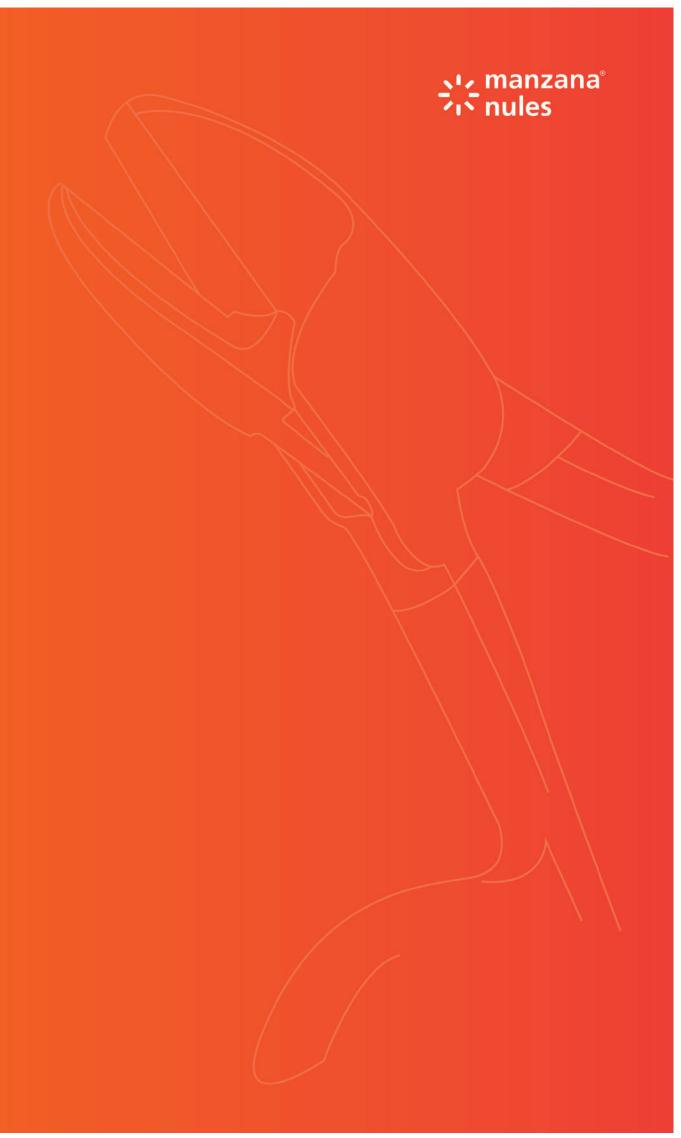
S H H G





Tools for fruit harvesting

With more than 50 years of experience in the world of professional harvesting tools, our company is recognised for the quality and benefits offered by its products in the main fruit producing countries.

At Manzana Nules, we think that for a quality harvest it is necessary for the shears to adapt to the specific technical characteristics of each fruit. For this reason, we are constantly developing products specially designed for each type of fruit, thus achieving an increase in productivity and a decrease in harvest damage.

On the other hand, our products are also designed so that the user of the shears works in the most comfortable and efficient way. So our pliers are manufactured with the best materials to provide a fine cut and with the least possible effort; at the same time that its ergonomic design makes it adapt better to the hand of the worker and thus reduce their fatigue.



