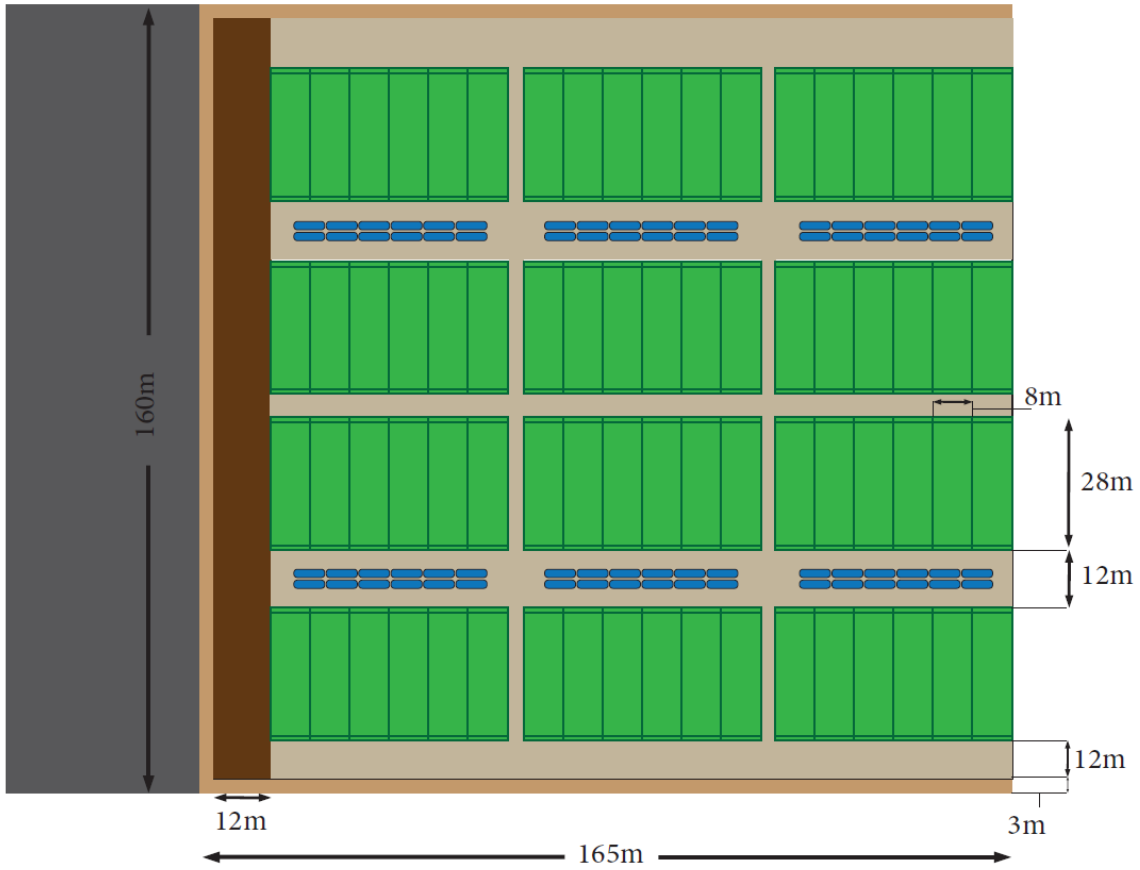
INNOVATIVE FARM
GENERAL INTRODUCTION AND PROPOSAL

PROAM
PROFESSIONAL
ADVANCED
MANAGEMENT

H D
HOLISTIC
DESIGN
AMC
ARCHITETTO
MAURILIO
CITTERIO

PRELIMINARY

19 FEBRUARY 2023
REVISION 00

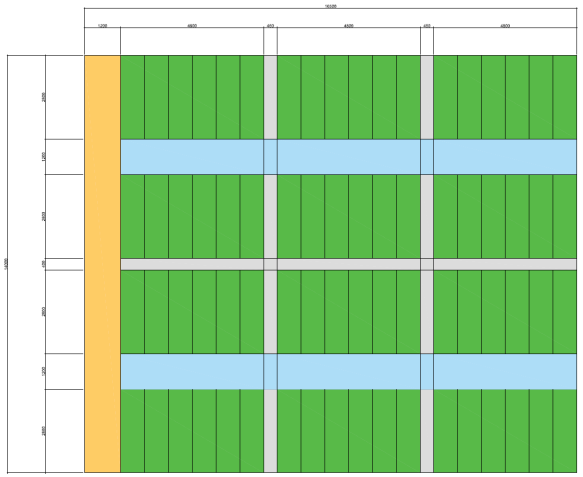


165 x 145 = 23,925 sqm

Fish Tanks
Green Polyhouses
Distribution Roads
Service Area
Land boundary
Road

N

SOL. QUTOOF



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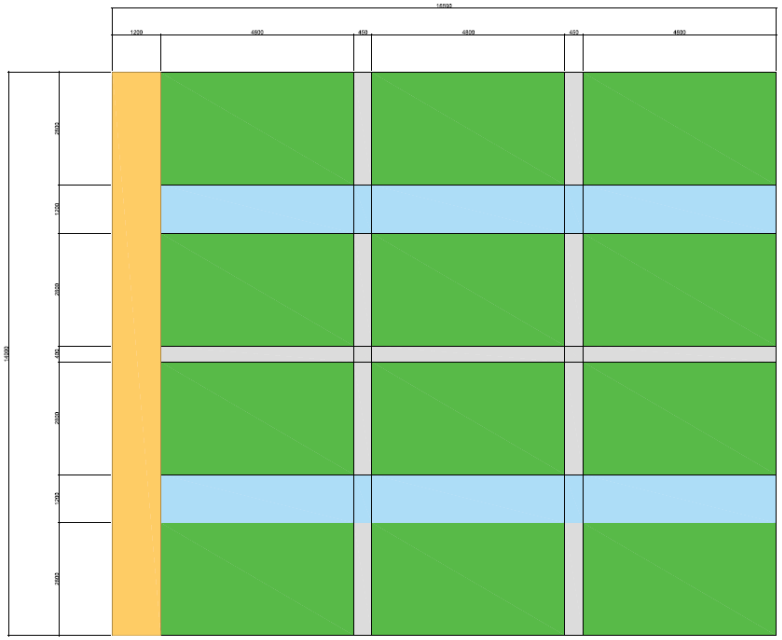

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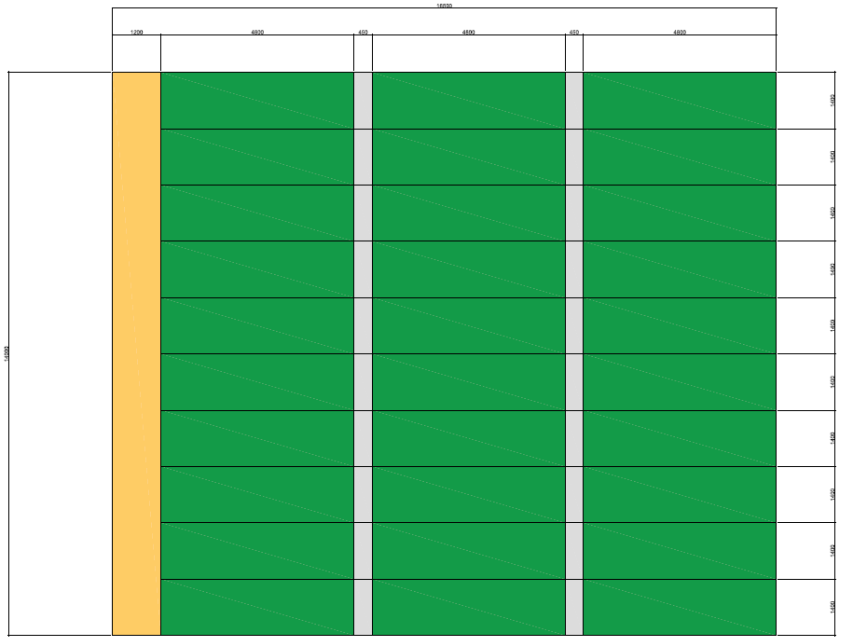
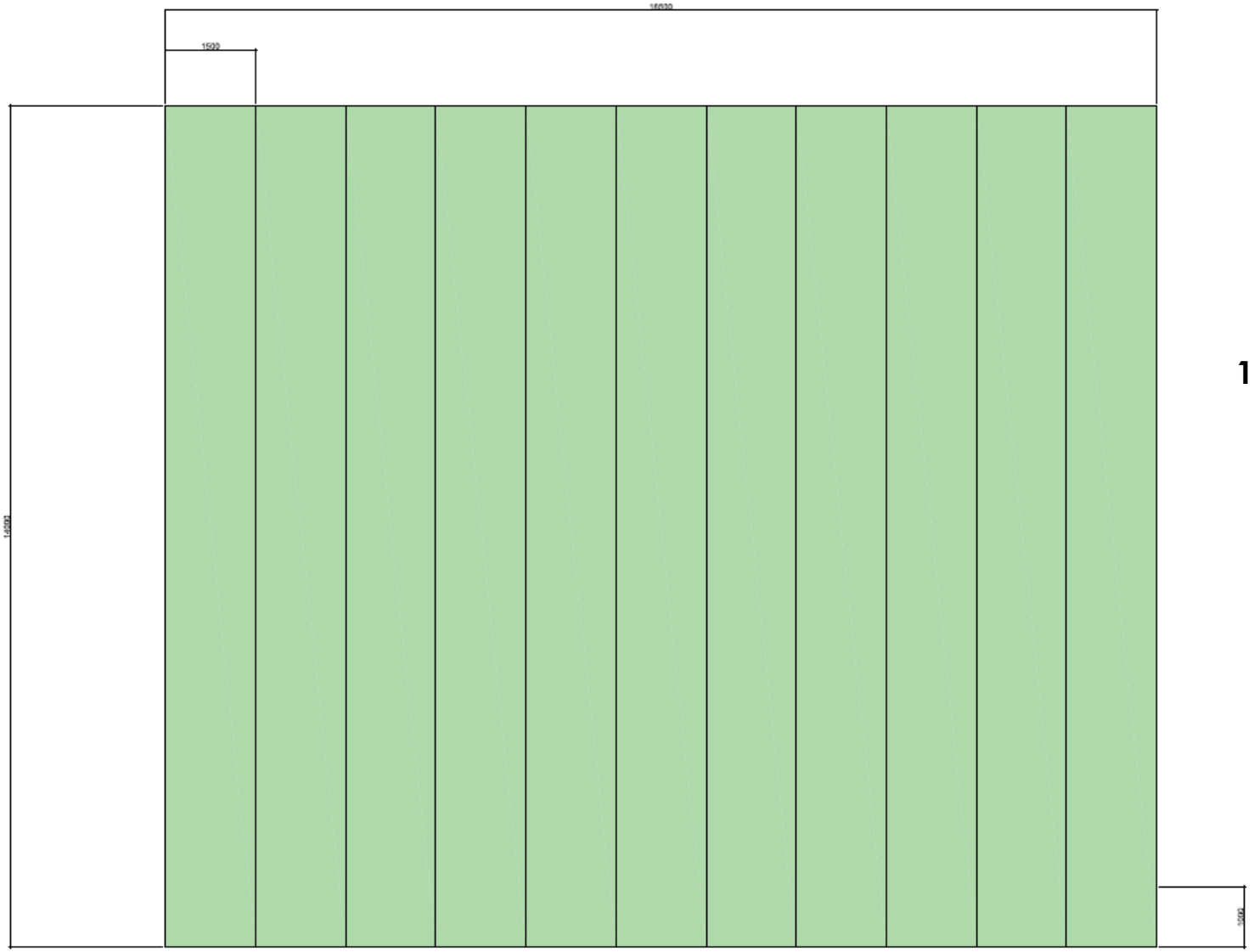
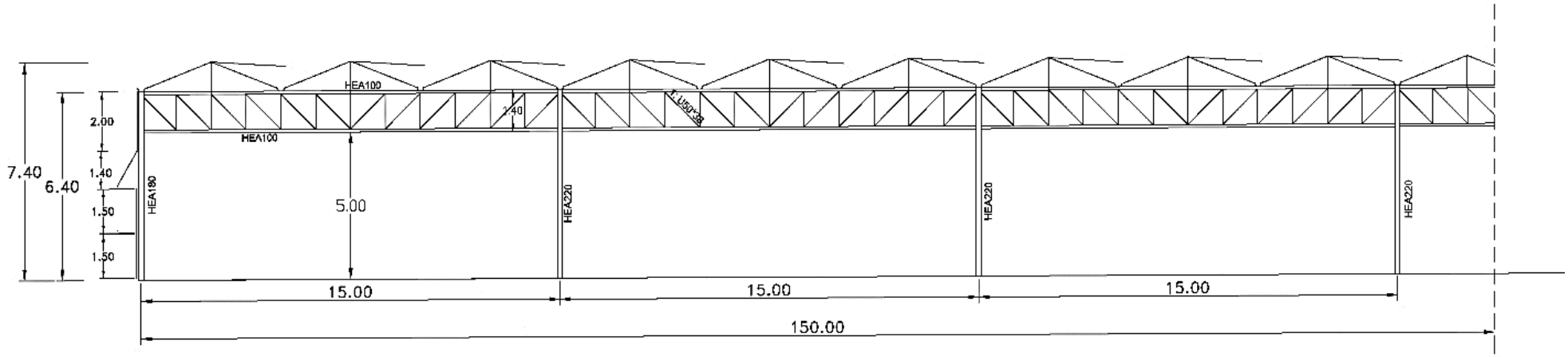


