Blueberry orchards protection in Modern Agriculture

2024 New England Vegetable & Fruit Conference

December 19, 2024 -Manchester, New Hampshire

VALENTE®
SOLUZIONI TECNICHE PER VIGNETI E FRUTTETI

Today's fruit-growing presents itself as a real challenge, where fruit growers have to deal with a number of new, complex, unknown, unfamiliar and often unpredictable issues

In the last few years our life has changed and the way to farming changed too

Global and integrated market has raised up speed and information transfer and consequently the level of competitiveness

WAR

Geopolitical issues effect the market in terms of inflation, mutable prices, uncertain revenues

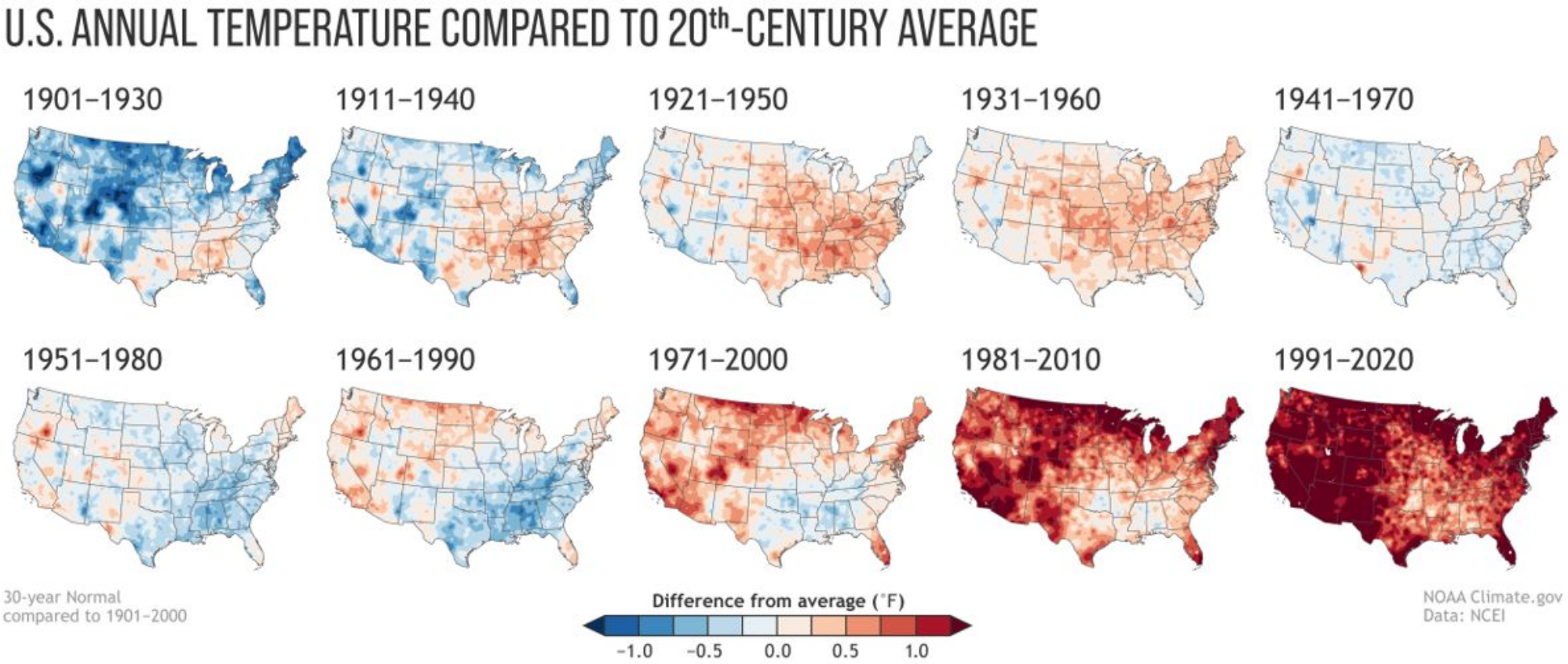
CLIMATE CHANGE… IS ALREADY IN ACT

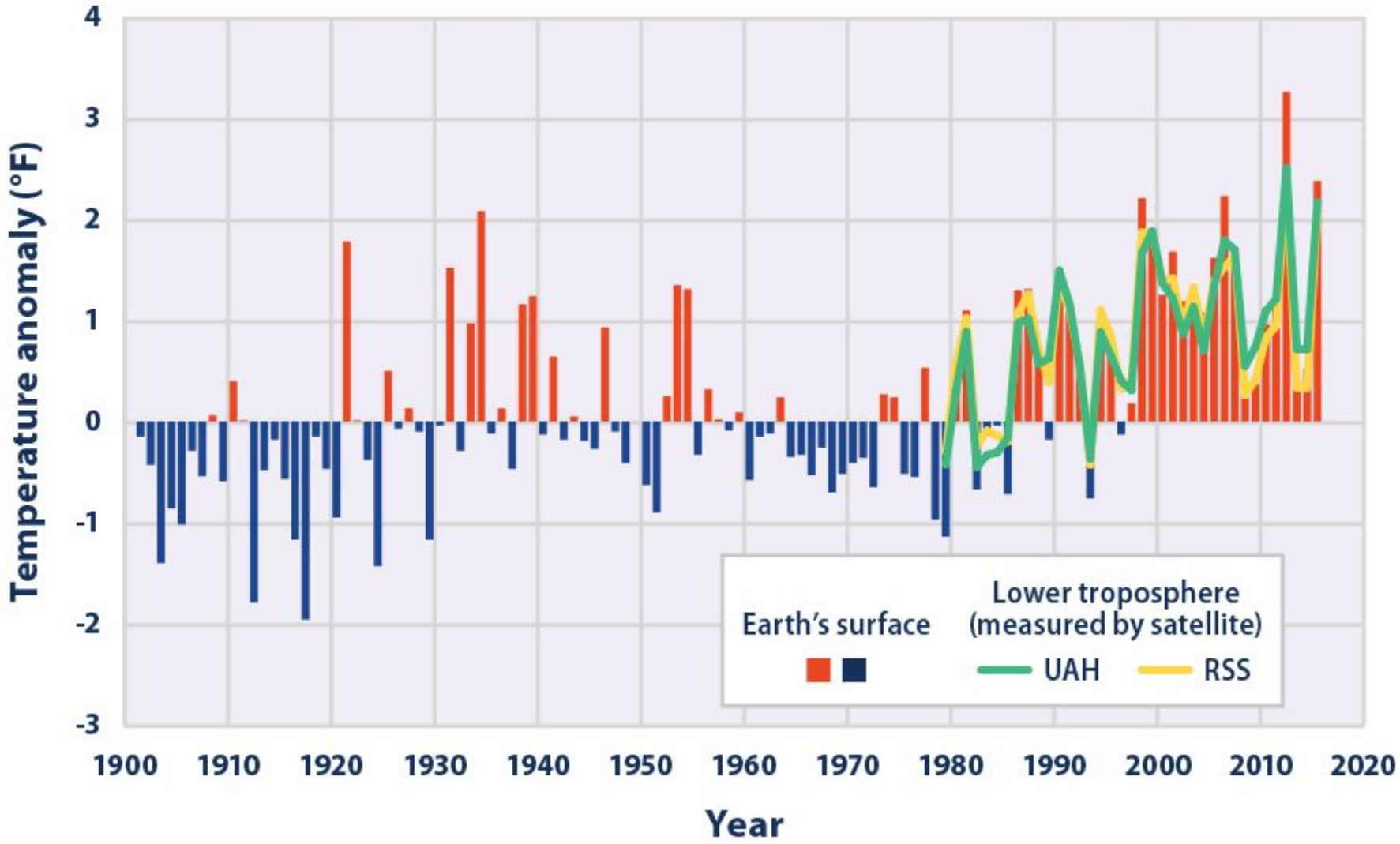
How long could client bear the risk of loss because of the climate?

..it disrupts all traditional growing rules. **Farmers must defend their crops** from risks deriving from bad weather

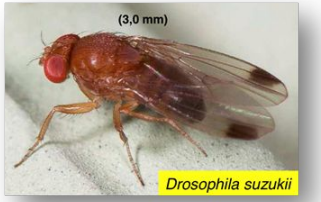
..it increases extreme atmospheric phenomena like **hail storms, strong wind and sun, frost, higher temperature, presence of new sort of insects,** also in areas formerly not affected by these problems

Global warming …a matter of fact




Temperature anomaly (°F)
4
3
2
1
0
-1
-2
-3
1900
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000
2010
2020
Year
Earth's surface
Lower troposphere
(measured by satellite)
UAH
RSS

New enemies… new defences



Most recent enemies are Suzuki **Drosophila** that has laid siege a lot of orchards in the world in the last few years striking different species of fruit.

Another dangerous insect is **Carpocapsa,** a little butterfly or moth, lethal for apple trees. Its pink larvae with brown head penetrate fruit far before its ripening, digging out tunnels until the reach seeds.

Asian stink bug, as its name suggests, this insect comes from Asia, it reproduces with alacrity and it could be a threat to coming harvests.

Last but not least, the **Spotted Lanternfly** interfere with photosynthesis and can slow plant growth or even lead to death

How to deal with them? Active defence is the answer

Protecting systems with perimetrical netting closures, preventing flies to enter in the orchards, allowing farmers to work inside the plot freely


..when it comes..