- 6 advantages of the adjustable shears
- **7** ergonomics and maintenance

- 20 garlic
- 24 avocado
- 28 persimmon
- 32 grape
- 36 other products



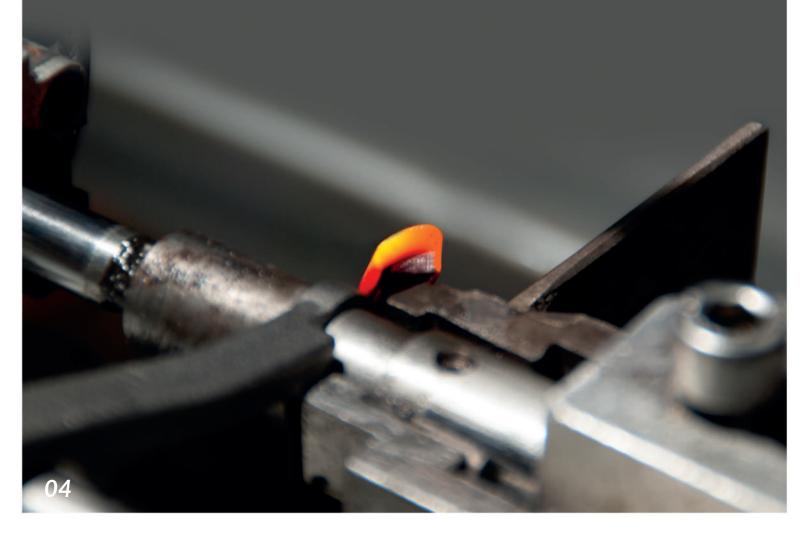


Manufacture and quality

Since the beginning, Ramón Manzana knew that quality and innovation would be the fundamental pillars on which the new company that started over the year 1963 would be based. Nowadays, that continues being the base where all our daily work is sustained. That is why we confer great importance to excellence in our manufacturing processes and the materials used in all our products. But also to innovation and the development of products that meet the needs of the industries we supply.

At MANZANA NULES we know how to combine the artisan production processes, which have conferred our tools the quality and prestige that they enjoy today, with new and better production techniques that make production more efficient and precise. All this is accompanied by an exhaustive quality control that enables the product that reaches the market to have the quality standards that we demand.

The quality and accuracy of our models require one of the most precise smelting techniques available today. So our products are manufactured with a technique called LOST WAX MICROFUSION. This smelting technique confers the pieces a perfect finishing that cannot be achieved with other techniques and thus be able to produce high complexity shears.



Tempering is also very important as it will give our products greater strength and durability. For this reason, we carry out a double tempering. The first in the body of the scissors and then another in the two cutting blades, the latter made with a new high precision localised quenching machine that regulates tempering temperature through laser readers. The sharpening is performed with a high precision numerical control machine to achieve a perfect cut at the right angle. Another pillar over which our company is based on the development of new products that brings advantages to the market to which they are destined. Therefore, our work philosophy, when developing a new product, takes into account the professionals who will use the product; since we think that nobody better than them, knows the market and its needs. Therefore, it is essential to be in contact with these companies and professionals, who will provide us with the necessary information regarding the needs to cover and thus develop these new models that fulfil them. For this, we have the most modern 3D design tools on the market that allow us to make the drawings of our products. At the same time, we use 3D prototype manufacturing services in both polymers and steel to perform the product tests before manufacturing the final moulds. 05



Advantages of adjustable shears

Harvesting shears are tools of intensive use that are subjected to a great wear. This causes that in a short time these tools suffer a great clearance that will make the cut less precise and uncomfortable for the worker.

To avoid this problem, we have developed a new range of adjustable shears.

This range preserves the most beneficial characteristics of the traditional models and at the same time provides a novel assembly system, which allows the user to eliminate the annoying clearances that traditional models present due to intensive use. The system is designed consciously to prevent the nut from loosening with use, but without this being a discomfort for the user.

The main advantages are:

- ⊗ Ideal coupling to the degree of effort required by each user.
- ⊗ Longer life of the tool.
- **⊗** Greater comfort of work.
- **⊗** Elimination of unnecessary stress.
- © Perfect adaptability to work.
- ✓ Reduced nut that does not disturb the collector.

New ergonomic models

Harvesting is a repetitive task in which the worker spends many hours holding a tool. Therefore, we think that the position of the hand, the elbow and the shoulder have a great importance; since improving this position we will be able to improve working conditions.