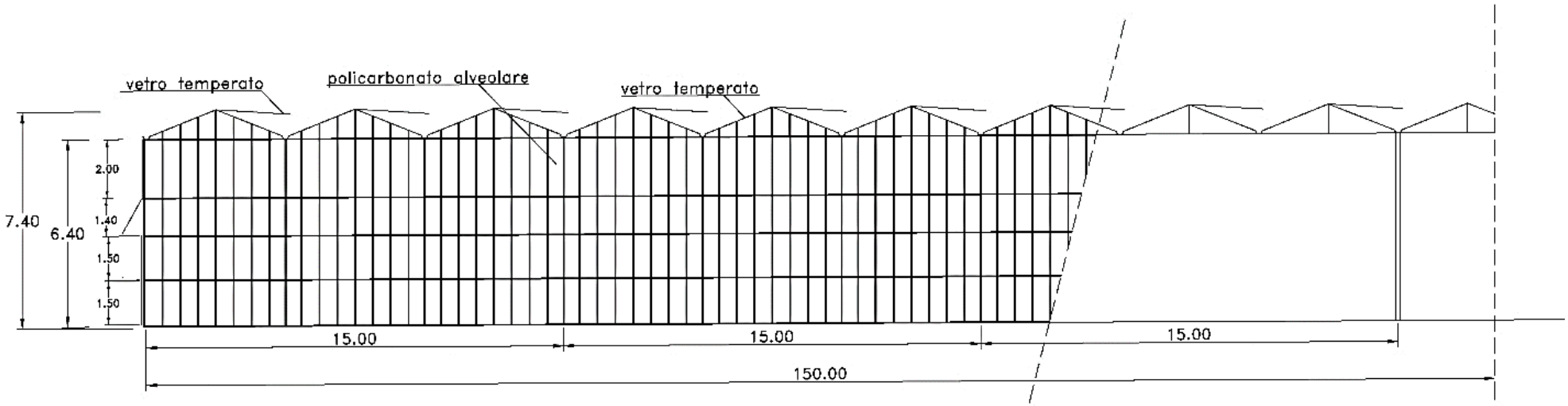
SOL.D L15 (5X3) x 10 x H 6



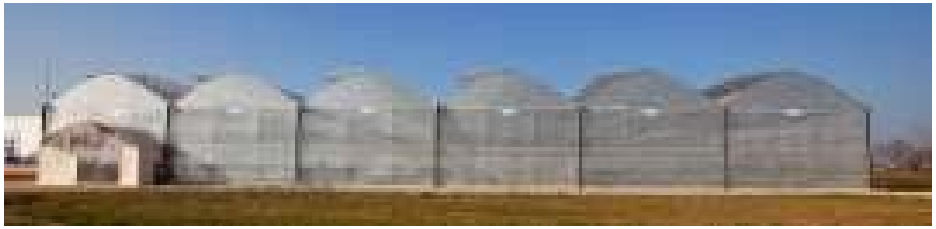
165 x 140 = 23,100 sqm



SECTION



FRONT ELEVION




Pure Harvest Smart Farms - How we grow

PREMISES

Aquaponics systems are of great interest worldwide as they are the only one possible for the sustainable future of agriculture and breeding.
This project is industrial, the most efficient and profitable.
Clarification of some peculiar characteristics, fundamental for the economic understanding of the project.

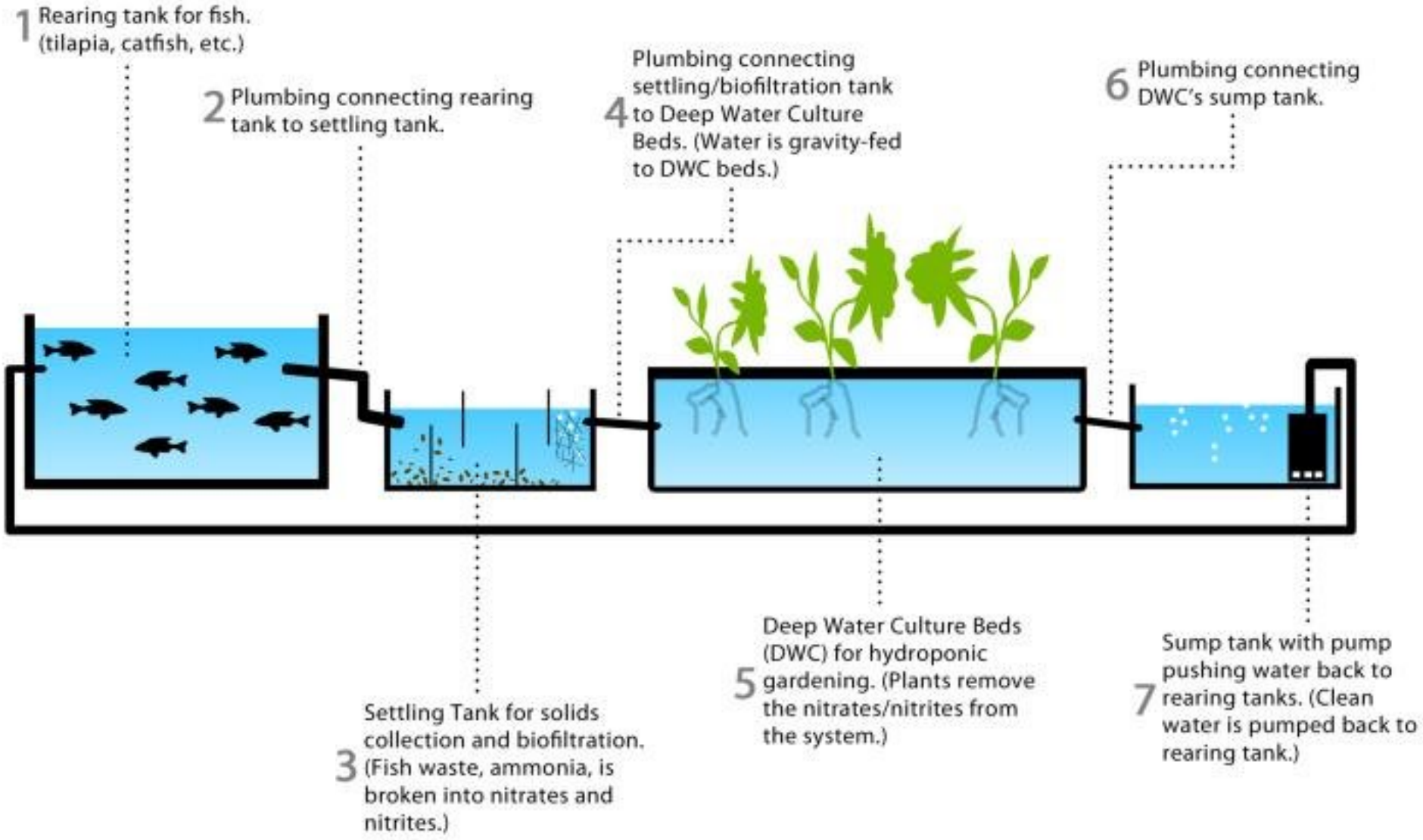
1. **Full cycle production from SOWING to PACKAGING in compostable bags.**
2. **Self-production of the feed**
3. **Self-production of fry.**
4. **Self-production of renewable energy.**
5. **CO2. No CO2 consumption.**
6. **No waste / rejection.**
7. **Circular economy.**
8. **Water consumption: only 10% of traditional cultivation.**
9. **Soil consumption: use of otherwise uncultivable areas.**
10. **Yield up to about 30 times higher than field production.**
11. **Taxation of agricultural income.**
12. **Low management cost.**
13. **Year round production with high quality.**
14. **Management of the computerized system.**

Disabled people may be employed as the plant lends itself particularly to the use of such human resources having been studied in this regard.