PROBLEM...

PROBLEM...

How long does it take to acquire new habits in farming?

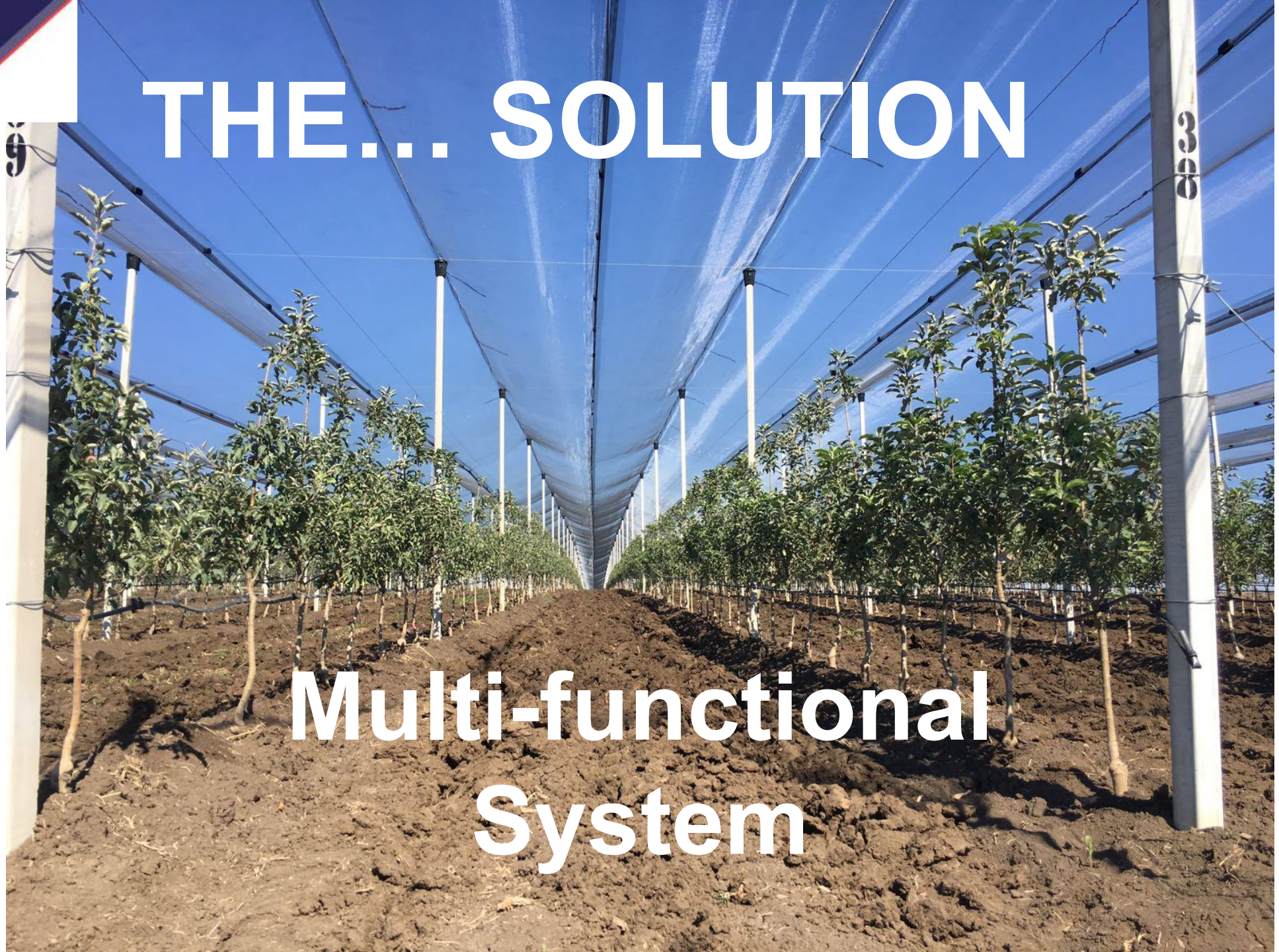
Certainly not when it will be too late by then

Nowadays, the only way to do FRUIT BUSINESS is to take care about the QUALITY.. in terms of..

Soil preparation and orchards layout
plants quality and varieties
Irrigation and fertigation
Frost systems
farsighted agronomic Consulting
Mechanization
Supporting systems
Active crops protection – covering system

Every grower knows.. to minimize risks, **every single step has to be properly done** and among a lot of proposals you have to choose the more practical, effective and innovative ones, always aiming in quality and innovation which allow you to reach your goal.

