BHOSS

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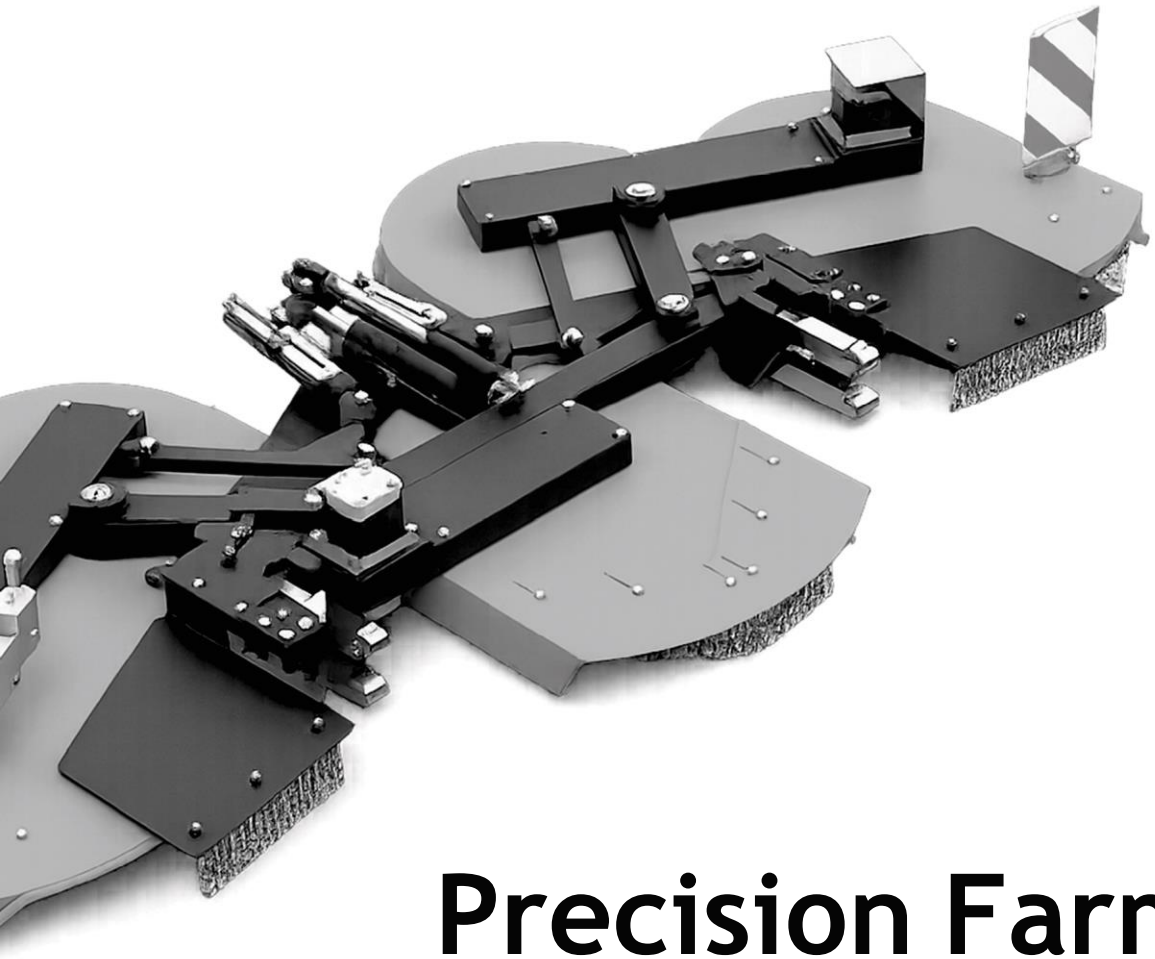


Precision Farming, Human Engineering

*The **Bhoss®** brand is owned by **Ormal Srl**, a company specializing in precision engineering.*

Founded in 1984 in the industrial machinery maintenance sector, the company has developed a strong organizational structure over the years, becoming a benchmark in the manufacture of custom-designed components based on customer specifications.

