L TO 3L.

- 1 Take the hopper cover off.
- 2 Place the add-on on the top of the hopper, to superimpose the holes of the hopper to the holes of the add-on.
- 3 Screw the white knobs. The cover of the hopper can be placed at the top of the add-on.



## THE ROW-MARKER

### → DOUBLE ROW SHOE:

It allows to sow two rows, distant of 45mm, by seeding unit.

It is delivered with a plastic seed divider.

To get a higher density, we recommend to use a roller with 30 or 36 holes.

Recommended for radish, carrot, small vegetable...



standard soil opener



"double row" soil opener option



### → SOIL OPENERS: (exist in 60mm, 75mm and 120mm wide)

Allows sowing in bed, rather than in line.

In the case of sowing in seed nursery, it allows a better cover of soil surface, and then a better density is obtained.



### → DISC SOIL OPENER :

It is recommended for stony and tough soil.

## SETTING OF THE SHOES

**1** Remove the standard shoe unscrewing the bolt, as shown on the picture.

**2** Mount the shoe to be used and screw the bolt.

**Caution:** do not force to screw. As soon as the shoe is maintained, stop screwing.



## MACHINE START-UP

**Before proceeding, read the user manual provided with the engine before starting it up.**

→ **Starting the engine:** To avoid a sudden start and for your own safety, ensure that the levers are in the «Stand» position.



The engine choke must be pushed completely to the left:

- Set the engine switch to the start position (1)
- Prime the pump several times
- Pull the starter handle
- Once the engine has started, move the choke to the right.

### → Use and functions of the JAS 2 levers:

The **1<sup>st</sup> lever (on the right)** when you are in machine operating position) is used to move the seeder forward and to rotate it. To move it backwards, set the lever to «stand».

The **2<sup>nd</sup> lever (on the left)** when you are in operating position) is used to operate the seeder units and the drive wheel. It is only used when sowing to the seedbed, by setting it to the «drive» position. If you wish to roll the machine without sowing, this lever should be set to the «stand» position.

### → Moving the seeder forward:

Once you have started the machine, gently move the throttle to increase the number of revolutions per minute, until the desired operating speed is reached.

### → Stopping the seeder:

Reduce the number of revolutions per minute by returning the throttle to its initial position. To stop the engine, set the switch to stop (0).

### → Turning around:

Set the seed distribution lever to the «Stand» position. Push down the arm to tip the seeder onto the rear roller, reduce the speed and turn in the desired direction using the opposite side of the seeder as a pivot axis.

### → Seeder transport tip:

Fit the tyres provided with the seeder for easy transport. Remove them when seeding.