THE... SOLUTION

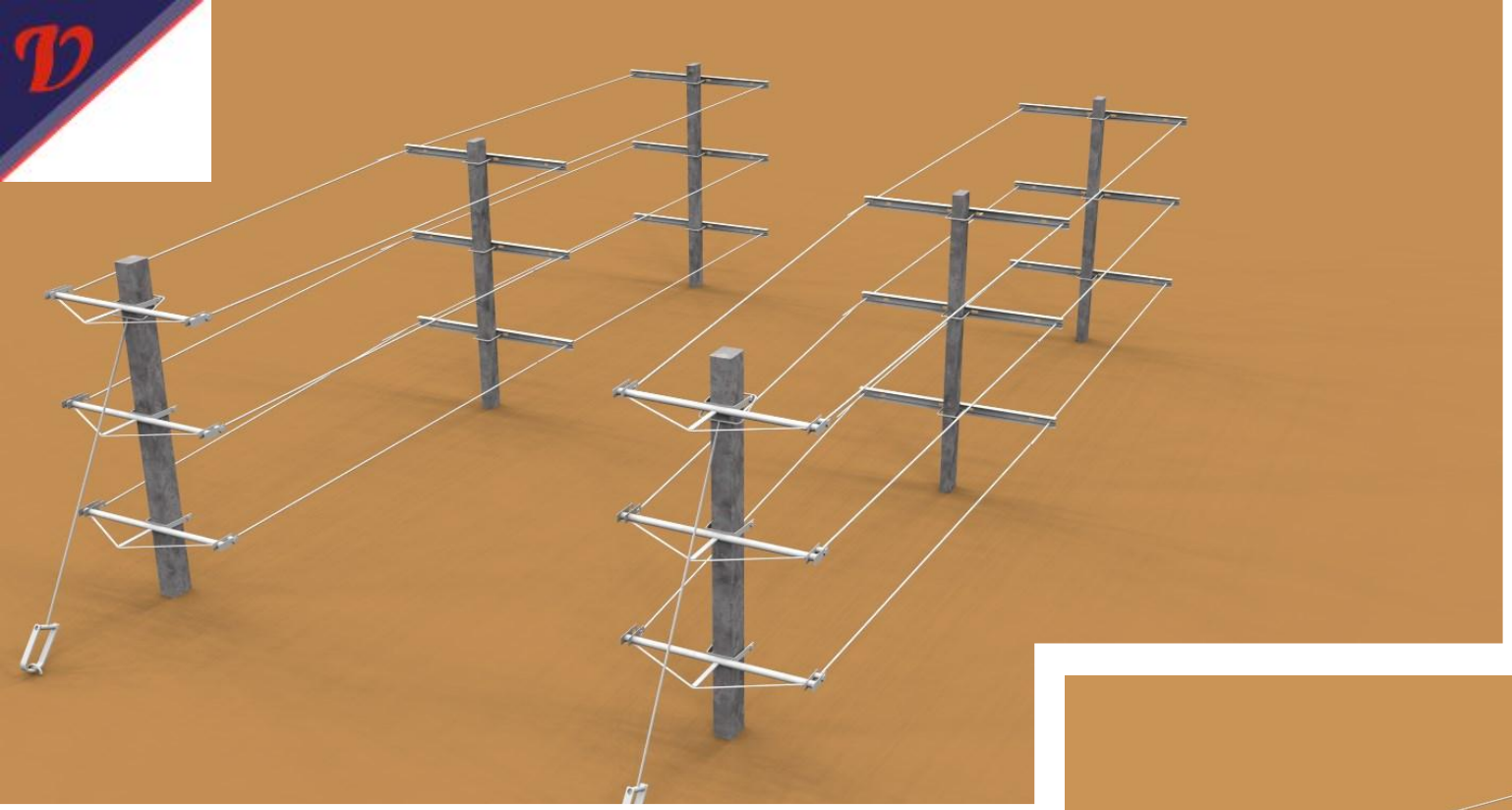


Multi-functional System

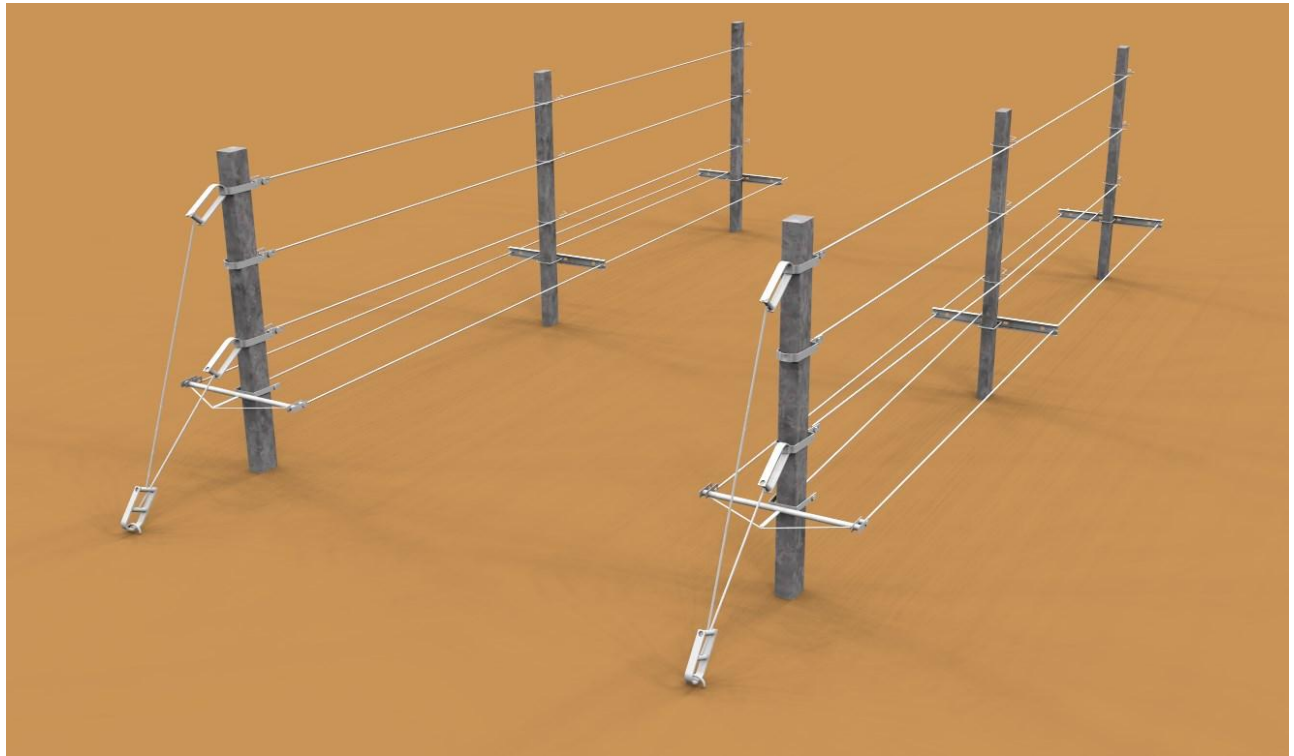
MULTI-FUNCTIONAL SYSTEMS

Why using coverings?

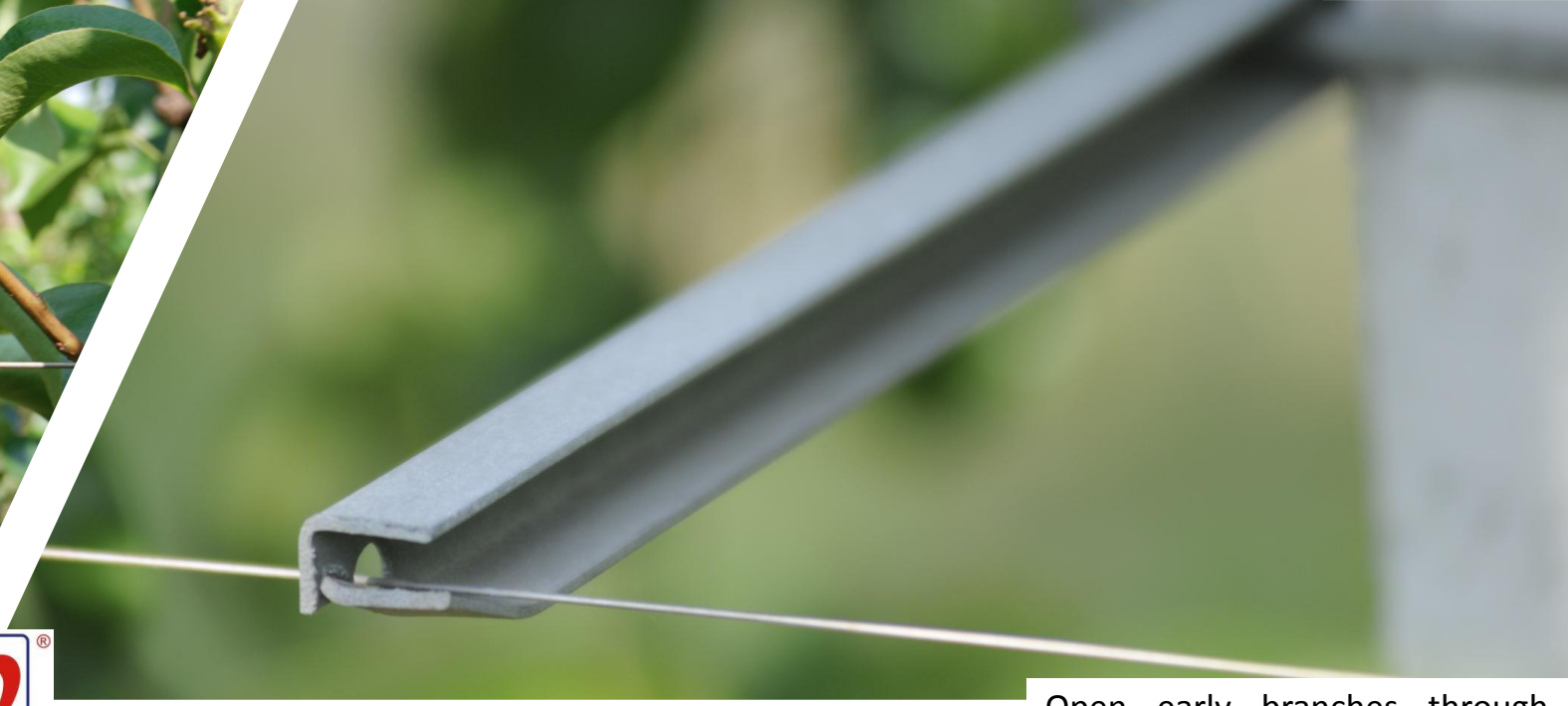
HAIL, RAIN, SUN, WIND,
INSECTS, BIRDS, ANIMALS,
BACTERIA-VIRUS, DESEASES,
MICRO-CLIMATE, ADVANCED AND
LATE SEASONABILITY



Lyra



Spindle

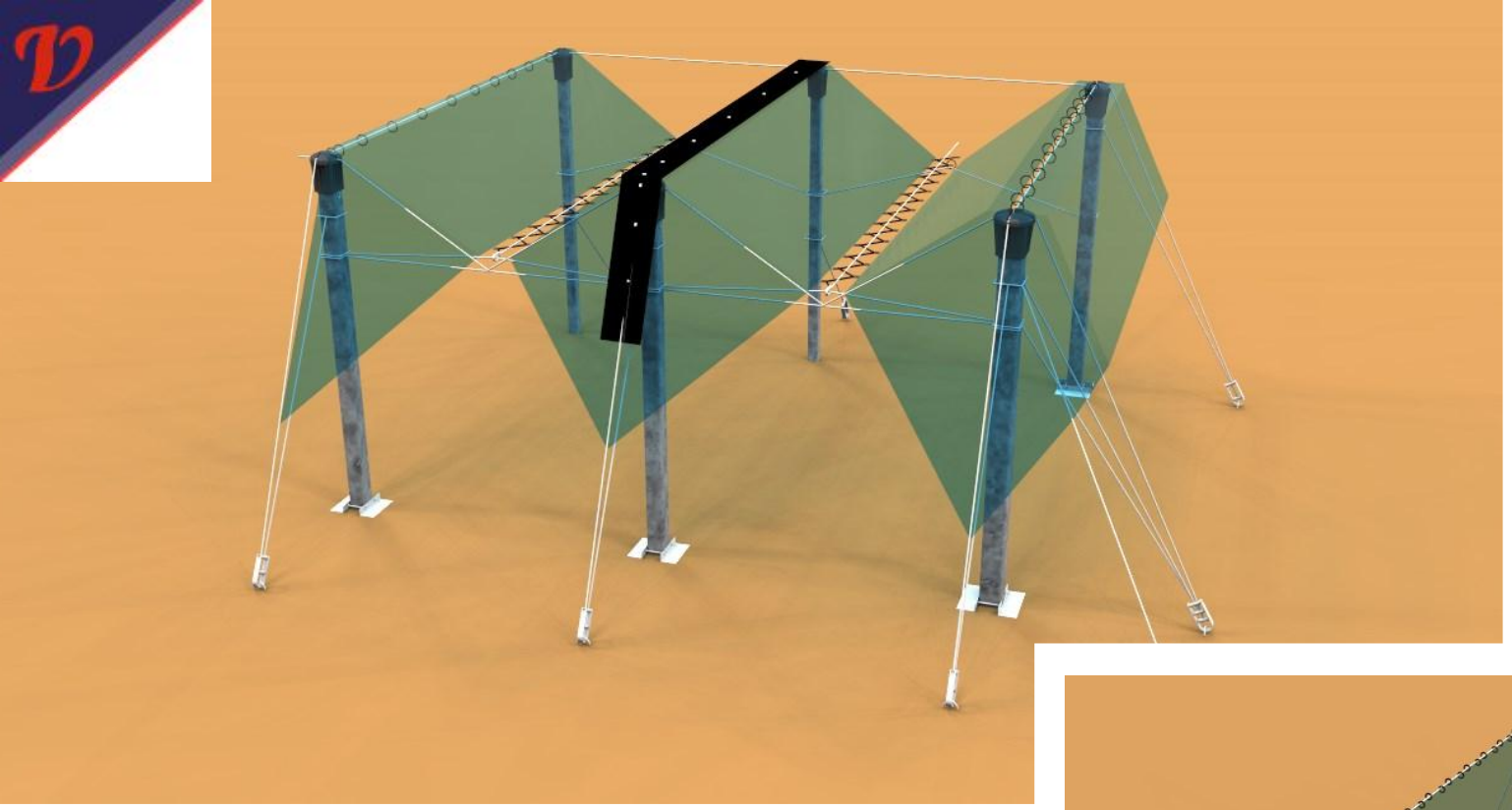


Open early branches through brackets better expose plants to sun light. At the same time wire avoid plant to grow wildly.

