GINEGAR
smart cover solutions

Knowing your needs, empowering your growth

Company Profile

About Ginegar

Ginegar is a world-leading and renowned global brand name with over 45 years of experience in smart covers for intensive agriculture, horticulture and industrial applications.

At Ginegar, we're dedicated to knowing our customers needs and empowering their growth. This commitment drives everything we do and pushes us to strive for excellence, quality, reliability and flexibility.

With a focus on technological innovation and operational excellence, we offer innovative solutions for enhancing productivity, while optimizing and managing light, climate, growing conditions, and resources for growers all over the world.

All of our products are the culmination of a creative development processes, advanced technology and top-of-the-line materials; and have unique mechanical, optical and thermal characteristics that ensure greater durability, excellent resistance to hostile weather conditions, controlled light penetration, better dust resistance, reduced pest activity, and more.

We pride ourselves on **finding the perfect match** between a Ginegar solution and our customer's needs, crops, climate and terrain conditions – and then continue to ensure remarkable results with ongoing support and assistance.

Global Presence

With three sites in Israel, and additional facilities in the USA, Brazil, Italy and India, Ginegar supplies smart covers for intensive agriculture and horticulture applications to customers in over 60 countries on 5 continents.

Technological Expertise

Ginegar was the first company to pioneer 5-layer technology of smart covers for intensive agriculture and horticulture applications.

By focusing on technological innovation and operational excellence we leverage our extensive know-how, state-of-the-art equipment and facilities, and collaborative processes with agronomical institutions to create tailor-made solutions.

Quality Assurance

Ginegar is committed to continuous quality improvement while exceeding the expectations of our customers, improving processes and providing superior quality products and services.

We maintain a strict quality control program at all stages of manufacturing, and all Ginegar products are manufactured in accordance with SI ISO 9001:2015 international quality management standards.

Agronomic Know-How

Our Research & Development team includes both seasoned agronomists with hands-on experience in the field, as well as industry-leading plastics engineers and technicians.

This enables us to truly understand the challenges faced by growers worldwide, and to develop and create the solutions that best meet their unique needs. Moreover, our expert agronomists can provide support and solutions for all types of crops and in any climactic conditions.

Customer Service

At Ginegar, we make every effort to meet our customers' unique and dynamic needs.

To this end, we endeavor to find the perfect solution for our customers' needs, crops, climate and terrain conditions, and always offer ongoing customer support and assistance to ensure the best possible results.

Greenhouse & Tunnel Cover Films

Ginegar manufactures market-leading agricultural cover films for use in greenhouses. These advanced cover films have unique thermal, mechanical and optical properties that make them ideal for protecting crops, enhancing growth, and meeting the varying needs of growers worldwide.

We manufacture our agricultural cover films using our new 5-layer co-extrusion technology. This enables us to process raw materials that guarantee the highest level of mechanical strength and flexibility, and compatibility with all mechanical testing standards.

Our stabilization package, which incorporates multiple materials, gives the cover films long-term durability – even in the most severe environmental conditions.

At Ginegar, we pride ourselves on our versatility and we have a solution suitable for any climate, any region, any crop, and any greenhouse or tunnel.

We also have the capabilities and expertise required to manufacture tailor-made solutions according to unique customer requirements.

Main Greenhouse Cover Features

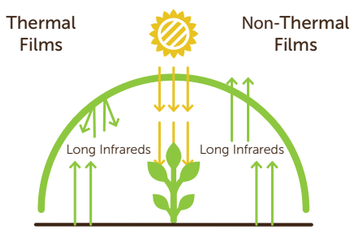
Thermal Effect (IR)

By incorporating an IR additive, thermal cover films absorb and reflect infra-red radiation in the range between 7-15 microns (radiation reflected from all bodies in the greenhouse).

This reduces the loss of energy accumulated in the plant foliage into the atmosphere, and prevents the cooling of the foliage at night, which is essential for maintaining higher foliage temperatures – especially on cold nights. Moreover, when the foliage temperature is higher than the air temperature, the plants are drier and this reduces incidents of foliage diseases.

The use of thermal cover films with the IR additive has been shown to increase crop yield in comparison to cover films without the IR additive.

In addition, thermal cover films help save heating costs.