To correctly evaluate this investment, it is necessary to consider the originality of the system which has no equal in the world.

Therefore, comparing the data found in the literature, which we have nevertheless kept faith, it must be taken into account that with **this system we obtain 20% higher results**.

These results are obtained thanks to the high technology and automation used exclusively by **NATURAL GROW**.
All production data have been verified in the **PILOT PLANT SINCE 2016**.
The plant is built with intense technology that allows the highest production compared to all the other systems used today.
Although it is an agricultural production plant, it must be **CONSIDERED AS AN INDUSTRIAL PLANT.**
The plant is designed from sowing to the industrially packaged finished product.
The **PRODUCTS ARE 100% ORGANIC** analyzed and certified continuously every few seconds, by an automatic system that sends data and alarms to authorized phones or computers.


1 Rearing tank for fish. (tilapia, catfish, etc.)
2 Plumbing connecting rearing tank to settling tank.
3 Settling Tank for solids collection and biofiltration. (Fish waste, ammonia, is broken into nitrates and nitrites.)
4 Plumbing connecting settling/biofiltration tank to Deep Water Culture Beds. (Water is gravity-fed to DWC beds.)
5 Deep Water Culture Beds (DWC) for hydroponic gardening. (Plants remove the nitrates/nitrites from the system.)
6 Plumbing connecting DWC's sump tank.
7 Sump tank with pump pushing water back to rearing tanks. (Clean water is pumped back to rearing tank.)

SYNERGY FOR SUSTAINABLE AGRICULTURE

Cultivation in aquaponics allows for a huge step forward towards **food sovereignty**, which every country should aspire to, according to the principles of **circular economy and sustainable development.**

In our systems, the fish manure is used to fertilize the crops, which grow very quickly.
The plants grow directly above the tanks, sinking their roots in the water fertilized by the fish.
One of the strengths of this crop is that it recycles water and minimizes waste.

90% less water is used than traditional crops;

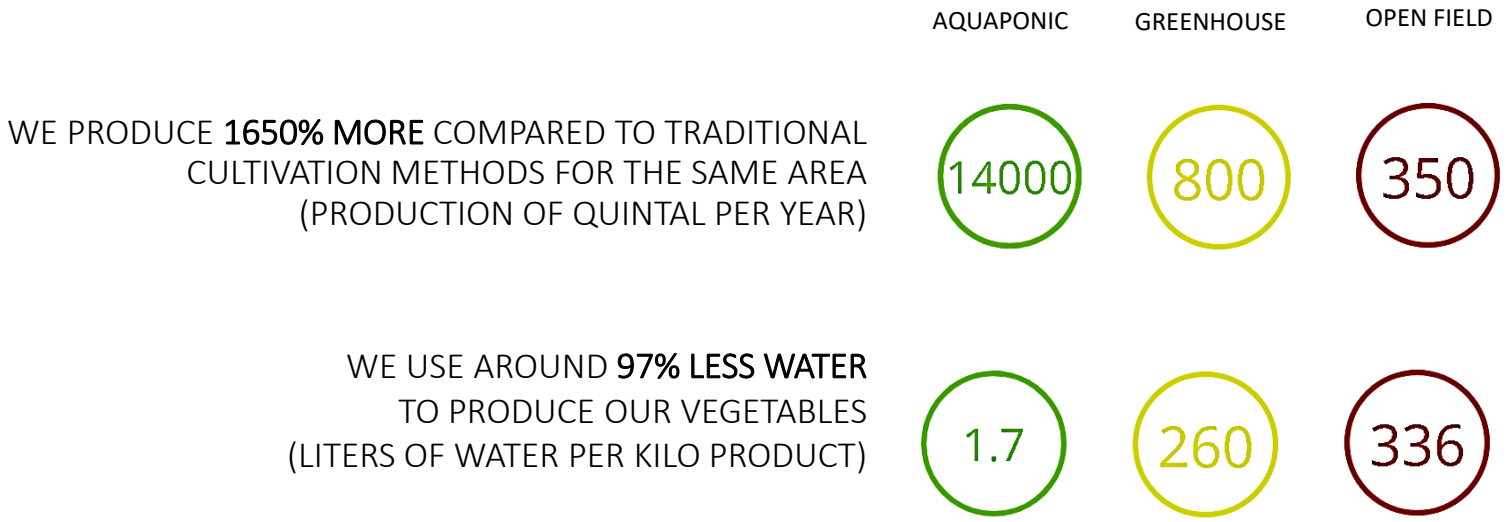
furthermore, growth occurs in times from 30% to 50%

shorter, thanks to the constant fertilization of the roots,

brought about by the flow of water.

Many harvests are made during the year, thanks to the seasonal adjustment, and the production is varied and constant.

TODAY, THANKS TO ACQUAPONICS, IT IS POSSIBLE TO HAVE A GREATER **THAN 1000%**
INCREASE IN LARGE-CONSUMPTION
VEGETABLE PRODUCTS, COMPARED TO THE TRADITIONAL
AGRICULTURAL METHOD, **ALSO IMPROVING**
THE QUALITY OF THE FOOD.



A 360° IMPROVEMENT

IN QUALITATIVE TERMS
BESIDES SAVING WATER, SOIL AND TIME, THERE IS NO USE OF FERTILIZERS AND PESTICIDES; THEREFORE, THE PRODUCTIONS ARE REALLY ORGANIC, SAFE, CONTROLLED, HEALTHY, NUTRITIVE AND GOOD

IN TERMS OF TIME
THANKS TO A NATURAL, CONSTANT, DIRECT AND PERFECTLY BALANCED FERTILIZATION, THE PRODUCTION CYCLE LASTS ON AVERAGE 28 DAYS AND MANY CYCLES ARE CARRIED OUT EVERY YEAR

IN QUANTITATIVE TERMS
AN INCREASE OF MORE THAN 1000% PER HECTARE COMPARED WITH TO TRADITIONAL AGRICULTURE

THE NEED

The **overpopulation** of the planet and **climate change**, as well as the recent **health and political crises**, have highlighted the need to have food constantly available, making conscious choices about quality, origin, justice and food safety.

Imported raw materials often come from areas of the world where chemical products, potentially **harmful to health and dangerous for the environment**, are widely used; moreover, transport significantly increases its **ecological footprint and food insecurity**.

It is necessary to guarantee the supply of food of the highest quality, with prices accessible to all, without exploiting exhaustible resources.

THE SOLUTION

- Aquaponics guarantees **a high, ethical and sustainable production**, thanks to the saving of water and soil, the total reuse of waste, the absence of fertilizers, pesticides and chemicals in general.
- This virtuous, efficient and compact system, which combines hydroponic cultivation with fish farming, makes it possible to create **highly productive agricultural supply chains, without generating any polluting waste.**
- The productions are double (vegetable and fish) and greater range, faster, seasonally adjusted; the products are **traceable, healthy, safe and free from climatic adversities**.

IN SUMMARY

- WATER CONSUMPTION IS REDUCED BY 90/97%;
- FERTILIZERS, PESTICIDES, PHYTOSANITARY AND CHEMISTRY ARE NOT USED;
- TIME FOR PLANT GROWTH IS REDUCED BY 30-50%;
- MANAGEMENT AND MAINTENANCE COSTS ARE LOW;
- AGRICULTURAL MACHINERY IS NOT USED AND CO_2 IS NOT EMITTED;
- NO LAND IS WASTED, SINCE THE SYSTEM CAN BE PLACED ANYWHERE (IN MARGINAL OR ABANDONED AREAS, ON TERRACES, IN DISUSED WAREHOUSES);
- THE PRODUCTION IS SEASONALLY ADJUSTED AND LASTS 12 MONTHS;
- THE PRODUCTS ARE HEALTHY, CERTIFIED AND CONTROLLED IN EVERY PHASE;
- THE PRODUCTION IS FREE OF EARTHY RESIDUES, THEREFORE SUITABLE FOR THE IV RANGE, AND CHEMICALS, ALLOWING A 100% WATER SAVING IN THE PACKAGING;
- ALL WASTE IS RECYCLED TO GET FOOD FOR FISH;
- THEY ARE NOT INFLUENCED BY ADVERSE CLIMATE (SUCH AS HOT, COLD, TOO MUCH OR LITTLE WATER, FROST, ETC.);
- HARVEST PLANNING IS SAFE;
- FOR FERTILIZING, FISH MANURE IS USED, SO IT HAS BEEN NATURAL, CONTROLLED AND WITHOUT ADDED COSTS;
- THE PRODUCTION IS NATURAL, HEALTHY, SAFE AND OF HIGH QUALITY;
- PROCESSING AND HARVESTING ARE MORE CONVENIENT AND EASIER, THEREFORE FOR LABOR THE SYSTEM IS COMPATIBLE WITH SOCIAL-HEALTH, EDUCATIONAL AND REHABILITATION SERVICES.

THE PROBLEM

CLIMATE CHANGE

UNLIMITED RESOURCES

POPULATION INCREASE

ECOSYSTEM AQUA FACTORY

ZERO E-MISSION

COMPLETE MITIGATION OF CO2 EMISSIONS

CIRCULAR ECONOMY

TOTAL USE OF WASTE DERIVED FROM PRODUCTION

ORGANIC PRODUCTS

HIGH QUALITY PRODUCTS, HEALTHY, CONTROLLED, WITH HIGH NUTRITIONAL VALUES.