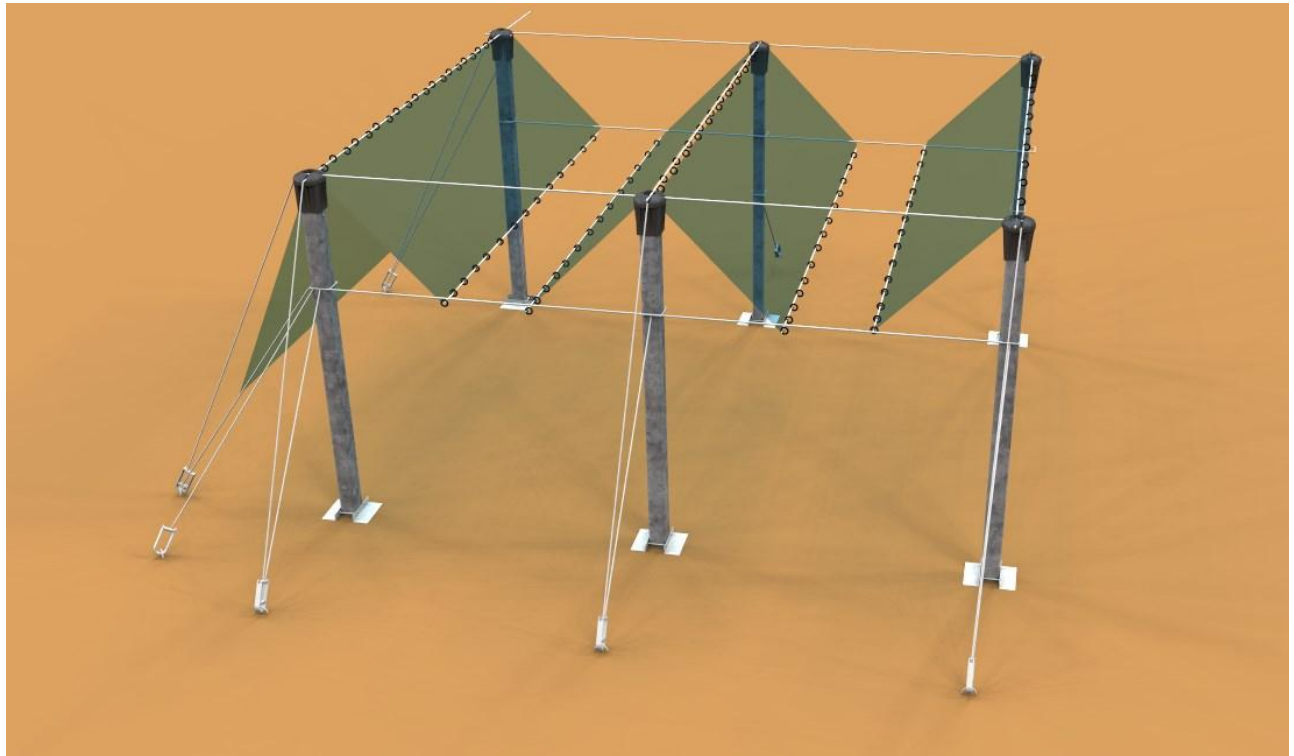
Plant support

A tensile structure consisting of vertical supports connected to each other by wires and cables and kept taut through anchorages (propellers or cement plates) set in the ground. Covering consists of an **anti-rain plastic film** and eventually anti-hail net that are opened simultaneously to protect against bad weather. Anti-rain film, divided in two parts, is fixed in the middle to a couple of wires, to ensure discharge of wind strain with consequential protection against film tearing. Net could be added on top to cover both plants and foil. Net is installed with a larger width than it is required and it is fixed sheet by sheet; its inclined position makes it elastic when it hails. Nets are interrupted by openings to let the hail roll down. Anti-rain film stays **open only thirty days a year**, while the risk of hail subsists for **at least 150 days**, and therefore the anti-hail net will protect the orchard for the remaining period.