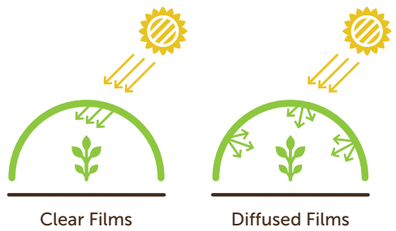


Light Diffusion

The light diffusion feature improves photosynthesis efficiency by enhancing the exposure of different plant parts to visible light. This is especially important in model crops with a developed foliage such as tomatoes, cucumbers, zucchini, pepper, roses and more.

Special additives are used in the cover films to promote light dispersion, and cause with minimal reduction to the light entering the greenhouse.

In addition to improving photosynthesis efficiency, Light Diffusion cover films also help to reduce damage caused by direct sunlight to sensitive crops such as peppers and eggplants, and prevent burns.

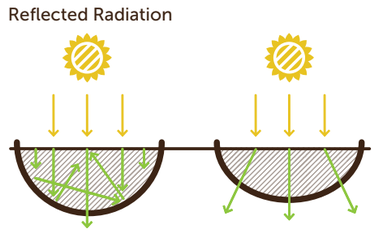


Anti-Drip Effect

When the relative humidity in the greenhouse rises significantly, water condensation occurs, and droplets accumulate on the cover films, plants and other objects in the greenhouse.

To prevent this from occurring, we use an anti-drip (AD) additive, which flattens the water droplets into a layer of water that runs down the sides of the greenhouse.

As a result and in addition to this, our Anti-Drip cover films also reduce the need for pesticides, delay the onset of diseases, significantly improve light transmission, promote early harvesting, and contribute to enhanced yield quantity and quality.



Anti-Mist Effect

The Anti-Mist additive is used with Anti-Drip cover films to minimize the occurrence of fog inside the greenhouse. This enables maximal transmittance of light radiation in the early morning hours; contributes significantly to reducing heating costs; reduces contamination caused by landscape diseases; improves the passage of light; and also reduces leaf diseases such as phytoftora and botrytis.

Anti-Virus Effect

Additives are used to significantly reduce the damage caused and viral diseases transmitted to the plants by various insect pests. This also significantly reduces the proliferation of foliage diseases, especially botrytis, as well as the “blackening” of red rose petals. As a result, the use of fungicides and pesticides can also be significantly reduced. In addition, by absorbing the UV radiation, our cover films also reduce contact with various pests, viral diseases transmitted by those pests, and the “blackening” of the petals of red roses.

Anti-Dust Effect

By using our advanced 5-layer extrusion technology, we can include a dust-reducing additive to the top layer of our cover films. In this manner, the upper layer of the cover film is especially smooth and this significantly reduces the accumulation of dust.

Types of Cover Films for Greenhouses & Tunnels:

Sun Cover

Cover films that protect against degradation caused by UV radiation.

Driplock

Cover films with UV protection and Anti-Drip properties.

Sun Therm

Thermal cover films with UV protection.

Sun Saver

Thermal cover films with UV protection and Anti-Drip properties.

Over Winter

Thin cover films that are stabilized for a single season.

Mulch

Ginegar's Mulch More™ films are advanced, multi-layer mulch films produced to meet a wide range of specifications.

Mulch More™ films are available in several types - from super-thin Polydak to bi-color films, for use with specific crops and growing applications. All Mulch More™ films are available either embossed (cast) or smooth (blown), in a wide range of thickness and widths. At Ginegar, we use two production methods for manufacturing our high-quality mulch films: multi-layer blown film co-extrusion and cast (flat die) extrusion.

Insulation - Mulch films insulate the plants from moist soil, preventing contact and dramatically reduce fruit rot, as a drier microclimate reduces plant sensitivity to disease (downy mildew and botrytis).

Integrated Pest Management (IPM) - Reflectant Mulch products such as Silver or Yellow reduce the incidence of insects and insect vectored viral diseases.

Mulch films are available in the following lay flat widths:

- Embossed- up to 2.5 m (96") wide
- Non-embossed- up to 2.3 m (90") wide
- All films above are available embossed or non-embossed
- Films can be pre-punched with 50 mm planting holes or perforated for drainage

Main Mulch Features

Weed Control

Opaque mulch films reduce weed germination and growth. Clear Polydak burns off weeds by solarization.

Modification of Microclimates in Plant and Soil Environments

Transparent or opaque mulch films help retain heat and raise the temperature of the soil, which is extremely important in autumn, winter and early spring. Opaque films (such as black/silver) reduce the day-night temperature difference of the soil, and black/silver and black/white mulch films reflect the light and enhance photosynthesis. These mulch films are suitable for hot seasons.