ACQUAPONICS

PRODUCTION INCREASE ABOVE 1650% WITH RESPECT TO AGRICULTURE TRADITIONAL

BLOCKCHAIN

ENTIRE SUPPLY CHAIN CERTIFIED WITH BLOCKCHAIN TECHNOLOGY, 100% POWERED BY RENEWABLE ENERGIES

OUR PRODUCTS

- SUPER FRESH
- FOURTH RANGE
- FIFTH RANGE

HYDROPONICS

- The plant is irrigated with a nutrient solution made up of water and compounds (mostly inorganic) necessary to provide all the essential elements for normal mineral nutrition.
- Fertilizers for hydroponics are formulated with specific proportions of Nitrogen, Potassium and Phosphorus, supplemented with nitrogen..

AQUA FACTORY AQUAPONICS

Our system, on the other hand, uses only fertilizer generated by the normal biological cycles of the fish, essentially their droppings; thanks to a targeted diet derived from vegetable production waste, breeding and other vegetables specially grown by us.

To make the whole system work, we use an innovative and more efficient biodynamic filter.

All processes* are controlled by an electronic system of our own conception, which manages the complete cycle, from germination to plant growth, from fish reproduction to fry growth.

Furthermore, this integrated system constantly examines the parameters of nutrients and the wholesomeness of the water in which the fish live, which brings nutrients to the plants.

*THESE PROCESSES WILL BE SHORTLY PATENTED IN THE NAME OF AQUA FARM

STRENGTHS

- ABOUT 95% SAVINGS OF WATER AND SOIL
- NO USE OF CHEMICAL PESTICIDES AND ZERO CHEMICAL FERTILIZATIONS
- ZERO SEASONAL PROBLEMS ZERO ENVIRONMENTAL IMPACT
- 100% SCALABLE
  UNLIMITED AND GLOBAL MARKET
- ALL WASTE IS 100% RECYCLED
- REAL ESTATE ASSETS AND PROPRIETARY TECHNOLOGY
- PRODUCTION 27 TIMES HIGHER THAN TRADITIONAL AGRICULTURE
- NO USE OF AGRICULTURAL VEHICLES
  NO POLLUTION
- NET MARGIN OF 60% ANNUAL

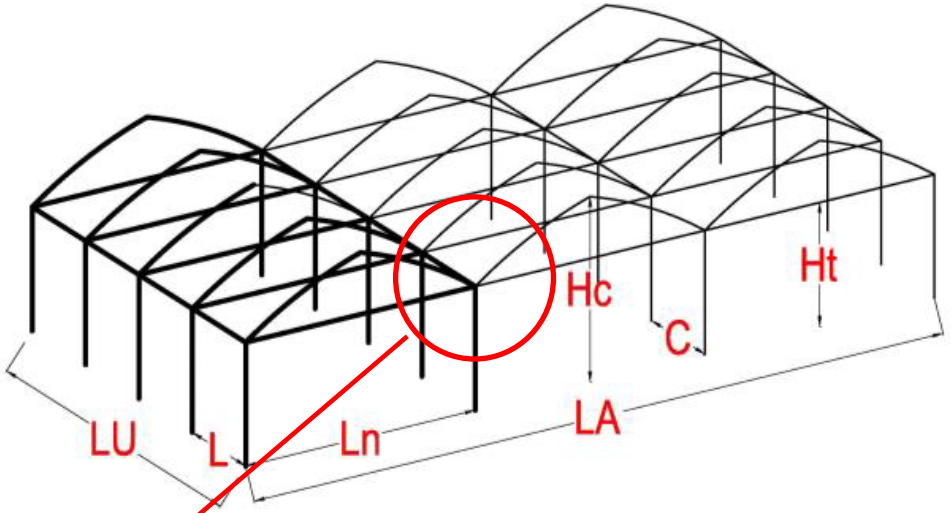
The "screen" system in question has the dual function of shade cloth and screen for the containment of energy consumption, avoiding contact between the mass of internal hot air and the cold external air, thus allowing the mass of the radiant energy introduced into the greenhouse.

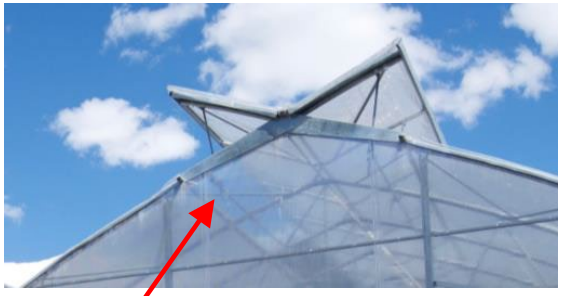
REDUCED WATER CONSUMPTION

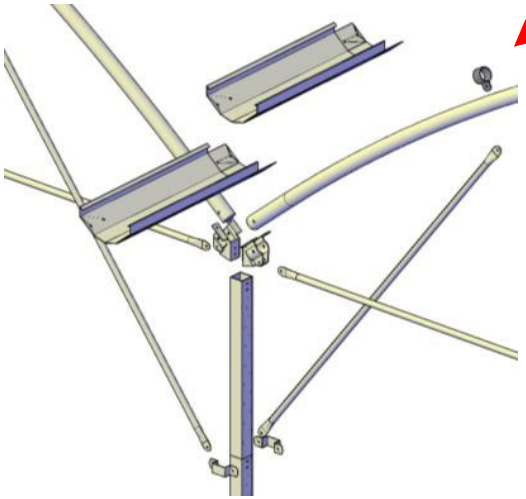
Common washing systems consume about 2 Cubic meters of water / hour for each wash and use 4 washes with a consumption of 8Mc of wasted water: REFUSAL

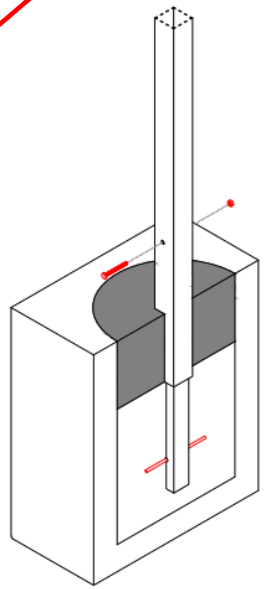
OUR SYSTEM
ONLY TWO WASHES
ENTIRELY RECYCLED WATER

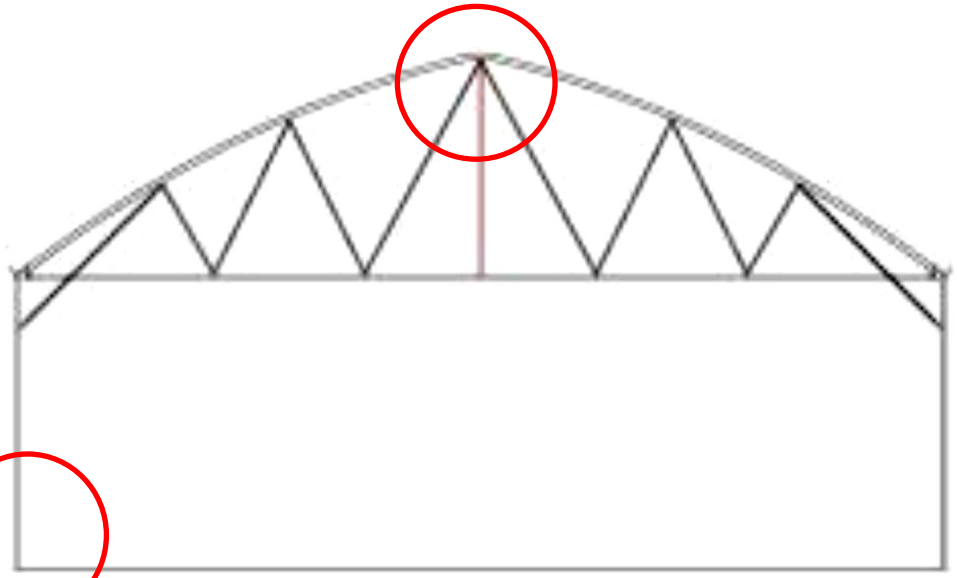
Larghezza navata (**Ln**)	12,80	Mt.
Altezza sotto tirante (**Ht**)* *altezza media in condizione di pendenza ottimale del terreno per lo scarico dell'acqua dai pluviali	5,50	Mt.
Altezza di colmo (**Hc**)	+3,10	Mt.
Interasse arcate	3,00	Mt.
Interasse pali laterali (L)	1,50	Mt.
Interasse pali centrali (**C**)	3,00	Mt.
Quantità navate	10	N.
Larghezza totale serra (**LA**)	128,00	Mt.
Lunghezza totale serra (**LU**)	99,00	Mt.











Insulation obtained with a two-film covering system with an air gap maintained at constant pressure by an electric turbine controlled by a cyclic timer, guaranteeing energy savings of up to 40% compared to single-film glass or wall greenhouses, furthermore it significantly avoids sudden changes temperature inside the greenhouse.

AIR CONDITIONING IS INNOVATIVE

made up of several integrated systems, one functional to the other controlled by a computerized system.

The plant is air-conditioned in a functional way for the growth of the plants and the health of the fish, safeguarding the possible infestation of spores and therefore of fungi and parasites.

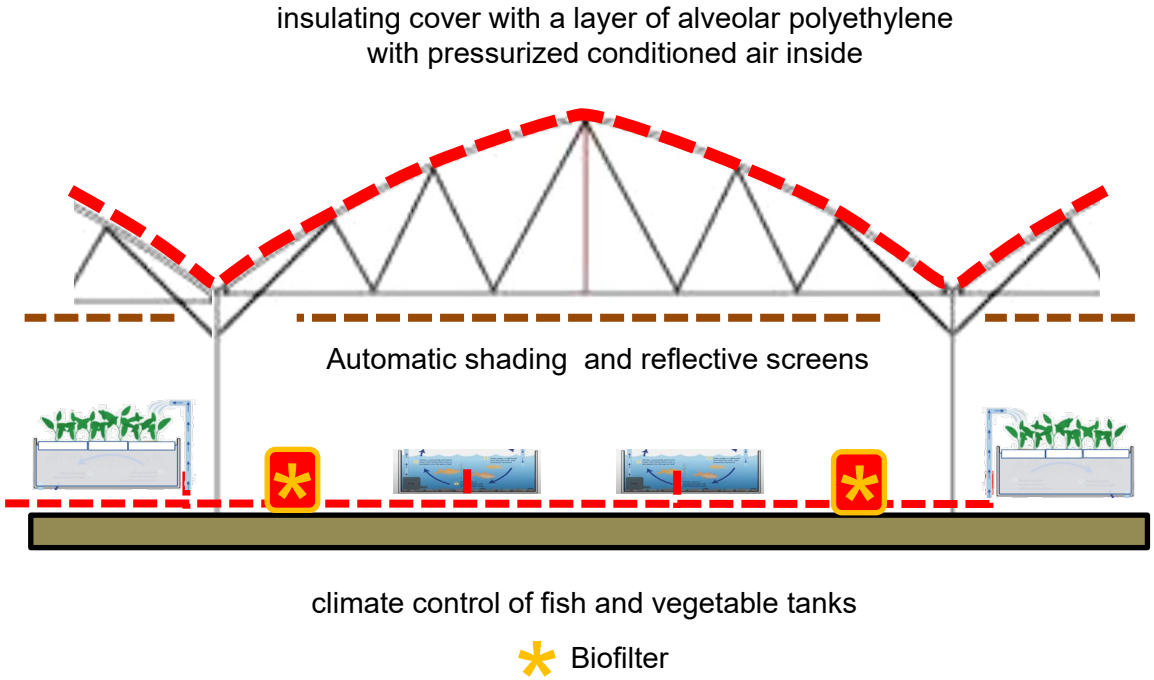
1) The base part is made to be thermally insulating but breathable.