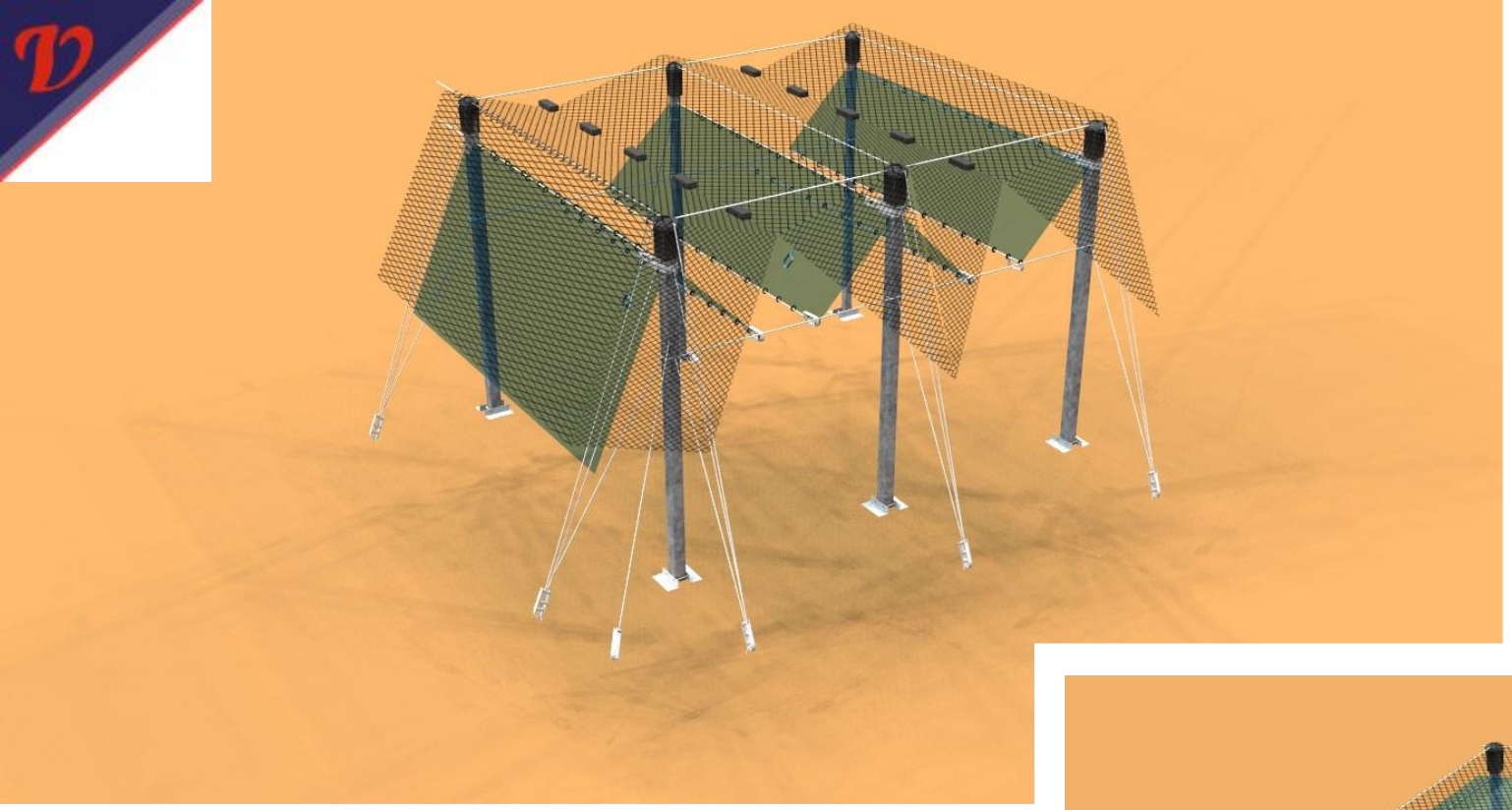
Covering



Rain

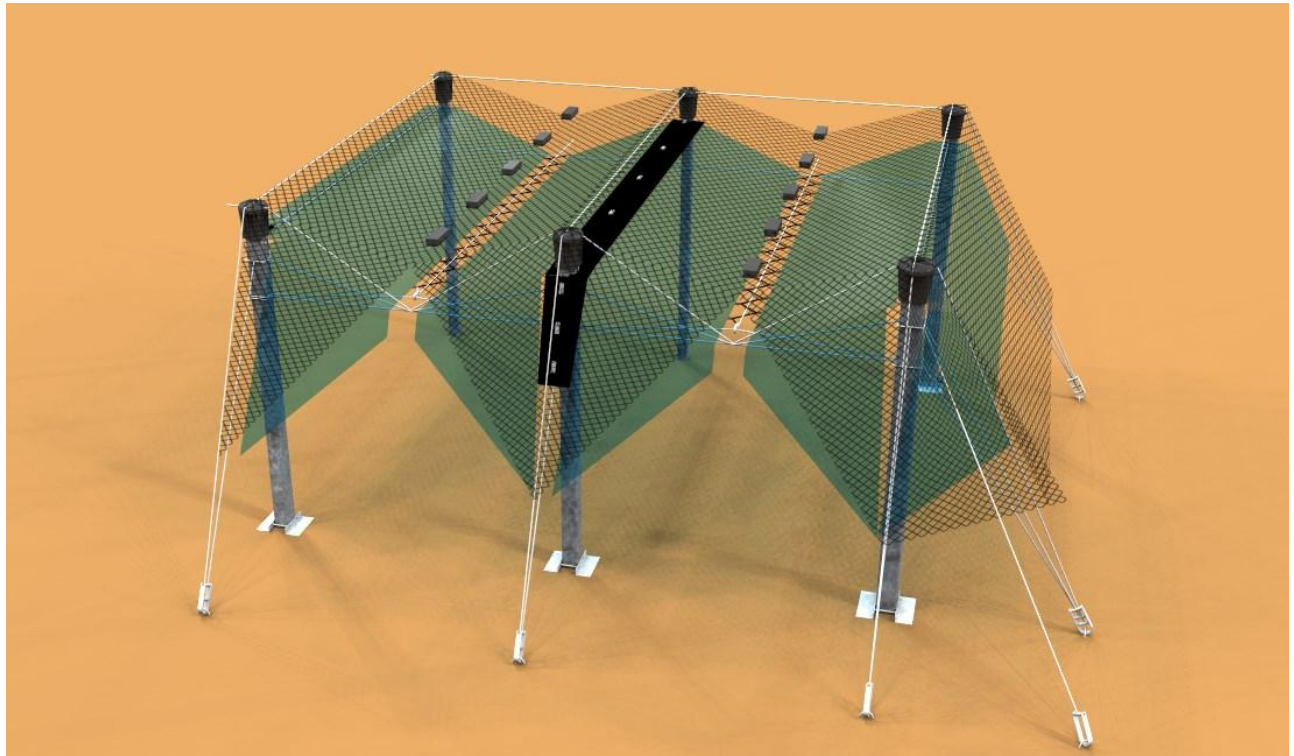


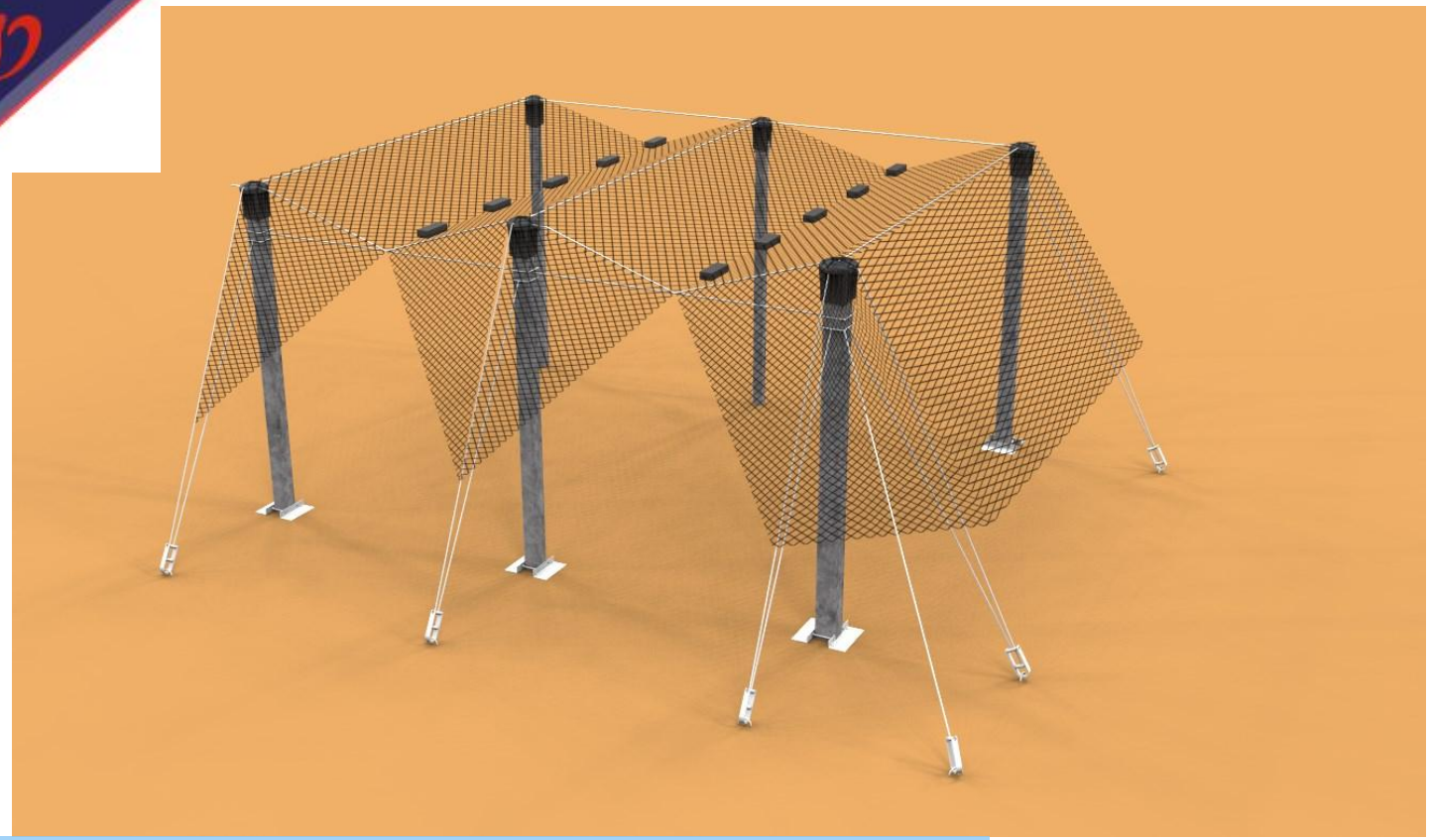
Rain
Multi-shield



Rain + hail

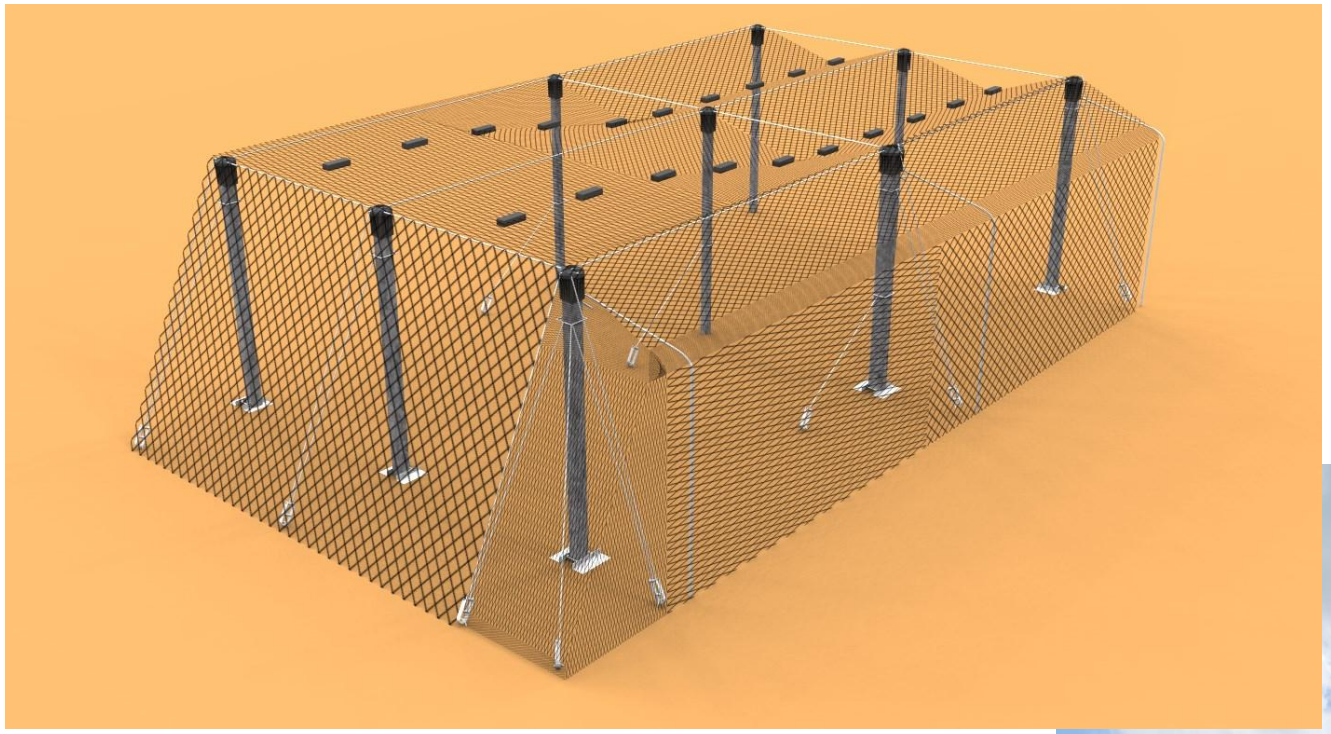
Multi-shield + hail





Hail

Total covering