That is why the ERGO range is designed to reduce fatigue, muscle aches and increase productivity. Therefore, this range has the following characteristics:

- © Curved handles. This results in a more natural position of the shoulder, elbow and wrist. Reducing the worker's fatigue.
- Wider handles. A greater surface of contact is obtained, with which the force is
 distributed by a greater surface. So the worker will receive less pressure on his hand
 and will perceive a softer cut.
- © Handles open at the back. With this we will prevent the dry blow at the moment of the cut, thus reducing possible damages.

Tool maintenance

Our tools use the highest quality materials for this type of work. However, it is necessary to perform some maintenance tasks.

During the harvesting campaign, it is important that the tool is clean and lubricated. For this reason, it is necessary to clean the scissors regularly with a damp cloth to remove the dirt and then apply lubricating oil

At the end of the campaign, we recommend carrying out the same operation as in the previous paragraph and then wrapping the scissors with a cloth before putting them away until the following season. In the adjustable models, it is recommended to periodically readjust the tool for it to always be in the best conditions of use. The advantage of this model with respect to the traditional ones is that we can eliminate the clearances that appear due to the intensive use in a fast and efficient way; leaving the tool again in perfect condition.

To perform this adjustment, we only have to slowly tighten the hexagonal nut with a size 10 spanner and at the same time open and close the shears until the tool is set again and without blocking it.





Shears for citrus harvesting



If you reduce injuries, you will reduce rotting

How much money do you lose with the rotten fruit?

The quality of the fruit at the destination is largely determined by the absence of damages. Our range of FRUIT CARE shears has been specifically designed to reduce the damages produced during harvesting.

Rotten fruit is one of the main causes of economic loss, affecting the results of citrus companies.

WITH OUR FRUIT
CARE RANGE
REDUCE UP TO 64%
THEDAMAGES

Stem
pullet out
Punctured
fruit
Injuries caused
by shears

Collecting by pulling or the use of some types of shears will increase the percentage of fruit with damages.

The Valencian Institute of Agricultural Research (IVIA) has certified that with the use of our shears, light damages can be reduced by 64%, medium damages by 33% and severe damages by 50%. The first ones are the ones that in many cases are not detected in the quality controls and arrive at the final destination in the form of a rotten fruit.

To achieve these results, our models have features such as curved and rounded tips or enhancement in the counter-blade that will prevent these damages.



Fruit collected with our shears



M14AM



This model is designed to avoid leaving long stems in fruits that have a sunken peduncle.

Its concave blades adapt to the shape of the fruit without producing any wound on its skin. The curvature of the handles allows the shears to enter the fruit with the most suitable angle to make the cut.

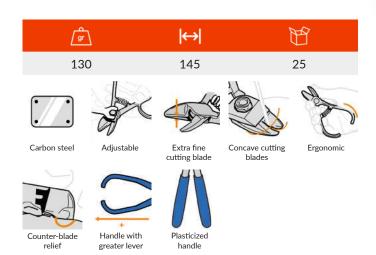
gr		↔	↔	
80		110	:	25
Carbon steel	Adjustable	Extra fine cutting blade	Concave cutting blades	Ergonomic
Counter-blade				



M14LAM 2 Q ERGO

This model is similar to the M14-AM model although with the longer and plasticized handles, to increase the lever and reduce the effort in the cut.

It is supplied with a leather strap to hold the tool in your hand.







IMPROVED

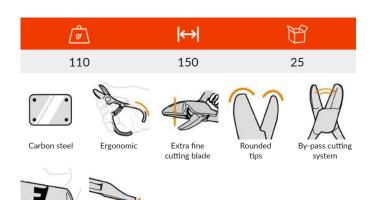
M15_{DI}

relief



In this new version of the M15 model, the assembly system has been improved, going from an assembly by welding to one by rivets. This results in greater precision in the adjustment of the shears and a reduction of the clearances.