2) The upper part is temperature controlled by a cavity in which air is passed which insulates from both low and high temperatures.

3) The Upper ventilation consists of several fans/extractors, useful for disposing of humidity or high/low temperatures.

4) A chiller / heat pump, tailor-made for us, which each condition a tank of both vegetables and fish

5) Hot/cold air extractors which guarantee the total air exchange of a bay in one hour.



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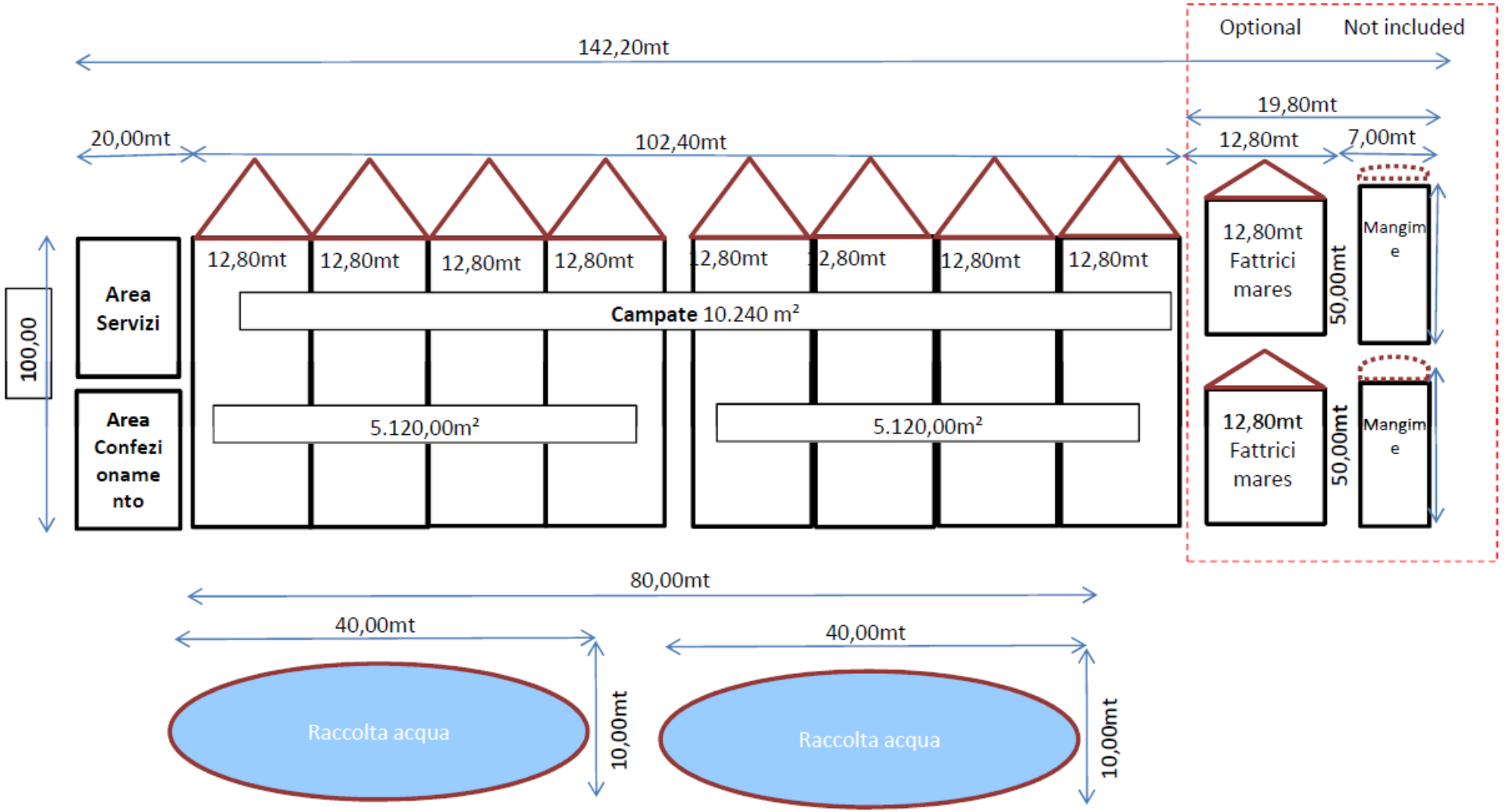
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Area Servizi