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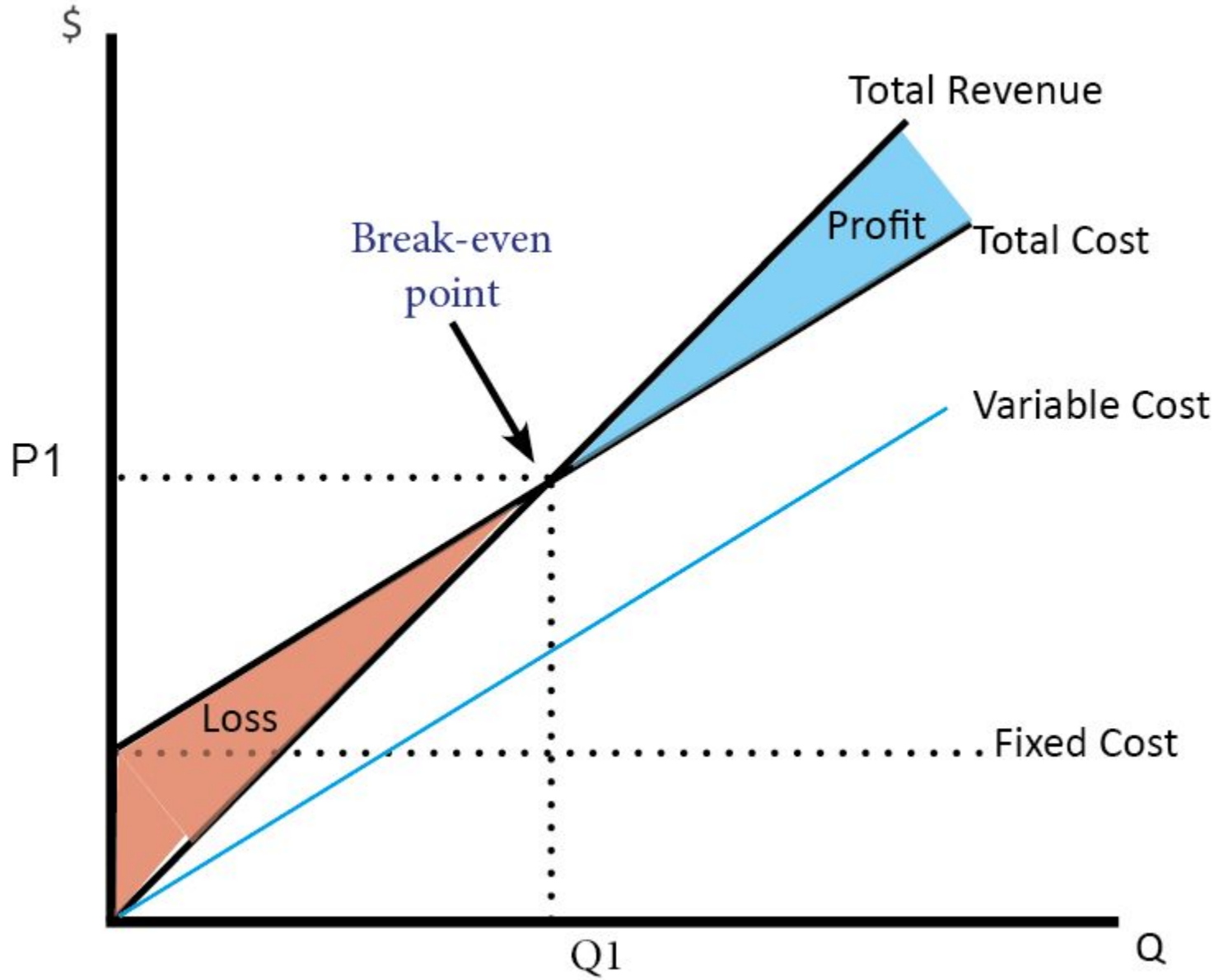
High QUALITY FRUIT

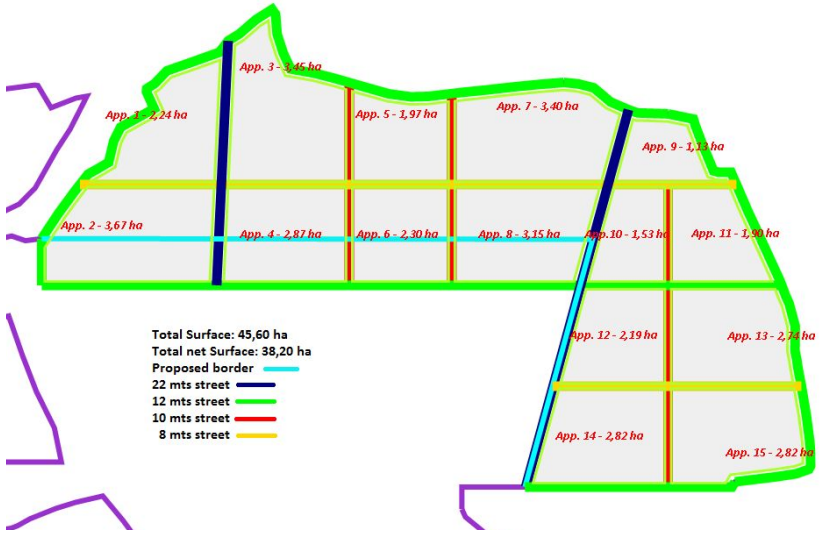
INVESTEMENTS

TOTAL COST OF THE OWNERSHIP

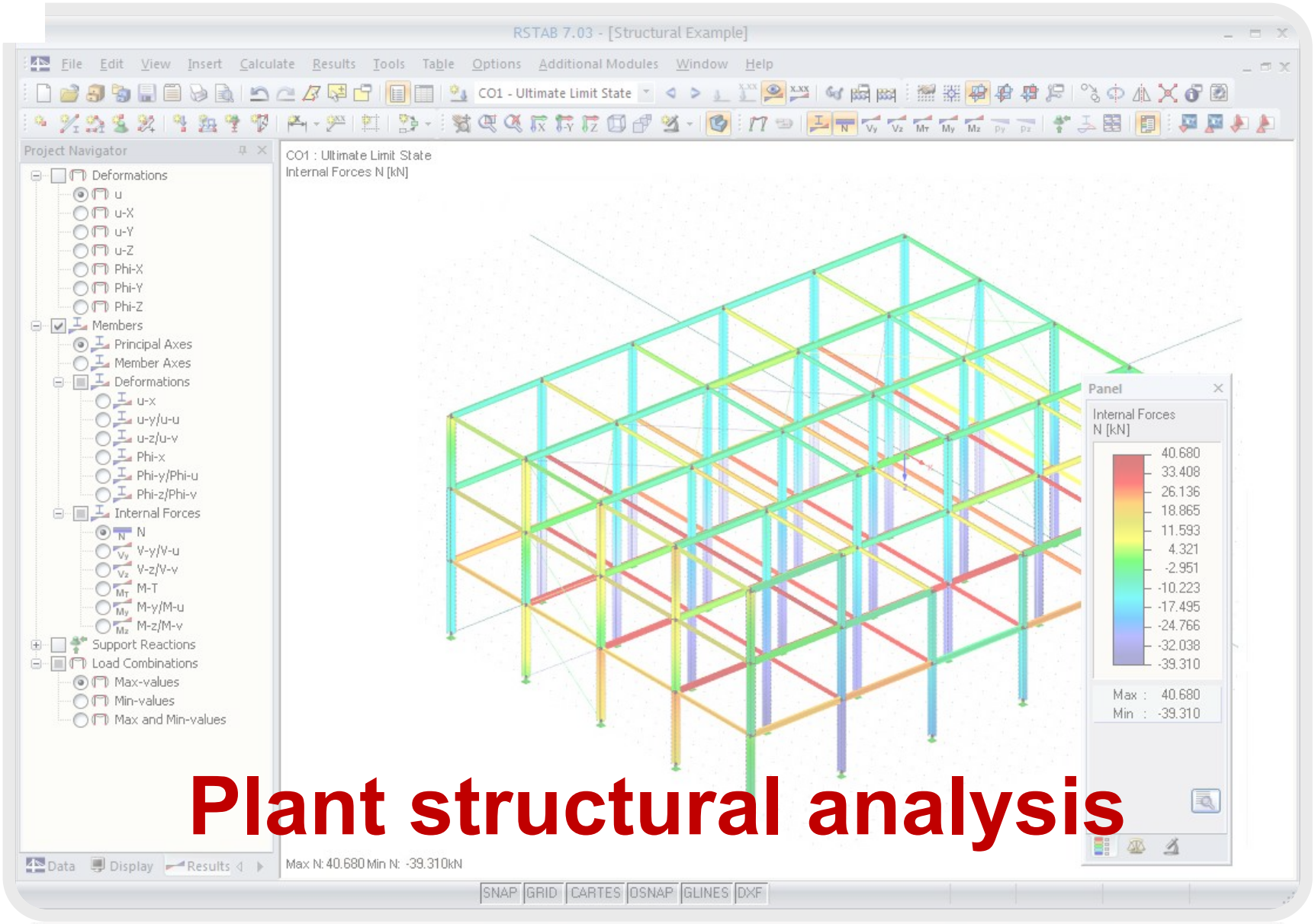

$
Total Revenue
Profit
Total Cost
Break-even
point
Variable Cost
P1
Loss
Fixed Cost
Q1
Q