Moisture Protection and Water Conservation

Mulch films reduce water evaporation and in this manner, save water. They also reduce the water fluctuations of the soil, and help maintain constant humidity in the in the area of the root.

Root Development

The combined use of mulch films and drip irrigation improves water dispersion and contributes to maintaining consistent levels of moisture in the soil. In addition, darkness under the mulch “raises” root development upwards towards the ventilated upper layer of soil, where in the presence of oxygen, their activity is more efficient.

Substrate for Plants and Fruit

The mulch films prevent direct contact between the plants and fruit with the soil and preserve the quality of the fruit.

Pest Attraction or Repelling

Reflective films (silver) repel harmful pests, specifically leaf aphids and trips. Yellow mulch films attract moths and reduce their contamination ability.

Prevention of Fertilizer Dilution

In open areas, fertilizers may be diluted in the root zone area (specifically in high precipitation microclimate and rainy regions). The use of mulch films prevents this from occurring. However, the mulch films also prevent the removal of salts that accumulate around the root area after rainfall.

Our Mulch films are divided into 6 groups

Al-Or Brown Films & Al-Or Green Films

These films combine two properties – radiation transference in the NIR range, which contributes to the heating of the soil, and radiation blocking in the PAR range, which reduces weed germination in a similar manner to opaque films.

These films are especially suitable for crops that grow in autumn, winter and early spring and in areas prone to weed growth.

One Color

Black Films

Black films absorb and block radiation to suppress weed germination. As they absorb radiation, they warm up and heat the soil. During hot seasons, may be sensitive to overheating, seedlings to collapse and hyperthermia in fruit.

Bi-Color

Black/Silver Films

These three-layered films are silver or white on the side facing up and black on the side facing down. The silver or white color reflects radiation to prevent the overheating of seedlings, plants and fruit, enhances photosynthesis and repels pests; and the black color prevents the penetration of light and reduces the germination of weeds.

These films are recommended for vegetables, flowers and orchards with single row layouts or for the entire width of greenhouse gables. They are also available with wider widths for wider greenhouse coverage (4-9 meters).

Black/White Films

Brown/Silver Films

These three-layered films are silver on the side facing up and brown on the side facing down. The silver color reflects radiation to prevent the overheating of seedlings, plants and fruit, enhances photosynthesis and repels pests; and the brown color reduces radiation transmission and weed germination.

These films are recommended for growing strawberries.

Brown/Yellow Films

These films are are yellow on the side facing up and brown on the side facing down. The yellow color attracts pests (mainly tobacco whiteflies), and studies done by Israeli researchers have shown that the use of these films significantly reduces the chance of viral diseases being transmitted by tobacco moths to multiple crop types. The brown color reduces radiation transmission and weed germination.

These films are recommended for growing summer vegetables.

Zebra Mulch

This product is good for raised beds. It is a combination of the advantages of clear and of the black mulch.

The clear is installed on top, which regulates the temperature and saves water.

The black is installed on the sides of the bed and therefore prevents weeds.

Low Tunnels

Ginegar manufactures market-leading agricultural cover films that offer excellent protection for open-field crops against low temperatures, and exceptional insulation when used as internal films in double-roof structures. These advanced cover films are available as blown, transparent, clear or diffused films, and with low thickness, high-mechanical and spectral properties.

Multi Perforation

Cover films with multi perforation ensure a good balance of of day or night temperatures. Available with perforations of 6- or 8-mm diameters and in parallel or domino formations, these cover films are ideal for a wide variety of crops including melons, watermelons and peppers.

Solarization Films

Due to environmental regulations such as the restricted of use of methyl bromide (since 2005) and the lack of effective alternatives, the use of solarization for soil sterilization (often combined with chemical treatment such as methane sodium for soil disinfestation) has become more and more popular in both organic and conventional agriculture.

Ginegar's solarization films take advantage of heat from the sun that is trapped under the clear plastic films to control weed germination and prevent harmful fungi, bacteria and some nematodes.

These films are usually used in summer and work best in regions with hot and sunny weather for 4-8 consecutive weeks with daytime temperatures of above 80° F (27° C). Note that this method is less effective in coastal climates with summer fog and in windy regions.

Ginegar's solarization films use an anti-drip additive to improve the total light transmission, maintain soil temperature and contribute to soil sterilization.