Innovation and technology have thrived thanks to forward-thinking ideas and a constant commitment to improving operational methods, supported by a versatile machine fleet and highly skilled personnel. Today, production focuses on the subcontract manufacturing of mechanical components and assemblies, along with most of the related services.

Vineyard and Orchard Management

Managing a vineyard or an orchard requires constant attention and a range of agronomic practices to ensure healthy plants and high-quality production.

IRRIGATION

Plants require regular irrigation. However, watering must be carefully balanced to avoid waterlogging, which can encourage fungal diseases.

PRUNING

Pruning is one of the most important operations. It is usually carried out during the dormant season, in winter or early spring.

DISEASE AND PEST CONTROL

Plants, and grapevines in particular, can be vulnerable to diseases such as **downy mildew**, **powdery mildew**, and **Botrytis**, as well as pests such as **aphids** and **phylloxera**.

It is important to continuously monitor plant health and apply fungicide or insecticide treatments when necessary. Prevention is essential: use resistant varieties and adopt integrated disease management practices.

FERTILIZATION

Grapevines require essential nutrients such as nitrogen, phosphorus, and potassium for healthy growth.

A good fertilization program includes organic fertilizers (such as manure) or mineral fertilizers, applied in spring or autumn according to soil requirements.

SOIL MANAGMENT

Throughout the year, it is important to keep the soil free from weeds, which compete for water and nutrients. This can be achieved through mechanical cultivation or mulching.

Proper soil management also helps improve grape quality, as healthy soil promotes balanced plant growth.

SUSTAINABILITY

More and more growers are adopting sustainable agricultural practices, such as organic or biodynamic viticulture, which reduce the use of chemical pesticides and synthetic fertilizers while respecting the environment.

Why Biodiversity Matters

Biodiversity in vineyards and orchards is essential for maintaining ecosystem health and improving the sustainability of cultivation. Here is why:

NATURAL PEST CONTROL
Rich biodiversity encourages the presence of natural predators, such as beneficial insects (ladybugs and wild bees) and birds, which help control harmful pests without the need for chemical pesticides.

SOIL IMPROVEMENT
The presence of different plant species, such as cover crops (e.g., clover and fava beans), improves soil structure, increases fertility, and prevents erosion.

DISEASE REDUCTION
Biological diversity helps break the life cycles of diseases specific to grapevines and fruit trees, reducing their spread and severity.

ECOSYSTEM STABILITY
A diverse environment is more resilient to climate change and extreme weather events. A variety of species creates a natural balance that reduces ecological imbalances.

IMPROVED WINE QUALITY

A biodiversity-rich vineyard can positively influence the terroir, giving wine unique characteristics through the complex interaction between soil, plants, and microorganisms.

LONG-TERM SUSTAINABILITY
Biodiversity makes vineyards less dependent on external inputs (fertilizers and pesticides) and more self-sufficient, reducing environmental impact.

POLLINATION
Although grapevines are self-pollinating, high biodiversity ensures the presence of pollinating insects that benefit other plants, improving overall ecosystem balance.

AESTHETIC AND CULTURAL VALUE
A diversified vineyard is more attractive and can become a point of interest for wine tourism, while also helping preserve local traditions related to sustainable farming.

How to Promote Biodiversity

Biodiversity is not only an environmental goal but also a strategy for producing high-quality wines in harmony with nature

Ground cover plants

Grow herbaceous cover crops between the rows.

Beneficial insects

Install shelters for bees and ladybugs

Hedges and trees

Create natural hedgerows and buffer zones around the vineyard.

Reduction of chemicals

Limit the use of synthetic pesticides and fertilizers, favoring organic or integrated farming methods.

The Importance of Mowing Grass in Vineyards and Orchards

Yes, mowing grass in vineyards and orchards is very important, but it should be done strategically to maximize benefits and minimize drawbacks. Here are the main reasons why grass mowing is important, along with some considerations for effective management:

Reducing Competition for Water and Nutrients:
Grass can compete with grapevines and fruit trees for resources, especially in areas with poor soils or during periods of drought. Mowing helps reduce this competition.

Improving Air Circulation:
Excessively tall grass can restrict air circulation between rows, increasing humidity levels and the risk of fungal diseases (such as downy mildew and powdery mildew).