WHAT to rely on to achieve all this

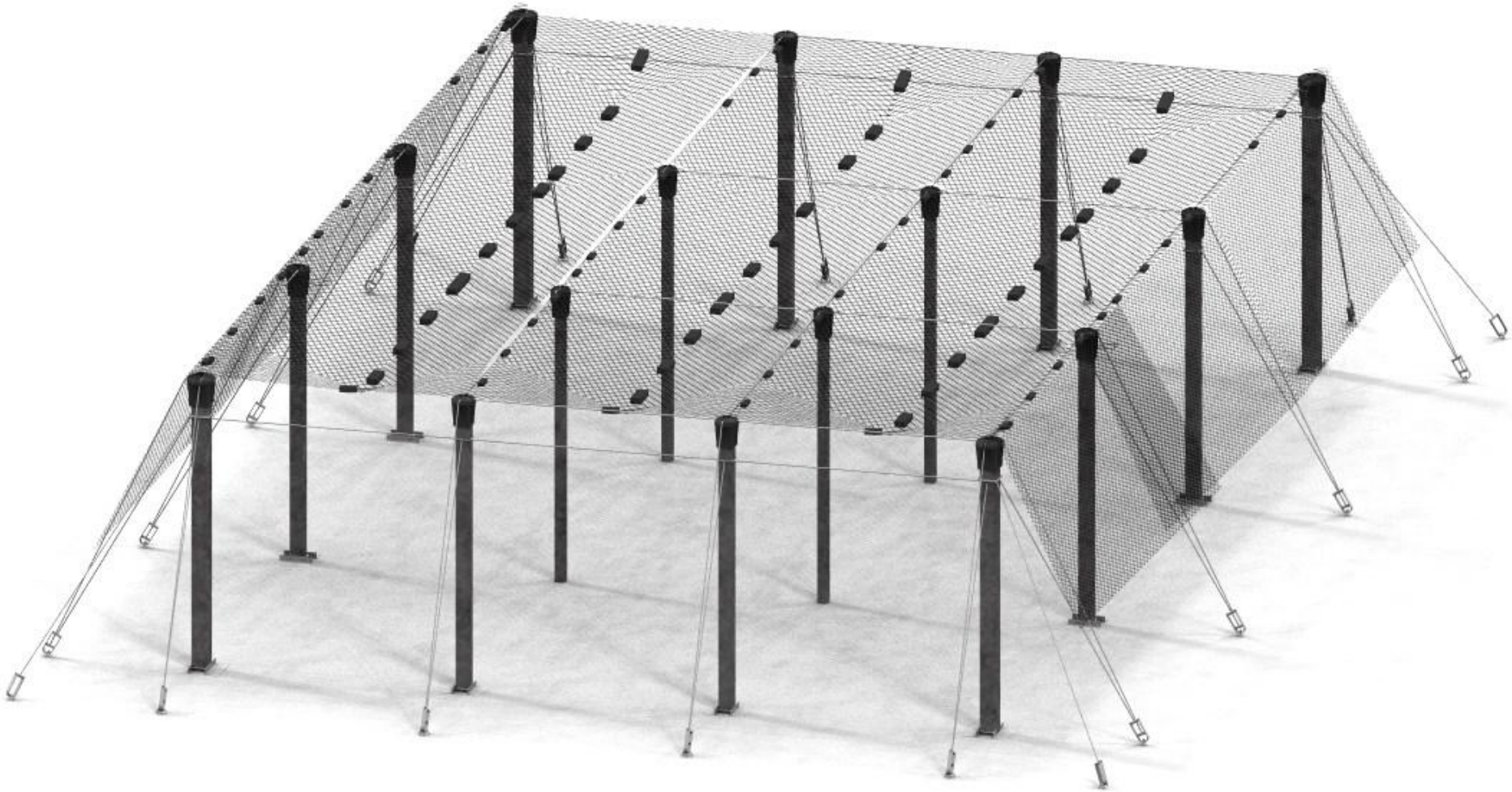
PMIM: Projects, Materials, Installation, Maintenance

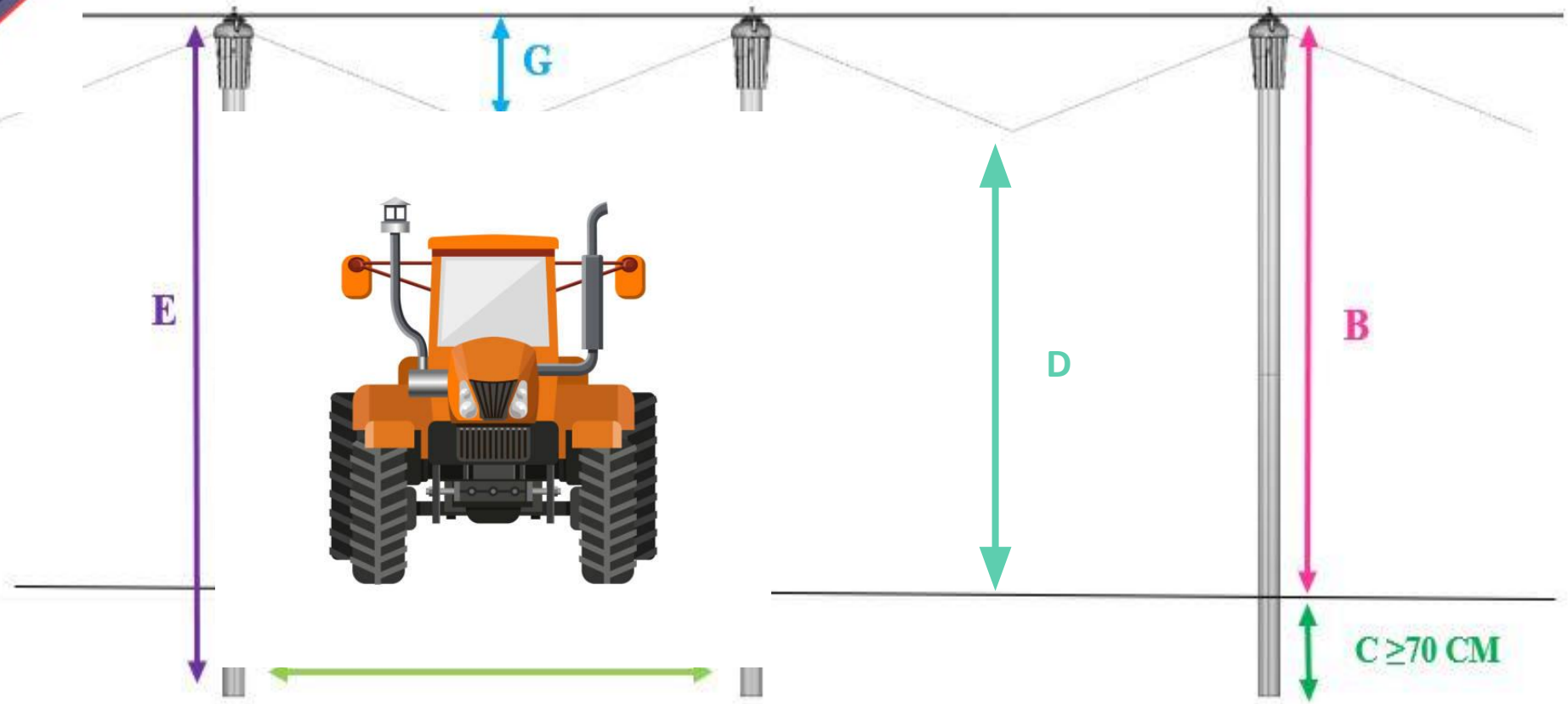


Static calculation



Plant structural analysis





Rules to follow

A = distance between piles = max 10mt
B = max **4mt**
E = C + tractor height + 0,50 + G
F = max 5mt
G = depends on F, according to Pitagora

Corner pile sec. 14x14
Head pile sec. 8x12 18 wires
Side pile sec. 8x12 18 wires
Inner pile sec. **7x8** 12 wires