The following tables show the results of a comparison between standard solarization films without an anti-drip additive and Ginegar's solarization films with an anti-drip additive[1].

	Film	Dry Film	Wet Film	% Total Light Transmission Reduction
Total Light Transmission	Solarization	88%	73.9%	16.1%
	Solarization + AD	91%	89.8%	1.4%

	Depth	Solarization	Solarization + AD
Soil Temperatures	4	114.4	131
	8	107.6	118.5
	12	103.2	109.4
	16	98.6	105.8

The soil temperatures were measured at 7:00 PM at different depths.

[1] Comparison of solarization films without an anti-drip additive and solarization films with an anti-drip additive by Professor Abraham Gamliel, from the Hebrew University "Solarization" films (2003).

Fumigation / Barrier Films

As growers move away from using methyl bromide to control weeds, pests and diseases, the need for impermeable fumigation films arises.

Ginegar meets this growing need with its unique 6-layer co-extruded barrier fumigation films made from very flexible high-strength polyethylene and an inner layer of EVOH (Ethylene Vinyl Alcohol), a polymer with extremely low permeability to gases.

Due to the advanced barrier properties of these films, growers can reduce the dosage of different fumigant types by up to 50%, as well as maximize their yields and improve their bottom line.

Ginegar offers VIFs (Virtually Impermeable Films), TIFs (Total Impermeable Films) and PA barrier layers.

Features & Benefits

- Reduced fumigant rates without loss of efficacy
- Uniform surface soil fumigant distribution
- High fumigant retention rate
- Built to withstand installation duress
- Exceed all current EPA standards
- Lower VIC emissions into the atmosphere
- Designed for optimal UV resistance
- Maximize yield
- Significantly reduce fumigant odor problems

	Type	Thickness	Width
Cast Films	Clear, Black, Black/White, Black/Silver, Al-Or Green, Brown, Zebra	25mic-35mic (1mil-1.5mil)	Up to 2.5m (47")
			1.6m-2.5m (63"-98")
Blown/Smooth Films	Clear, Black, Black/White, Al-Or Green, Brown	35mic (1.5mil)	Up to 4.5m (14') flat
		40mic (1.6mil)	4.5m-12.8m (14'-42') open tube

Polyethylene Mulch Films for Orchards

Ginegar's upgraded films for orchard plantations are manufactured using our unique 5-layer technology. They have very strong mechanical properties and are specifically formulated to prevent disintegration resulting from ultra-violet radiation.

Studies conducted during recent years in California and more recently in Israel on several types of crops showed that use of these films increases yields; improves the vitality of trees; contributes to significant savings in water and fertilizer; reduces saline damage; contributes to raising the root system to the topsoil and warms them in spring; improves the distribution of horizontal water in the soil; prevents the germination of weeds (except for purple nutsedge, cane, cogon grass, mesquite, or other penetrating weeds); helps save on herbicides; and prevents damage to drip pipes.

The preparation of the orchard, implementation of the drip irrigation system and application of the mulch films are done before planting; and the crops are then planted into the mulch films. Ginegar offers full technical and agronomic support for the application of the mulch films.

Types of Mulch Films for Orchards

Al-Or Brown Films

Al-Or brown films block radiation in the visible light range, reduce weed germination, and enable the selective penetration of long-wave radiation in the close IR range, which contributes to the warming of the roots.

Black Films

Black films absorb and block radiation and suppress weed germination. As they absorb radiation, they heat up but do not transfer this heat to the soil when it is prepared well and there is contact with the soil.

Black/White Films

The black color on the side of the film facing down prevents the penetration of light and reduces the germination of weeds. The white color on the side of the film facing up reflects 65% of the visible light into the plant foliage, accelerates the process of photosynthesis and growth, and cools the ground relative to other covering surfaces.

Black/Silver Films

The black color on the side of the film facing down prevents the penetration of visible light and reduces the germination of weeds.

The silver color on the side of the film facing up reflects 30% of the UV radiation while enhancing the color of red fruits and warming the soil.

Geomembranes

Ginegar's Super Seal™ Geomembranes L.D.P.E. and H.D.P.E. are highly-advanced liner films intended for use in soil engineering applications such as reservoirs, waste disposal sites, subterranean structures, roadworks and other projects.

Super Seal™ Geomembranes are manufactured by Ginegar Plastic Products Ltd., an ISO 9001-2000 certified company, and a world-leading supplier of technologically-advanced, P.E. based solutions for agricultural and water management applications.