Area Confezionamento
Campate 10.240 m²
5.120,00m²
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Raccolta acqua
Raccolta acqua
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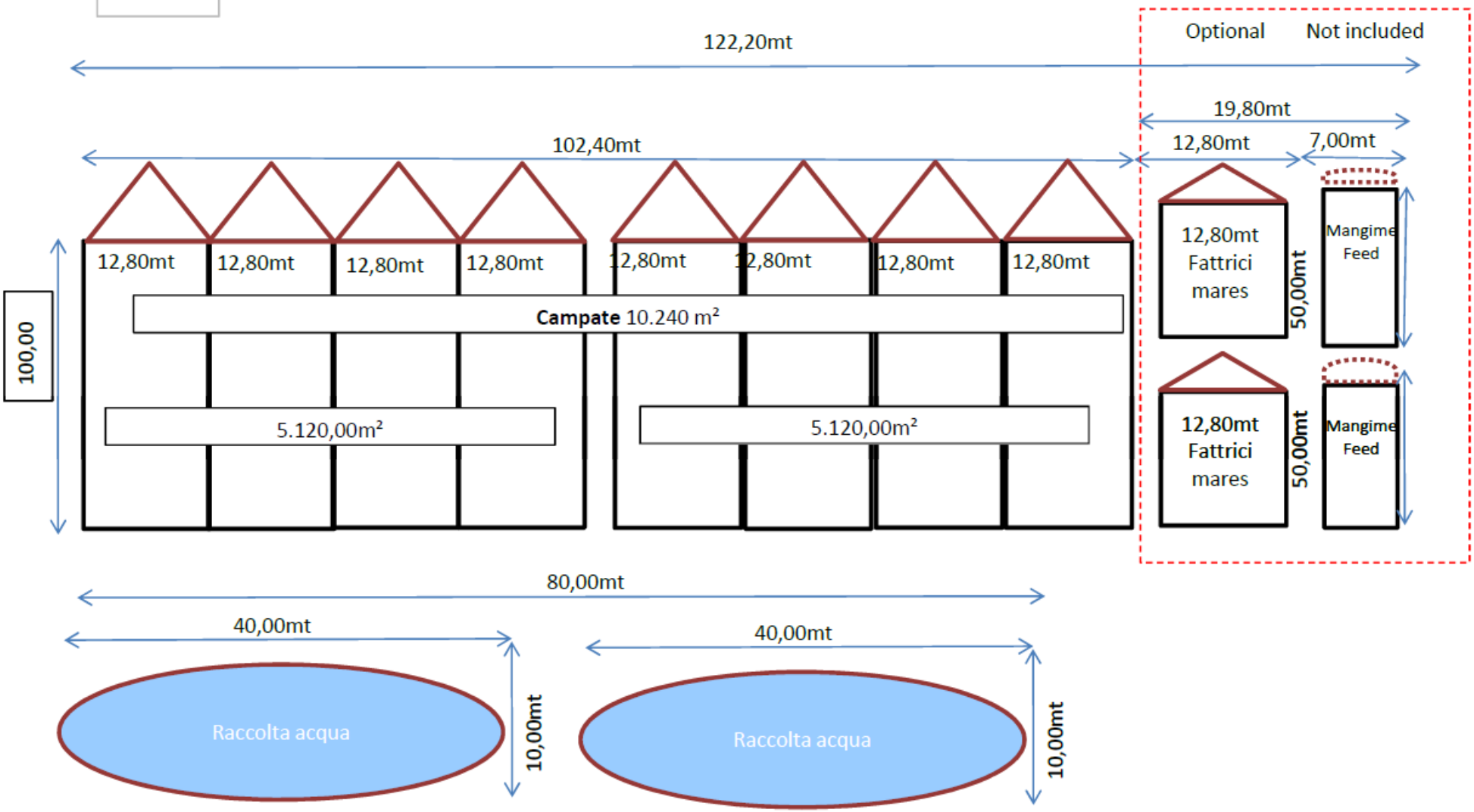
2°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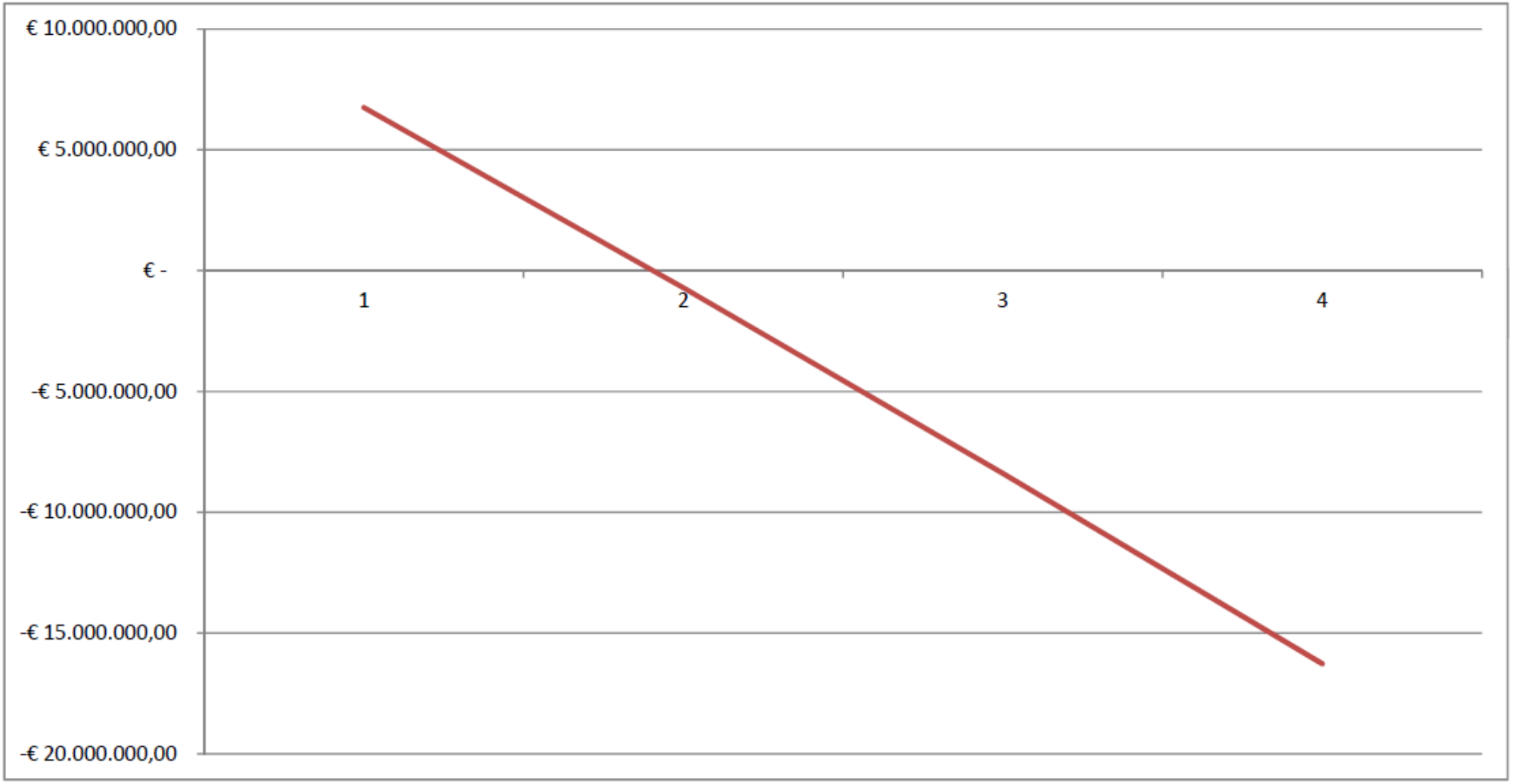
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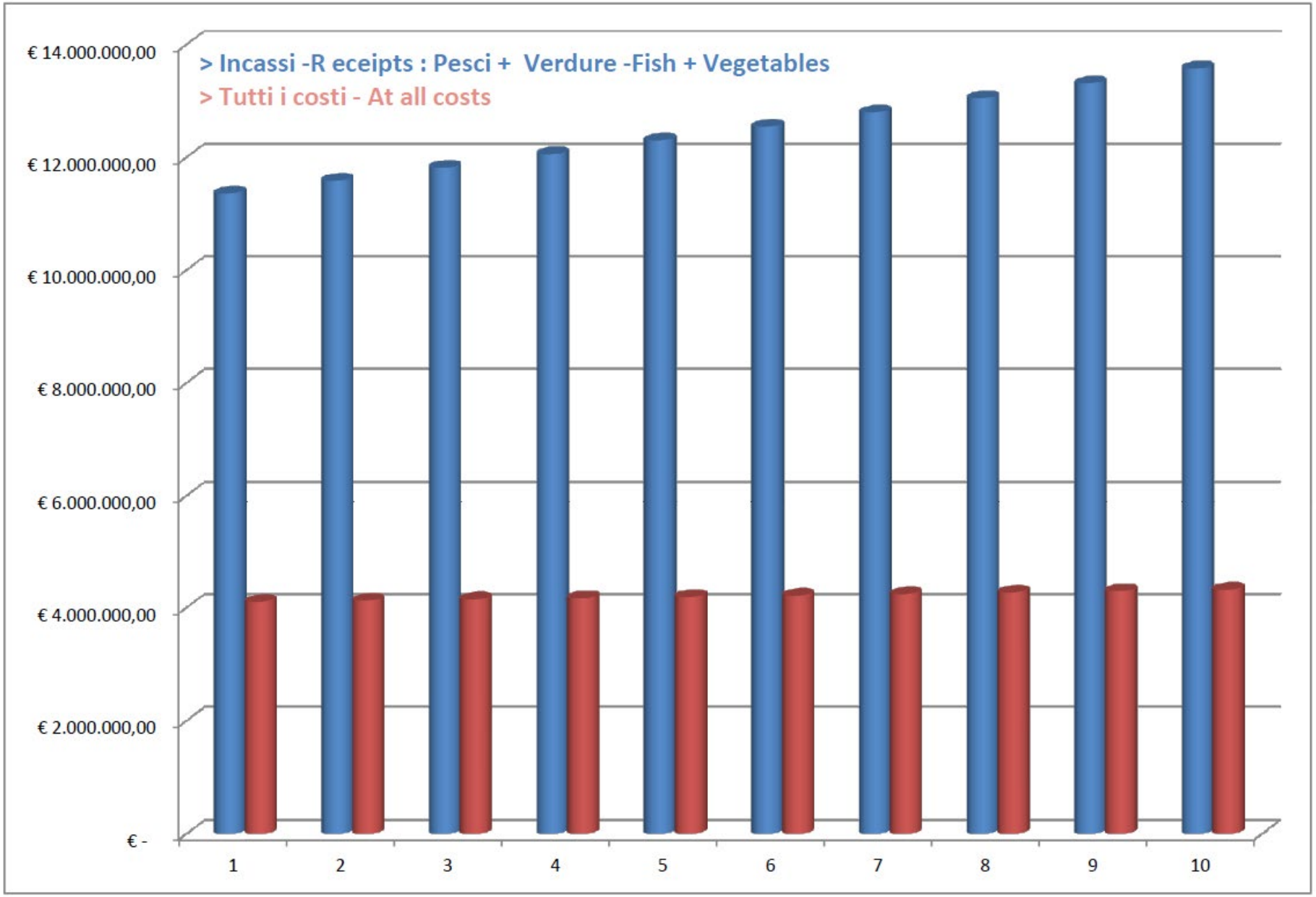
> Incassi -R eceipts : Pesci + Verdure -Fish + Vegetables
> Tutti i costi - At all costs
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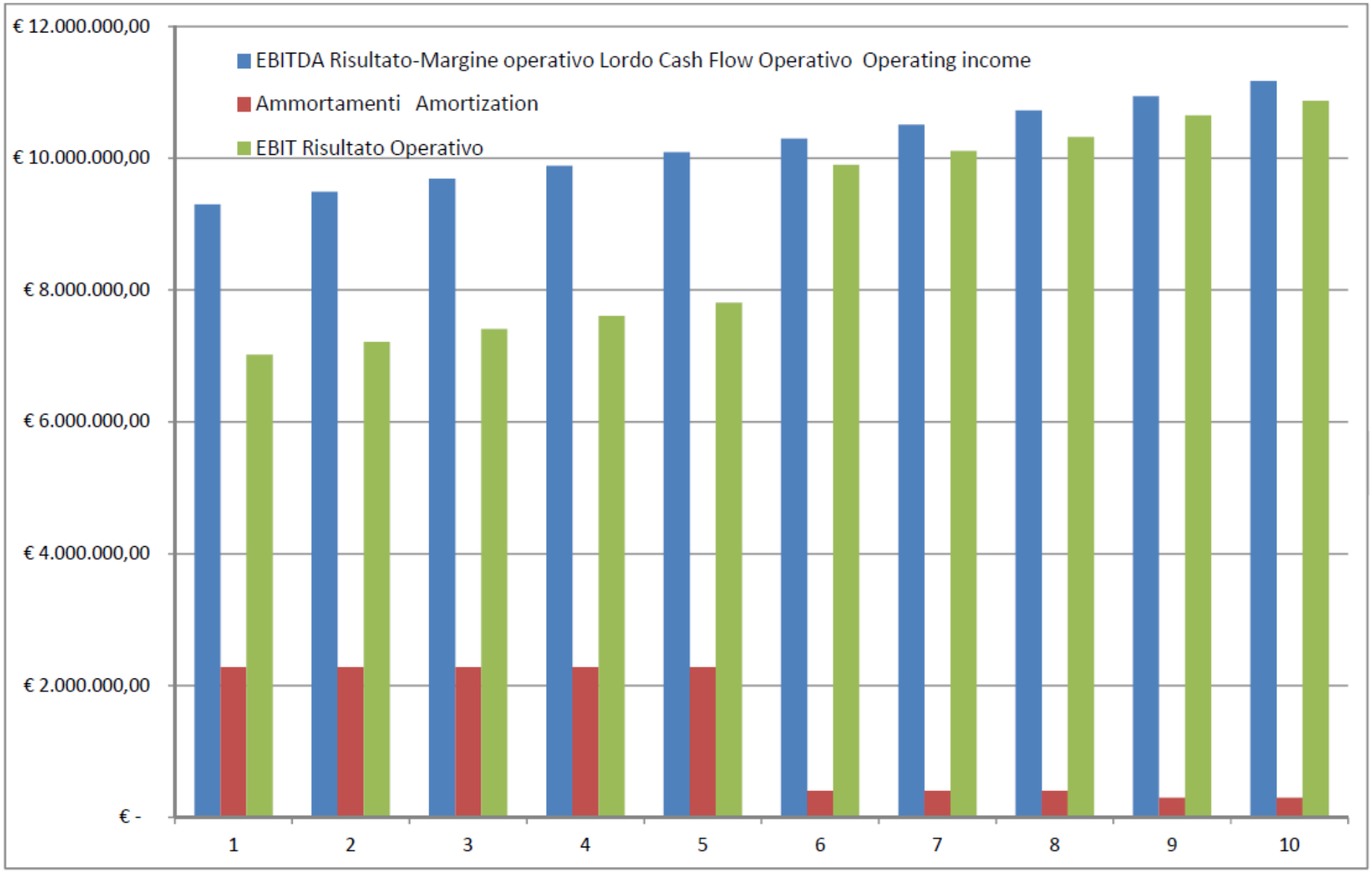