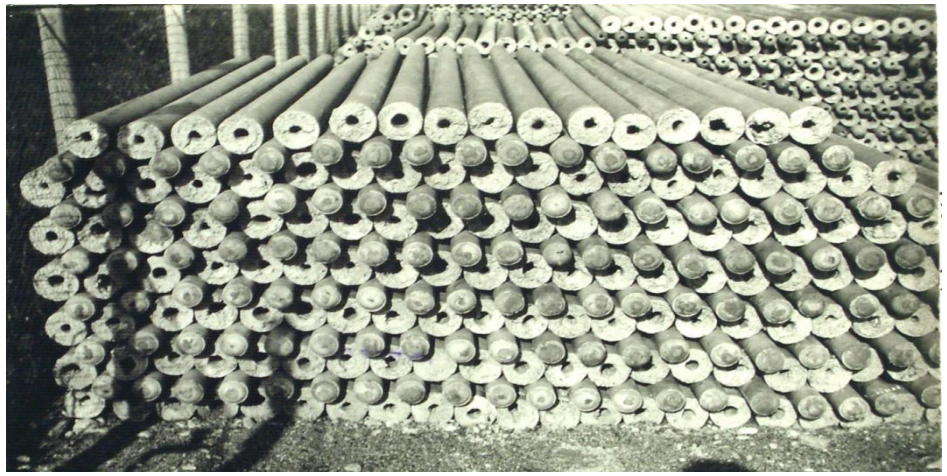
WHOM to rely on to achieve all this

VALENTE®

SOLUZIONI TECNICHE PER VIGNETI E FRUTTETI

963: Pietro Valente founded the Company

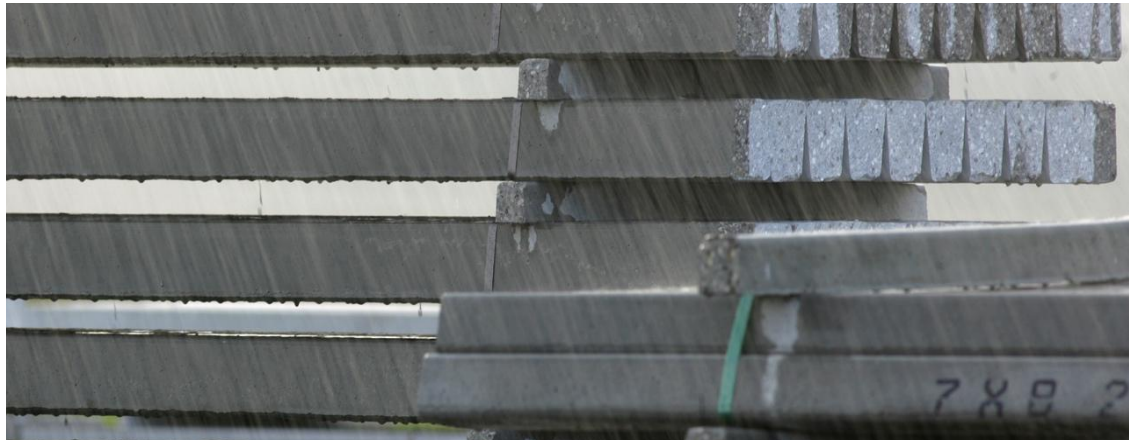
r company was founded by Pietro Valente in 1960 and it’s today recognized as a **benchmark company** in the design and manufacture of technical solutions for vineyards and orchards.



VALENTE®

SOLUZIONI TECNICHE PER VIGNETI E FRUTTETI


D'VALENTE




VALENTE

VALENTE®

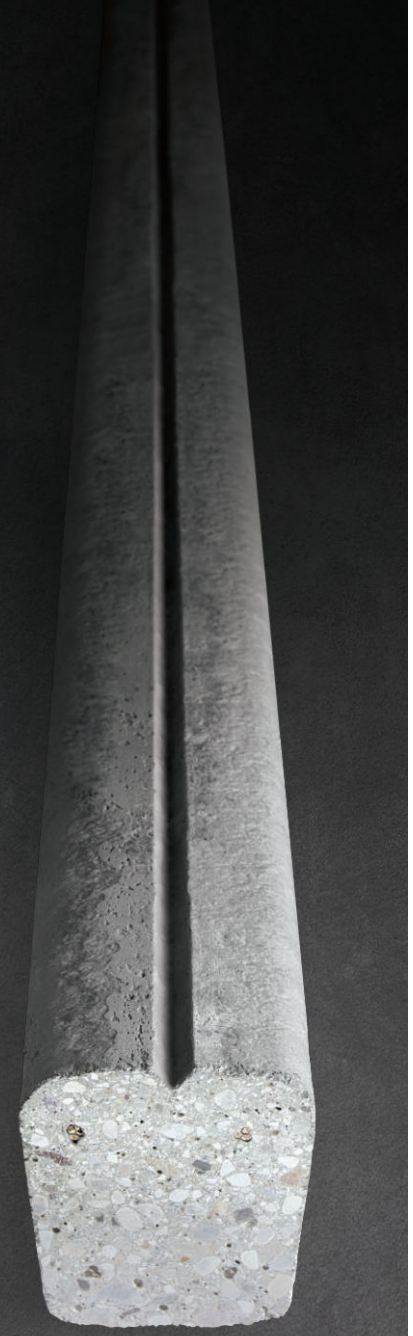
TECHNICAL SOLUTIONS FOR VINEYARDS AND ORCHARDS

CONCRETE PILES KLASSIC

KLASSIC Prestressed Reinforced Concrete pile are made using pre-tensioning technique, which ensures a **greater mechanical resistance**.

KLASSIC pile has a trapezoidal shape with four smooth sides and no edges. These details allow use of harvesting machinery in vineyards and does not cause wear hail net in orchard installations.

Our trademark is on the front: V for Valente!



DESIGN PATENT VALENTE

PRODUCT CERTIFICATION DNV·GL ISO 9001

DNV·GL

PRODUCT CERTIFICATE

Certificato No./Certificate No.:
144224-2013-PC-ITA-DNV Rev. 5.0

Data prima emissione/Initial date:
13 Gennaio, 2014

Validità/Valid:
14 Aprile, 2019 – 14 Aprile, 2022

Il presente Certificato è costituito da 2 pagine/This Certificate consists in 2 pages

In conformità ai regolamenti di DNV GL per la Certificazione di prodotto è stato constatato che il prodotto/
In compliance with DNV GL guidelines for the Certification of product, it has been stated that the product:

Klassic

Realizzato da o per/Manufactured by o for:

VALENTE S.r.l.

Via L. Galvani, 2/4 - 35011 Campodarsego (PD) – Italy

È conforme ai requisiti della Specificazione Tecnica di Prodotto/Complies with the requirements of the Technical Product Specification

STP-CE-PC-IND-08 Rev.3

emessa da/issued by

DNV GL Business Assurance Italia S.r.l.

Questa certificazione è valida per i prodotti caratterizzati come:

Pali in cemento armato precompresso per vigneti e frutteti

(ulteriori dettagli in appendice)

This certificate is valid for the products defined:

Reinforced concrete piles for vineyards and orchards

(further details are given in the appendix)

DNV·GL

Certificato No./Certificate No 144224-2013-PC-ITA-DNV Rev.01
Luogo e Data/Place and date: Vimercate (MB), 12 Aprile, 20198

Appendix to Certificate

Sito produttivo/ Factory site:	Via L. Galvani, 2/4 - 35011 Campodarsego (PD) – Italy

Sezione caratteristica		6x6	7x7 8 f	**7x 7 12 f**	7x8	8x8	9x9 12F	9x9 18F	8x12	**14x14**
Coppia di Rottura Flessione ±20%		981 Nm	1.570 Nm	**1640 Nm**	2.158 Nm	2.747 Nm	3.335 Nm	4.022 Nm	5.886 Nm	**11870 Nm**
Resistenza alla compressione e durabilità della capacità portante a fronte della corrosione e del gelo/disgelo		>50 Mpa								
Tolleranze Dimensionali	Lunghezza	±1 %								
	Dimensioni della sezione trasversale	±3mm								
	Rettilinità	≤0,5%								
Copriferro		≥10mm								
Caratteristica superificiale		Conforme EN 12839: 2012								
Assorbimento d'acqua		Conforme EN 12839: 2012								

MULTI-FUNCTIONAL SYSTEMS

Why using concrete posts technology?

Longevity: cement posts have more than 50 years lifespan, resistant with the increasingly weight of the production (50 tons and more). They don't present problems of rotting and wear and tear along the time conversely to other materials such as wooden posts whose treatments are/will be **prohibited** cause pollution.

Cement posts are **strong** and **flexible** to be the framework of stable systems

Cement posts systems **items** are studied, designed and conceived to resist at extreme extreme atmospheric phenomena

Correct design/layout = space optimization = save time and money

Netting used in cement posts systems are conceived and designed not only to **collect hail, but creating a favorable microclimate** where better farming without effecting crops production **(sugar content + color + fruit shape + harvesting)** and **improving fruit quality,** guarantee giving to final market a **constant** a high-quality fresh fruit

Why Valente…

- ✔ Complete **solutions** provided by only one supplier = ONE STOP SHOPPING
- ✔ Detailed project made according farmers' needs (tailor made project)
- ✔ The worldwide stronger pre-stressed cement poles
- ✔ DNV certification on pre-stressed cement posts quality
- ✔ ISO 9001 quality certification
- ✔ Ultimate breaking point tests on each item and systems
- ✔ Turn-key system: installation support and technical post-sale
- ✔ Systems easy and quick to install;
- ✔ Easy yearly maintenance;
- ✔ 60 years experience, engineering and static calculations on systems

The FUTURE is already PRESENT

POWER SHIELD

PowerShield TECH

VALENTE®

TECHNICAL SOLUTIONS FOR VINEYARDS AND ORCHARDS

THANK YOU AND GOODBYE