Like the other models of the FRUIT CARE range, it is designed to reduce the percentage of injuries to the skin of the fruit during harvesting, thanks to a raised section on the counter-blade and curved and rounded blades. The curvature of the handles allows the shears to enter the fruit at a more suitable angle for cutting.









M11_{DI}



Designed specifically to reduce the damages caused during the harvest. It has curved and rounded blades to avoid pinches to the fruit. It also has an enhancement on the counter-blade to avoid scratches. The blade has a cutting stop that allows positioning the stem of the fruit at the proper cutting point, thus preventing the worker from damaging the fruit by introducing the tool too much; and at the same time, it prevents the blade from cutting the fruit behind the stem.



M18_{DI}



Designed specifically to reduce damages caused during the harvest.

Its cutting blades are curved to avoid pinches to the fruit. It has an enhancement on the counter-blade that prevents scratches on the fruit. The curvature of the handles allows the shears to enter the fruit with the most suitable angle to make the cut.

gr		↔	Ţ	曾
105	5	140		25
Carbon steel	Ergonomic	Extra fine cutting blade	Rounded tips	By-pass cutting system
Counter-blade relief	Curved	Adjustable	Opening stop	





M95_{DI}



Features similar to the M87-DI model.

This model, launched in 1995, were the first shears designed to reduce, by a high percentage, the damage caused through harvesting. This was achieved thanks to two curved points that greatly prevent the typical pinches in the fruit.

gr]	↔	田	
10	5	135		25
Anti-wear steel	Extra fine cutting blade	Rounded tips	Curved tips	By-pass cutting system



M96AM

Counter-blade



Characteristics similar to model M95-DI. Specifically designed to reduce the damages caused by the picking. The curved design of the cutting blades; and an enhancement on the counter-blade, significantly prevent these damages. It also has ergonomic handles that enable placing the hand in a more natural way.

gr	7	↔		田
80		118		25
Anti-wear steel	Extra fine cutting blade	Rounded tips	Curved tips	By-pass cutting system
	Contraction of the second			



Counter-blade

Ergonomic



M01AM

Shears for fruit harvesting.

Basic model with a stainless steel blade and aluminium handle.

gr	↔	图
75	140	25



















Shears for apple harvesting



M14AM

Counter-blade



This model is designed to avoid leaving long stems in fruits that have a sunken peduncle.

Its concave blades adapt to the shape of the fruit without producing any wound on its skin. The curvature of the handles allows the shears to enter the fruit with the most suitable angle to make the cut.

gr		↔	Ę	B B
80		110	:	25
Carbon steel	Adjustable	Extra fine cutting blade	Concave cutting blades	Ergonomic
1				



M14LAM 2 Q ERGO

This model is similar to the M14-AM model although with the longer and plasticized handles, to increase the lever and reduce the effort in the cut.

It is supplied with a leather strap to hold the tool in your hand.

gr		↔	Ţ	台
130)	145	:	25
Carbon steel	Adjustable	Extra fine cutting blade	Concave cutting blades	Ergonomic
Counter-blade relief	Handle with greater lever	Plasticized handle		





What makes us different?

When harvesting the apply by pulling there is the danger of leaving an excessively long stem that will cause more than one pinch to other fruits during the entire post-harvest process, causing losses since this fruit will not be suitable for marketing.



Our models for apples are designed to avoid leaving long stems.

Its concave blades adapt to the shape of the fruit without producing any wound on the skin.

The curvature of the handles allows the scissors to enter the fruit with the most suitable angle to make the cut.

"Performs a perfect cut without causing damages"



Fruit collected with our shears.