Fire Prevention:
During summer, tall dry grass can become a fire hazard. Regular mowing significantly reduces this risk.

Facilitating Mechanical Operations:
Machinery and tractors can move more easily between rows when grass growth is kept under control.

Aesthetic Appeal and Agritourism:
A well-maintained vineyard has a tidier and more attractive appearance, which is particularly important for wineries focusing on wine tourism.

When and How to Mow Grass

Time of the year

The ideal mowing period depends on the vine growth cycle and weather conditions. Generally:

Spring: To limit competition during vegetative growth.

Summer: To reduce the risk of diseases and wildfires.

Autumn: To avoid problems during harvesting operations.

Frequence

maintaining a low grass cover can encourage biodiversity and protect the soil.

Adjust mowing frequency according to grass growth rates, which vary throughout the seasons:

Spring: Mow more frequently, as grass growth is rapid

Summer: Reduce mowing frequency to preserve soil moisture.

Autumn: Prepare the vineyard for winter with a cut that leaves the grass high enough to protect the soil

Technics

Selective Mowing: Leave some areas of grass taller to support beneficial insects.

Mulching: Use mowing equipment that shreds the grass and leaves it on the ground as natural mulch.

Ideal Mowing Height

*The ideal grass height in a vineyard depends on several factors, including soil type, climate, and management objectives. In general, it is recommended to maintain grass between **5 and 15 cm (2-6 inches)**.*

5 - 10 cm / 2-3.5”

Suitable for soils that tend to retain moisture or during rainy periods, helping prevent tall grass from encouraging fungal diseases Migliora la circolazione dell'aria vicino al suolo.

Improves air circulation close to the ground

10- 15 cm / 3.5 - 6”

Useful on light soils or slopes to prevent erosion.

Promotes biodiversity and shades the soil, reducing water evaporation.

Benefits of Maintaining a Moderate Grass Height

Soil Protection	*Biodiversity*	*Water Conservation*
Moderately tall grass acts as ground cover, protecting the soil from erosion, especially during heavy rainfall.	A slightly taller sward encourages beneficial insects and contributes to ecological balance.	Grass that is not cut too short reduces water evaporation and helps maintain stable soil temperatures.

Avoid cutting too low (<5 cm / 2”):	*Avoid letting grass grow too tall (>20 cm / 8”):*
This can expose the soil to compaction and erosion *It reduces the grass’s ability to retain moisture and nutrients in the soil.*	*It promotes excessive humidity, increasing the risk of fungal diseases* *It hinders mechanical operations and reduces air circulation*

Benefits of Maintaining Some Grass Cover

- *Protects the soil from erosion.*
- *Helps retain soil moisture during warm seasons.*
- *Promotes biodiversity (beneficial insects and soil microorganisms)*

How Long Does Mowing Take?

The time required to mow one hectare of vineyard depends on several factors, including:

EQUIPMENT USED

Tractor with flail mower / mounted brush cutter
This is the fastest and most commonly used method in vineyards.

A tractor equipped with suitable mowing equipment can typically cover one hectare in approximately 1.5 hours, depending on working speed and grass density.

Hand-Held Brush Cutter
When using a portable brush cutter, the job takes significantly longer—typically 8–12 hours per hectare—because the process is slower and more labor-intensive.

VINEYARD OR ORCHARD CONDITIONS

Flat Terrain

Flat ground is quicker to work than hilly or sloping terrain, where machinery must operate more cautiously.

Row Density

In vineyards with very narrow rows, machinery may require additional time for maneuvering and passage.

GRASS HEIGHT

Grass Density
Tall, dense grass takes longer to cut than a well-maintained grass cover.

Operator Experience Level

An experienced operator can optimize working times and work more efficiently without compromising quality.

METHOD	TIME PER Hectare (2.5 Acres)
Tractor with flail mower	*0,8 - 2 Hours*
Tractor with cutter bar mower	*2 - 3 Hours*
Hand-held brush cutter	*8 - 12 Hours*

And how many days do you spend mowing grass in your vineyard?

