

# Darwin



# AGRO *selection*

mechanical blossom  
thinning

*Your best choice in modern technics*



Ensure the best possible harvest with high quality fruit!

- Proven thinning method
- Chemical-free thinning
- Excellent result
- Increased fetal size and quality
- low cost
- Eliminating the effect of periodicity.
- Large processing area
- All-weather application
- For all common fruit varieties

Excellent fruit size and quality thanks to mechanical blossom thinning with **Darwin**

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Mechanical ovary thinning by means of **"Darwin"** is reliable and more efficient than chemical methods and much more cost-effective than manual thinning.

Chemical treatments incur fixed costs and success is highly dependent on weather conditions, temperature and other unpredictable factors. It may also be necessary to re-treat with chemicals, often followed by manual thinning.

With **Darwin**, the results are immediately visible. In addition to this, uniform annual fruiting is achieved, as the periodicity effect, which is very difficult to achieve with the chemical alternative due to the considerable difficulties associated with early thinning, is eliminated.

Manual thinning does not achieve uniform fruit quality and also results in constant high labor costs.

In addition, it is becoming increasingly difficult to find the right staff for the job. The **"Darwin"** is the only way to work and make a constant profit, bypassing all obstacles. The unit is attached to the front hydraulic linkage of the tractor (tractor) or, if the tractor does not have hydraulic equipment at the front, to the tractor's front by means of a mounting adapter. By means of hydraulic adjustment of the spindle angle, the spindle is adjusted to the shape of the tree or row of fruit trees. The spindle, driven by the tractor close to the plantation, knocks down buds, ovaries or individual flowers according to a preset sequence.

**"Darwin"** came from practice and over the course of 20 years of development has increasingly met the desires of the consumer. Today you get a patented and proven system that will help you, produce a quality product and guarantee an annual harvest!

## Innovative **Darwin** control panel

The infinitely variable spindle speed is easily and conveniently adjusted via the control panel from the driver's seat, allowing the optimum speed to be selected.

The set speed is displayed with 100% accuracy and automatically remains constant regardless of the tractor engine speed. With the ESC-button (see Photo on the right) it is possible to stop the spindle in case of trees with small color.

### **Darwin** Advantages:

- **100% accurate spindle speed readings**
- **infinitely variable spindle speed setting**
- **spindle speed support independent of the engine speed**
- **Short spindle stop via ESC button**
- **comfortable operation from the seat driver**