Garlic harvesting shears



M21c

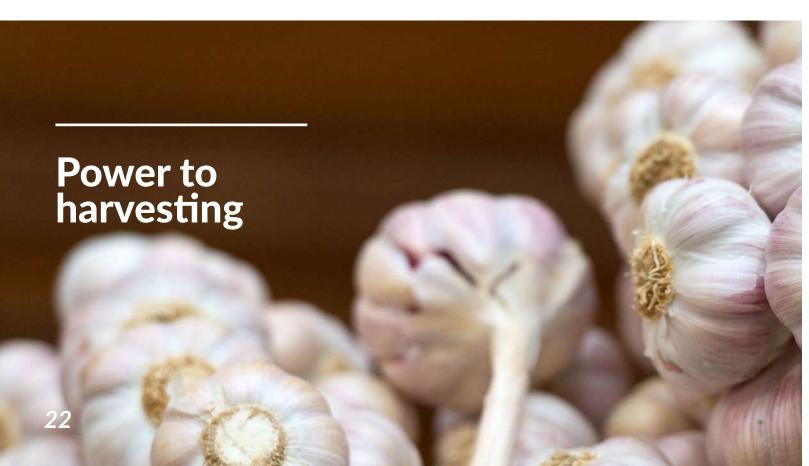
The model M21c is designed specifically for garlic harvesting.

The main advantage of this model is the sliding cutting system, which minimise the effort employed to cut.

gr	↔	Ħ
170	220	25









What makes us different?

Cutting garlic is a task that requires a great amount of physical effort by the worker given the hardness of the stalk and the root and because of the large number of cuts carried out every working day.

At the same time, the cutting edge is quickly lost due to the soil deposited on the garlic at the time of cutting, which means the shear stops cutting well in a short time.

The M21C model, thanks to its sliding cut blades, produced by the off-centre rivet, means that the worker makes less effort when cutting, minimising fatigue during cutting.

Thanks to the steel alloy cutting blades, sharpness is maintained in optimal conditions for much longer, prolonging the useful life of the shears.

Additionally, the tempering is designed so that the blades can be sharpened as often as required.



- Less effort.
- Greater work comfort.
- ✓ Increased productivity.
- O Decrease in injuries.
- Rounded tip to reduce injuries to the garlic

"Designed to cut with less effort"





Shears for avocado harvesting



M22AM



Model designed for professional harvesting of avocado, mango and other delicate fruits.

This model has a raised section on the counter-blade that will help the harvester to leave a stem of approximately 3mm long. This will prevent the fruit from being damaged by cutting too close to the fruit.

The tips and all edges are rounded to avoid damaging the skin of the fruit











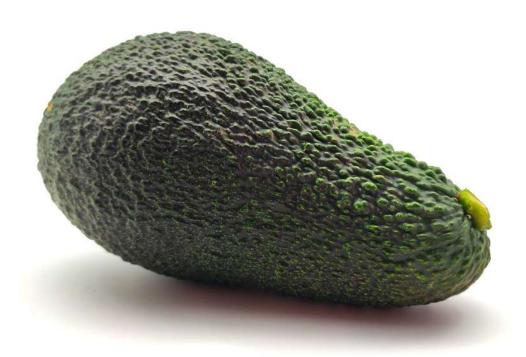
Adjustable

Ergonomic

Raised section on the counter-blade

Rounded





Fruit harvested with model M22AM



What makes us different?

The avocado peduncle is a point of entry for fungi that cause multiple pathologies. It is therefore necessary that the stem is not cut too close to the stalk as this can lead to the entry of pathogens that can damage the fruit. On the other hand, it is also important not to leave the stem too long, as this can damage other fruit, and at the same time break during the post-harvest process.

The M22AM model, thanks to an raised section on the counter-blade, will leave a stem of approximately 3 mm long, making it easier for the worker and thus avoiding leaving shorter stalks. In the same way, having a reference point for cutting will also avoid leaving stalks that are too long

"Designed to leave a 3mm stalk"



"Designed not to damage the fruit"

It is also important not to damage the fruit during cutting. That is why the M22AM model has rounded tips and edges. This prevents the shears from causing damage.