*For example: **62.5 Acres × 0.6 h/ac = 37.5 hours per mowing cycle** >>>*

*>>> Considering **6 mowing passes per year = 225 hours**, **which are more than***

26 working days per year

BHOSS® Solutions

How to Cut Costs by 90% and Reduce Grass-Cutting Time to Zero

*With our innovative and patented **BHOSS® system**, all this becomes possible quickly and economically.*

*Thanks to our **RS mower range**, grass cutting is no longer a cost—and above all, no longer a waste of time.*

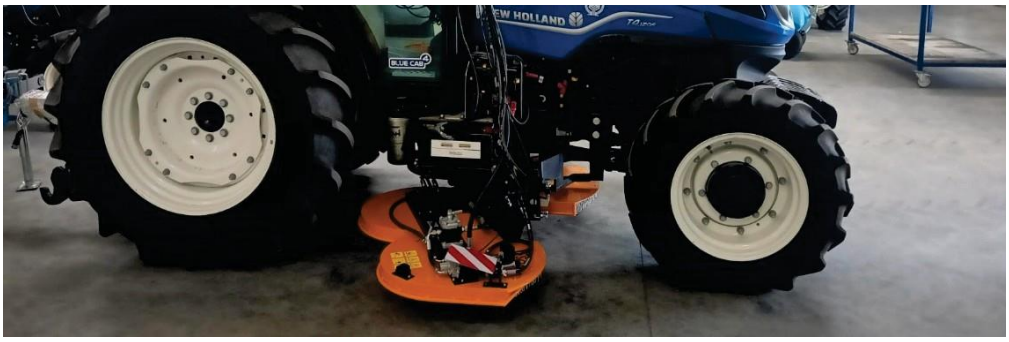
Designed to be mounted underneath the tractor, the system leaves front and rear linkages, lifts, and PTOs free for other equipment.

As a result, every time you pass through the vineyard or orchard, the RS mower can operate simultaneously with your other implements. By the time you finish spraying, trimming, or performing other operations, your vineyard or orchard will already be perfectly mowed

BHOSS® Solutions

The **BHOSS RS mowers** are innovative machines designed to keep fields well maintained without dedicating tractor time exclusively to grass cutting.

The mower is designed to be mounted beneath the tractor, leaving the front and rear sections available for other operations such as trimming, spraying, and more.



Working times and operating costs are significantly reduced, while installation and setup are simple enough for any agricultural operator.

Ease of installation is one of the most attractive features of our equipment, thanks to the patented BHOSS system.

RS Mower Models

FEATURES

- *Mid-mounted mower deck made of painted steel treated with cataphoresis coating.*
- *Equipped with 5 pivoting blades for a mulching cutting effect.*
- *Powered by 3 independent hydraulic motors with toothed belt transmission.*
- *Hydraulically adjustable cutting width and height directly from the operator's seat.*
- *Preset cutting dimensions can be selected using mechanical stops.*
- *Equipped with a "Dead Man" safety system, which automatically stops operation when the cab door is opened.*
- *Emergency stop button included.*
- *Optional second and third hydraulic circuits available for integration with other oil-powered machinery.*
- *Convenient RPM display for monitoring proper blade operation.*
- *Impact protection system with automatic release and return of side decks in the event of accidental collisions.*
- *Complete with Mid-mount attachment bracket, Reflective maximum-width markers for road transport, Removable swivel wheels for quick installation and removal*

Hydraulic adjustment of height and cutting width	Blades specially designed for optimal cutting at a height between 10 and 15 cm
Floating knives with anti-shock system with pin	Quick coupling and release on support wheels

Technical Specifications	RS 170-210	RS 190-230	RS 210-250
Dimension	*170-210 cm 5.58-6.89 ft*	*190-230 cm 6.23-7.55 ft*	*210-250 cm 6.89-8.20 ft*
Cutting size	*163-203 cm 5.41-6.66 ft*	*183-223 cm 6.00-7.32 ft*	*203-243 cm 6.73-8.04 ft*
*Minimum cutting Height**	*8-10 cm / 3.15 - 3.94"*		
*Max Cutting Height**	*20-25 cm / 7.87 - 9.84"*		
Oil required Litres/minute	*25 litres/min*		

depends by tractor type and model

BHOSS

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