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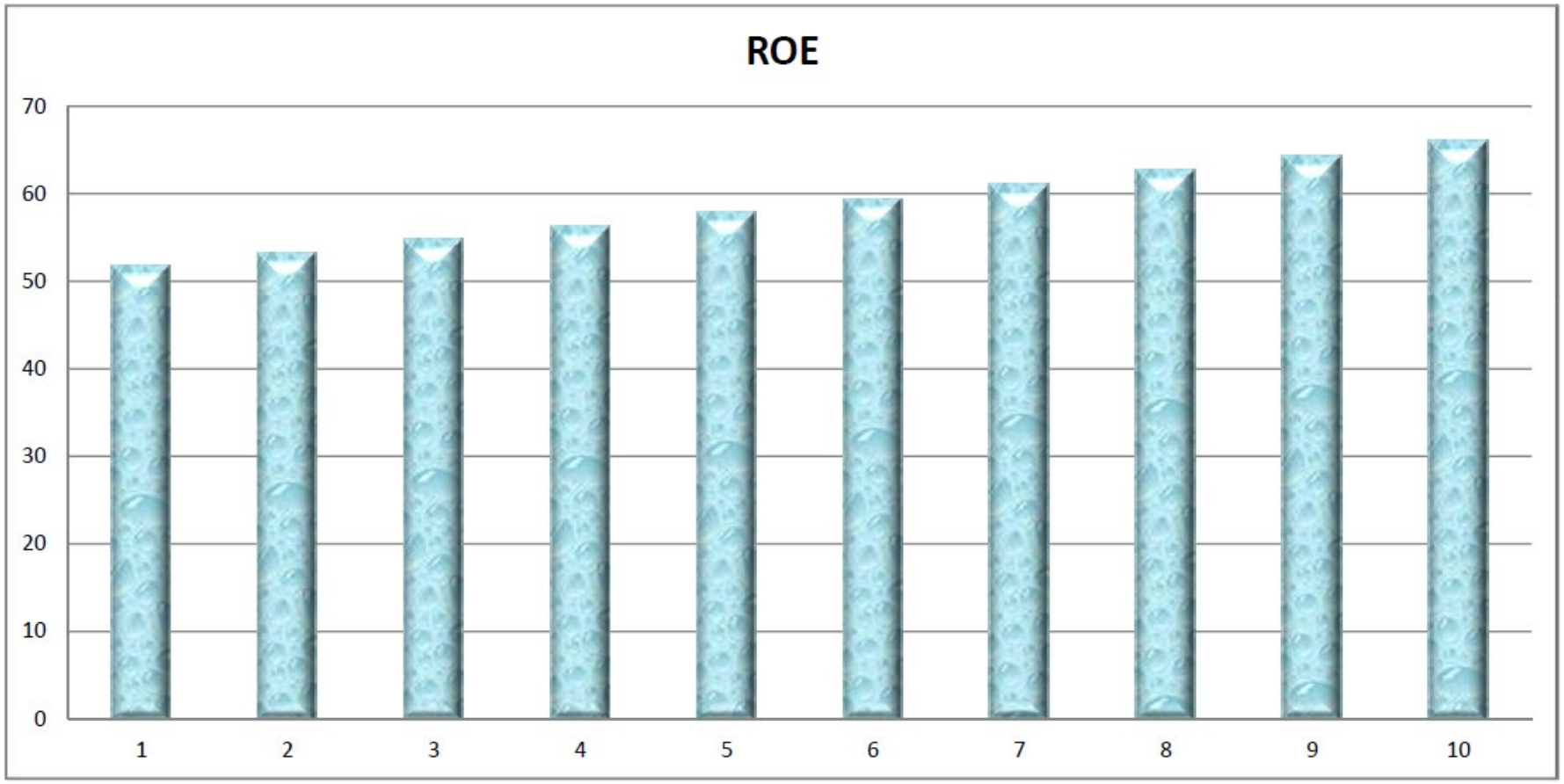
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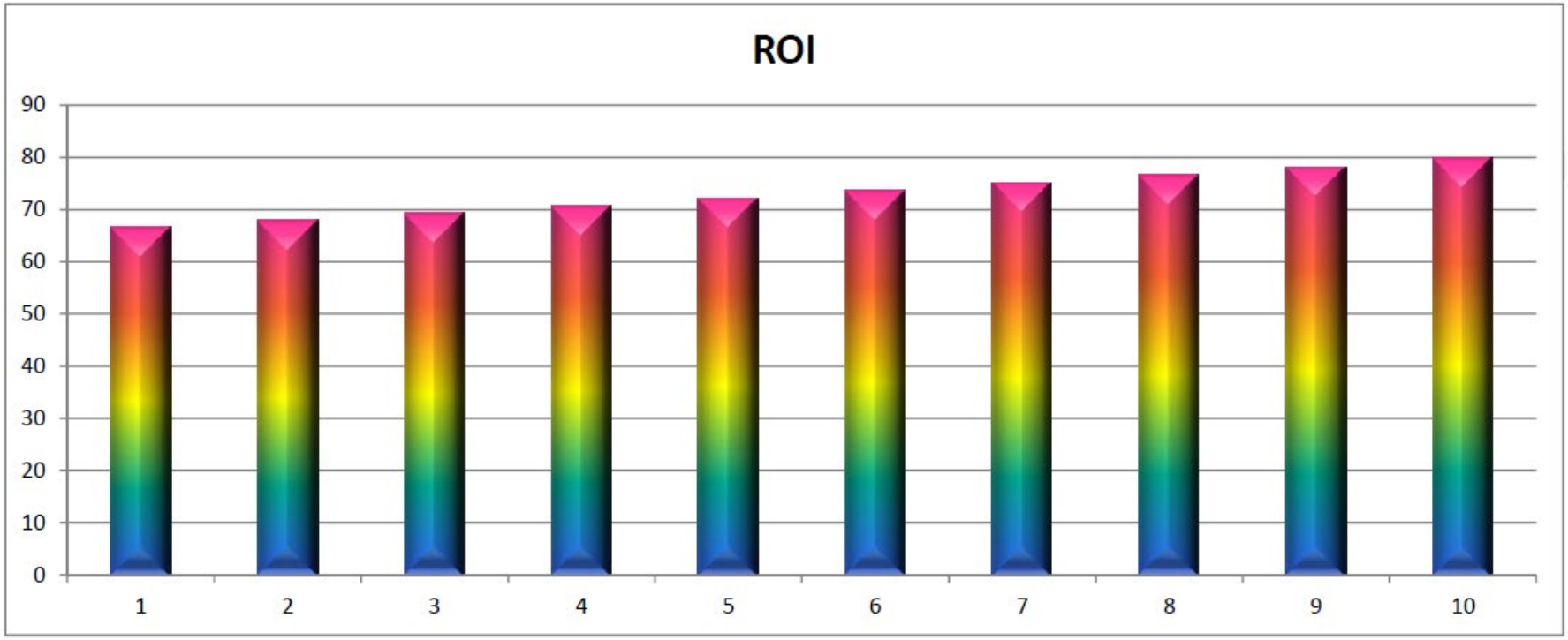
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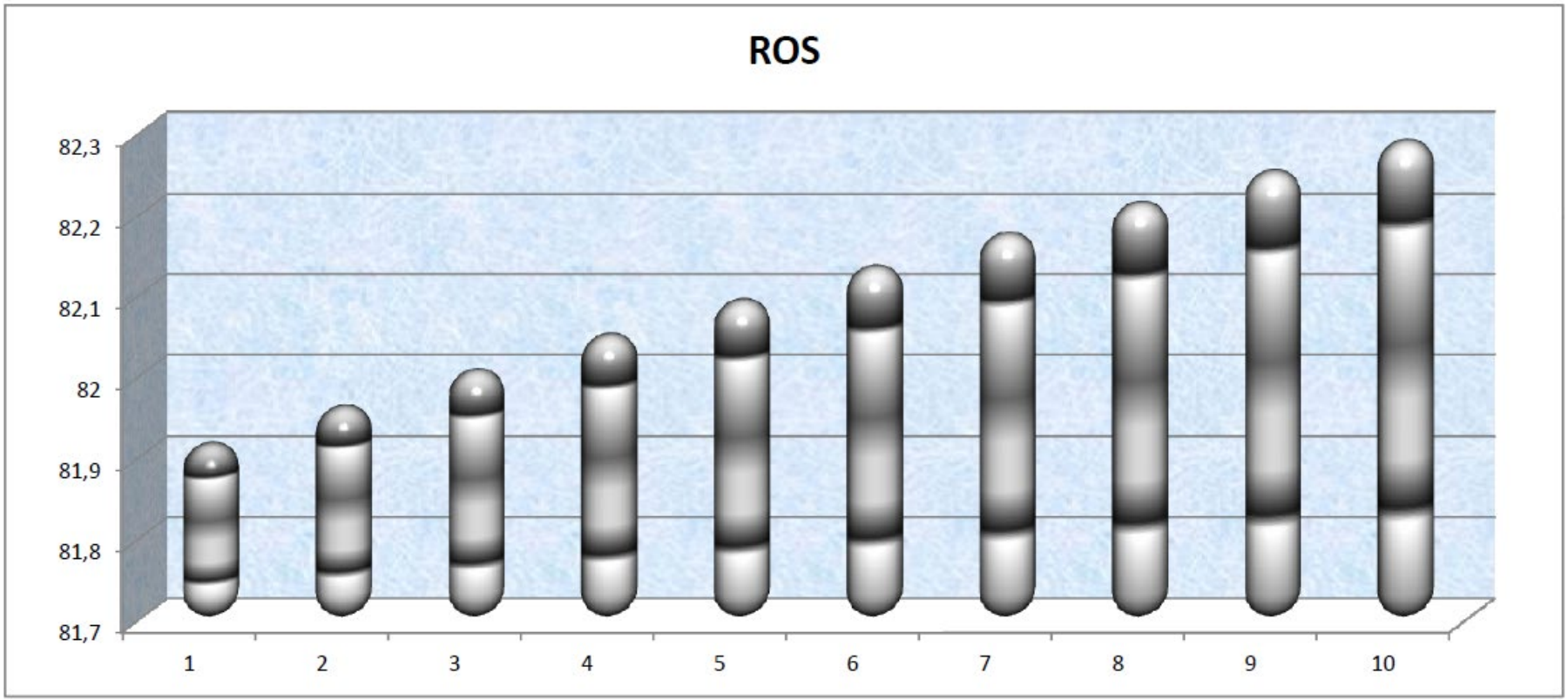
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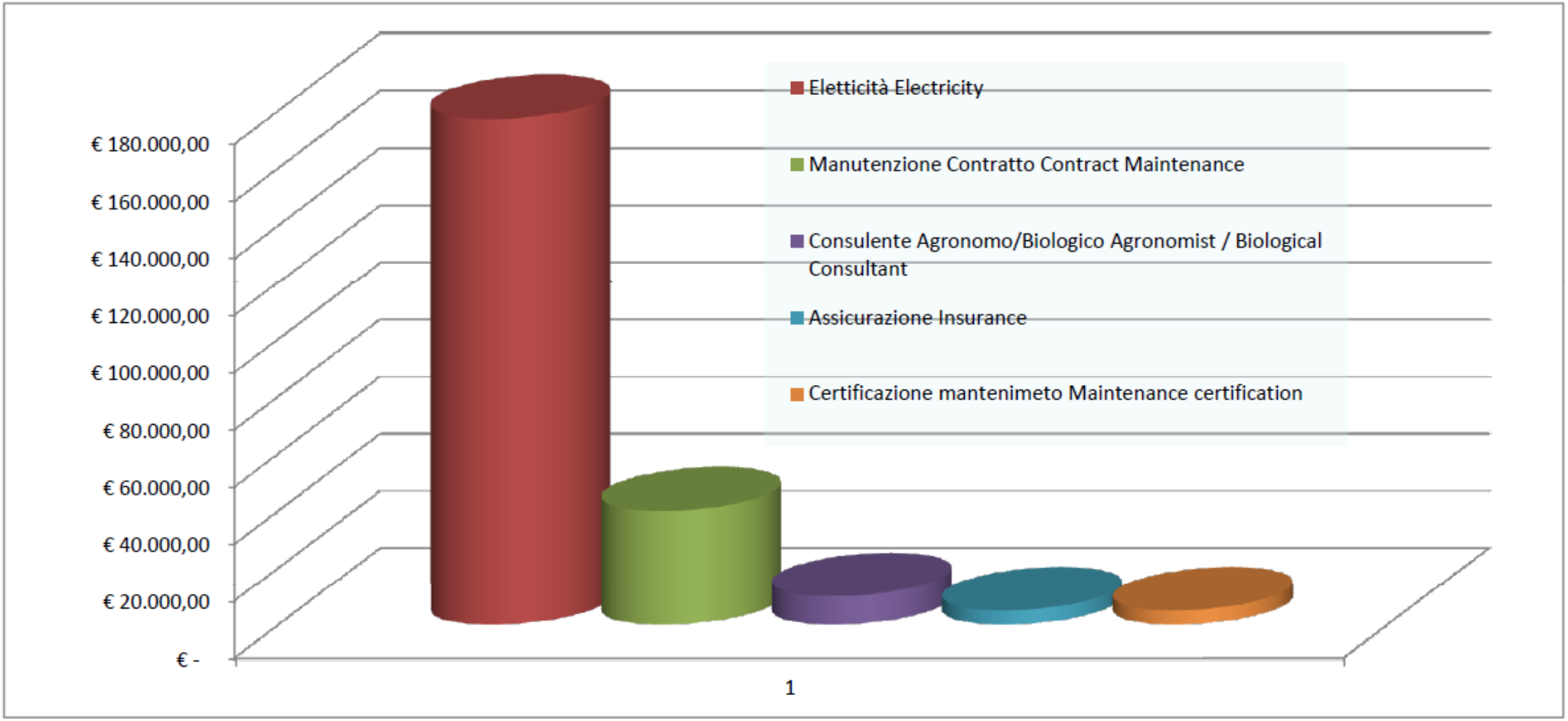
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Eletticità Electricity
Manutenzione Contratto Contract Maintenance
Consulente Agronomo/Biologico Agronomist / Biological Consultant
Assicurazione Insurance
Certificazione mantenimeto Maintenance certification