Spindle speed display

Increasing the number of revolutions

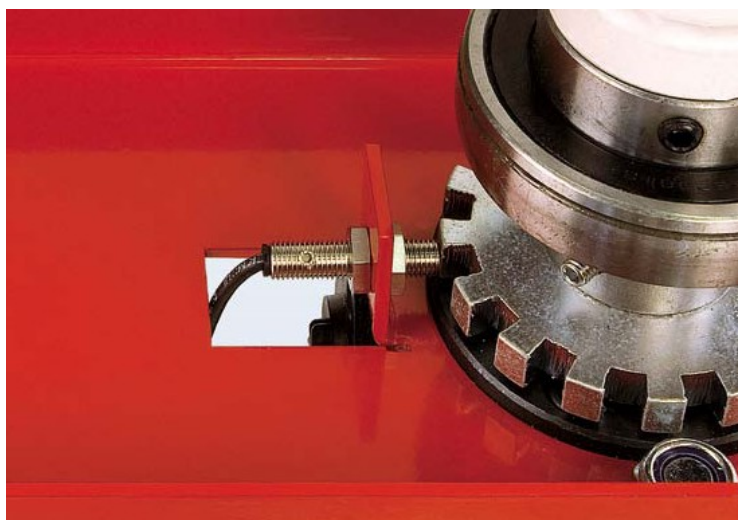
Short-term spindle stop

Start/stop button

Reducing the spindle speed



infinite adjustment



Non-contact sensor for speed reading, wear-resistant and unpretentious

**Installation fixing device, three-point fixing**

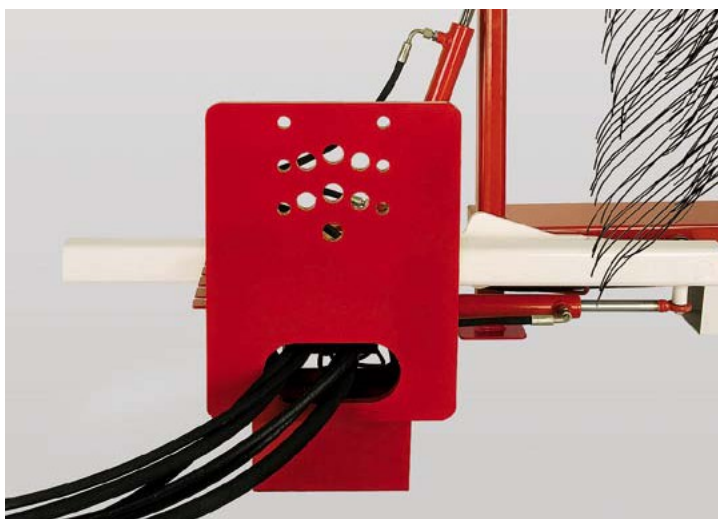
For attachment to the front hydraulic linkage



**Mounting fixing device, fixing with fixing plate**

For attachment in the absence of a front hydraulic linkage

The mounting plate must be individually secured to the tractor



**Hydraulic device for lateral displacement. (optional)**

The "Darwin" machine can be laterally offset up to 400 mm, using hydraulics

Additional double-acting hydraulic connection (valve) required



## Darwin economic arguments are how your specific advantage is calculated:

Using the **Darwin** has a positive effect on your result right from the start. The Bodensee counties have been using these machines for many years, so these are real figures for comparison. The Bodensee County Landowners' Association, under the direction of Wernera Bau- mann, carried out a scientific and economic study to find out the difference with the manual thinning method.

On the basis of this study, it was found that on average between 2005 and 2008, all varieties recorded a fruit size of 70 mm or more, and this figure was 25% higher compared to manual thinning of fruit-bearing plantations.

### Economic factor of mechanical ovary thinning application

Calculation is given from the example with **Brebourne** apple crop. (Harvest 2007, 44 tons, summarized on 04.10.2007)

Sorting	€/100 kg	Manual thinning		Mechanical = Darwin	
		Share in %	Amount €	Share in %	Amount €
60/65 mm	20,4	14,0	1.256,64	1,0	89,67
65/70 mm	31,4	41,0	5.664,56	37,0	5.111,92
70/75 mm	36,0	34,0	5.385,60	38,0	6.019,20
75/80 mm	39,0	11,0	1.887,60	20,0	3.432,00
80/85 mm	38,4	-	-	4,0	674,08
<b>Subtotal</b>			<b>14.194,40</b>		<b>15.326,96</b>
Less manual thinning ( Hour of work at 7,00 €)		120 hrs.	- 840,00	40 hours	- 280,00
Minus the mechanical thinning (hour at 70,00 €)				1 hour	- 70,00
<b>Total amount</b>			<b>13.354,40</b>		<b>14.976,40</b>
			<b>Difference (= additional profit due to Darwin) → 1,622.56 €</b>		

### Technical specifications

#### Darwin 200

#### Darwin 250

#### Darwin 300



Working height	1.935 mm.	2.395 mm.	2.850 mm
Machine height	2.285 mm.	2.740 mm	3.200 mm.
Machine weight	148 kg	155 kg	165 kg
Area to be treated		1.5 - 2.5 ha/hour	
Travel speed		6 - 18 km/hour	
Operating spindle speed		150 - 450 rpm	
Cord length		600 mm	
Number of cords		diverse	
Required amount of oil		20 l/min	
Mounting option	front right to front hydraulic linkage		
Manual side shift	stroke length 595 mm		
Hydraulic lateral	offset stroke length 400 mm		

"Darwin" mechanical blossom thinning.

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