Shears for persimmons harvesting



M17_{DI}

stop



The M17-DI model is specifically designed for picking persimmons.

Its main advantage is that it is designed to make a cut flush and parallel to the peduncle, thus avoiding the long stems that produce so many losses to the sector.

gr		↔		自
115		160	17	
				C. The
Carbon steel	Adjustable	Extra fine cutting blade	Ergonomic	Cutting stop
		\bigcap		







What makes us different?

The manual harvesting of persimmons or with generic shears leaves a high percentage of fruit with long stems that pinch the other fruits along the post-harvesting process. These damages constitute a high percentage of losses for persimmon producers, which in most cases is between 8 and 11% of the production.

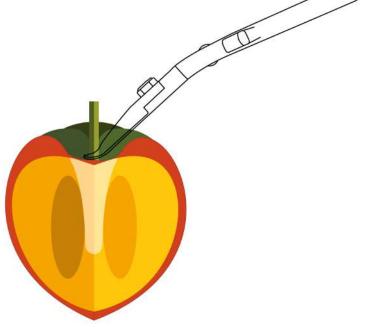


The M17-DI model is specifically designed for picking persimmons.

Its main advantage is that it is designed to make a cut flush and parallel to the peduncle, thus avoiding the long stems that produce so many losses to the sector. Therefore, model M17-DI has blades with a length and thickness suitable to easily access the sunken peduncle of the persimmon.

It is also equipped with a curvature on the end part of the blade that allows a parallel and flush cut of the fruit thus preventing the stem from pinching the fruit. It also has a cutting stop that will position the blade at the ideal cutting point, preventing it from damaging the fruit.

"Designed to avoid the pinching caused by the long stems of other persimmons"







Grape-cleaning scissors



UV17

Carbon steel

Designed to clean grape bunches. These scissors are made of forged steel, providing excellent quality and durability. The blades are extra-thin to access the grapes better. It has extra-large thimbles that provide greater comfort and the body and the blades have been blued to avoid corrosion.

gr	↔	B
57	140	20
	*	

Blued body and











Other products



M19 Series

The girdling technique consists of interrupting the phloem flow by cutting the bark of the tree in order to temporarily prevent the sap from flowing down to the roots. This technique is effective for flowering, increasing fruit setting and increasing fruit size.



With our M19 model, girdling is done through three rotating discs, which will provide a more precise cut and faster healing. Features:

- Unlike conventional girdling tools that perform the cut by drag cutting, the rotating discs cut without tearing the skin of the fruit tree, allowing a more precise cut and avoiding tea-ring off part of the bark.
- ⊘ Each disc cut one third of the branch, so the operator only has to turn the branch one third, thus reducing working time. With traditional girdling tools, the operator has to make a minimum rotation of half the branch.
- Plastic-coated handles

	gr	↔	Ø MIN	Ø MAX
M19/20-55	185	230	20	55
M19/50-80	220	270	50	80
M19/80-110	340	320	80	110







Made of 4mm thick galvanized metal rod Ideal for field calibration of all types of fruits.

Measures available in mm:

40-43-45-46-47-50-52-54-56-58-60-62-64-65-67-70-73-75-77-81-84-87-90-95-100-105-110

They can be supplied individually or in sets of 6 units:

- **⊘** ORANGE SET (62-64-65-67-70-73)



Grafting tool

Blade for the grafting of citrus and other fruit trees. Tempered steel blade and wooden handle. It is manufactured in three sizes.

	gr	↔	图
Small	80	118	25
Medium	100	130	25
Large	105	140	25



Springs

Availability of spring spare parts for our scissor models.





Replacement cutting discs M19

Replacement cutting discs for all three M19 girdling tools.

	图
Cutting discs set Ø20 mm* M19	3
Cutting discs set Ø24 mm** M19	3

^{*} For M19/20-55 and M19/50-80

^{**} For M19/80-110



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