20/02/2023

					SOL A AS REQUIRED BY QUTOOF AFT	SOL B OPTIMIZED PROPOSAL BY PROAM	SOL C1 ALTERNATIVE	SOL C2 ALTERNATIVE
STRUCTURE	1.0	TYPE			TUNNEL	SMART GREENHOUSES	GREENHOUSES	
		TIPICAL SECTION						
		COSTS			519.216 €	895.200 €	8.689.408 €	8.689.408 €
		LENGHT	COVERED AREA SQM	23.872	165,00	165,00	165,00	
		WIDTH			140,00	140,00	140,00	
		SPAN			8	12,80	15,00	
		COLUMNS			ROUND PIPES 2,5"	80X80X3	HEA 180 / 220	
		INTERAXIAL DISTANCE BEAM AND PILLARS			3	3	3	
		SIDE HEIGHT			4,5	5,5	6.40	
		MAXIMUM CENTRAL HEIGHT			6,00	8,50	7,40	
ROOF COVERING	2.0	ROOF COVERING			UV STABILIZED 200 MICRONS POLYETHYLENE SHEETS	ROOF COVERING DOUBLE INFLATED LAYER PLASTIC FILM WITH ANTI-DRIP LAYER	CELLULAR POLYCARBONATE	FLOAT GLASS TEMPERED 4 MM TKN
		ROOF COVERING		COVERED AREA SQM 23.872	96.682 €	537.120 €	1.644.781 €	1.955.117 €
COMPLETION WORKS	3.1	AUTOMATIC ROOF OPENINGS ON ALL SPANS	 		1.260.000 €	1.260.000 €		1.260.000 €
	3.2	SIDE WALLS AND FRONT PARTS IN POLYCARBONATE 10 mm	 					
	3.3	SWING DOORS AND AUTOMATIC ROLLING DOORS	 					
	3.4	AUTOMATIC SHADING SCREEN	 					
SUB TOTAL STRUCTURE, ROOF, COMPLETION WORKS					1.875.898 €	2.692.320 €	11.594.189 €	11.904.525 €
INSTALLATION	4.1	INNOVATIVE COOLING SYSTEM FOR TANKS AND GREENHOUSES ROOF			448.000 €	448.000 €	448.000 €	448.000 €
	4.2	TANKS (N° 148)			2.726.443 €	2.726.443 €	2.726.443 €	2.726.443 €
GENERAL COSTS	5.0	GENERAL COSTS (PRELIMINARY AND CONSTRUCTION DESIGN, CONSTRUCTION SUPERVISION, PATENT, TRAINING, ETC)			185.912 €	314.032 €	722.531 €	741.151 €
GRAN TOTAL					5.236.253 €	6.180.795 €	15.491.163 €	15.820.119 €

COMPLEMENTARY WORKS	5.1	SITE PREPARATION	472.665,60 €	12.068.238,50 €
	5.2	FOUNDATION	400.000,00 €	
	5.3	CONCRETE FLOOR	716.160,00 €	
	5.4	IRRIGATIONS PLUMBING	465.504,00 €	
	5.5	GENERAL PLANT INSTALLATION GREENHOUSES Electronics, sensors, software, led lights	5.397.600,00 €	
	5.6	GENERAL PLANT INSTALLATION TANKS Remote connection , Rafts, Normal lights, Shot glasses Ventilation, Accessories Video remote control Filters, Pumps, Electrical cabinet, Electrical system, Internet facility Electronics system Feed distributors Oxygenation system, Oxygenators	3.620.308,90 €	
	5.7	FISH AND SALAD PACKAGING	924.000,00 €	
	5.8	GREENHOSES FURNISHINGS	72.000,00 €	

THE WORKS DEFINED IN THE ORANGE COLORED BOX ARE PURELY INDICATIVE AND ARE NOT THE SUBJECT OF THIS OFFER AS REQUESTED BY THE CUSTOMER

EXCLUSION	Irrigation plumbing lines are excluded from the scope of works.
	Fencing and Land levelling will be done from the customer
	Main water and electricity sources will be arranged by the customer
	Warranty period
	Accommodation and arrangements for labours and staff at the time of project executions will be provided by the customer
	PERMITS, STRUCTURAL FOUNDATION SURVEY, CHARGES FOR LOCAL AUTHORITIES
	CUSTOMS CLEARANCE FEES

REQUIREMENT			
TYPE	UNIT	N°/ DIM	QTY
LAND OCCUPATION AREA	sqm	244 x 150	36.600,00
WATER COLLECTION	sqm	10 x 80	800,00
GREENHOUSES FEED	sqm	7 x 100 x 2	1.400,00
REPRODUCTION	sqm	12,8 x 50	640,00
GREENHOUSES PRODUCTION	sqm	10x12.8x165	21.120,00
GREENHOUSES SERVICES	sqm	1x12.8 x165	2.112,00
PACKAGING	sqm	12.8 x 50	640,00
TOTAL GREENHOUSES	sqm		23.872,00
ENERGY INSTALLED POWER	Kwh		964,38
TOTAL ENERGY CONSUMPTION	Kw		885.926,40
WATER OPENING	m3		14.419,42
YEARLI WATER CONSUMPTION	m3		8.951,00
TOPPING UP YEAR	liter/plant		1,327
REFILL LITERS YEAR LATTUCE	m3		8.952,00

PRODUCTION TOTAL YEARLY		
TYPE	UNIT	QTY
FISH	kg	**56.217**
VEGETABLE	Kg	**2.226.358**

PRODUCTION YIELD	
VEGETABLE KG / SQM	179,72
FISH KG / SQM	5,86

TANKS			
TYPE	Net areas sqm	volume m3	N°
FISH	1600	2880	64
VEGETABLE	13320	10656	72
FRY	300	540	12
FEED	0	0	0
MARES	8,33	0,7	8
LIFE GEN.	201,6	342,72	168
TOTAL	**15.220,00**	**14.076,00**	**148,00**

EMPLOYEES	
PLANT MANGEMENT	10
PACKAGING	13
TOTAL	**23**

OPTIONAL NOT INCLUDED

FURTHER DETAILED DOCUMENTATION
IS AVAILABLE UPON REQUEST

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