These highly advanced liner films are intended for use in reservoirs to prevent ground water pollution and water loss, waste disposal sites, subterranean structures and other applications.

Features & Benefits

- Highly flexible for easier handling during sealing installation
- Superior strength to withstand mechanical damage
- Long-lasting under various soil conditions
- Highly resistant to a wide range of chemical substances
- Tightly sealed by an advanced welding system
- Economical, offer excellent cost/benefit results

Quality Assurance

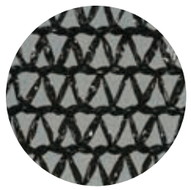
All Ginegar films are manufactured in accordance with ISO 9000-2015 guidelines. Ginegar maintains a strict quality control program for all manufacturing stages. The long-term monitoring of geomembrane films includes ongoing field tests at active reservoir sites and distructive and nondistructive Q.C testing of all welding methods.

Geomebranes L.D.P.E.	Thickness	0.3 mm (12 mil)	0.4 mm (16 mil)	0.5 mm (20 mil)
	Maximum Width	15 m (49')	14 m (46')	12 m (40')
Geomebranes H.D.P.E.	Thickness	1.0 mm (40 mil)	1.5 mm (60 mil)	2.0 mm (80 mil)
	Standard Width	7.5 m (24' 7")	7.5 m (24' 7")	7.5 m (24' 7")
	Standart Length	180 m (560' 6")	170 m (558')	90 m (295')

Agricultural Nets

Ginegar's agricultural nets enable growers to control the quality of light transmitted to the plant, to create optimal micro-climatic conditions for plants and in this manner and to enhance development.

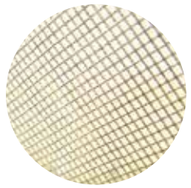
Ginegar uses two different methods for manufacturing its agricultural nets:



Knitting

Knitted nets consist of several layers with specific additives for unique product features. These nets are manufactured using mono-oriented technology and offer benefits such as enhanced mechanical properties, enhanced optic properties, retention of specific property stability during usage, and reduction of CO_2 omission.

Knitted nets are used to reduce light strength, control light quality, control micro-climates, as sacks for storage, decorative nets and flame-retardant nets for public places.



Weaving

Woven nets are manufactured using the most advanced extrusion methods. Polyethylene granules (HDPE) are heated, pressed, melted and mixed in a uniform and controlled manner.

The molten material is passed through a tube to form monofilament wires, and the threads are rolled on rollers for the remainder of the process which is done in weaving machines.

Woven nets are used to protect against the penetration of pests in growing houses (mesh nets), to reduce light intensity in growing houses and orchards (shading nets), to control the quality of light transmitted (optical properties), and to protect against wind, hail, and more.

This method is also used to manufacture thermal screens, which are used to maintain heat in greenhouses.

Anti-Insect Nets

In today's environmentally-conscious environment, there is a growing awareness of the severe damage caused by toxic pesticides to the environment and to public health.

In fact, many consumers are no longer prepared to put pesticide-treated agricultural produce on their tables, and this trend of reduced use of toxic materials will grow together with the legislation of environment protection laws.

However, pests and insects also cause immense damage to agricultural yield by feeding on or sucking plants, depositing eggs on crops and spreading disease.

Moreover, these insects develop resistance to chemical pesticides that are still used, resulting in a significant reduction in the efficiency of these materials. This creates the need for an alternative solution to protect crops from pests and insects.

Ginegar answers this need with its wide range of advanced anti-insect nets, which block the entry of pests and insects into the crop environment and significantly reduce the use of pesticides.

These nets are commonly used in the following structures to protect vegetable, herb, orchard and flower crops:

Nethouses
Lightweight frames with poles and cables that support the net.

Greenhouses
Air vents are covered with nets or all of the greenhouse walls are made of nets.

Walk-in tunnels
Completely covered with net or covered with net and PE sheets.

Types of Anti-Insect Nets

Ginegar's anti-insect nets are differentiated by hole size (mesh = number of holes per inch).
The following types of nets are available and are applied based on the type of insects prevalent in the area:

17

17-Mesh Nets

These nets are used for protection against fruit flies (Mediterranean fruit fly and fig fruit fly) in orchards and vineyards, grape moth and pomegranate deudorix livia. This net is also used for protection against climatic elements such as hail, wind and excess solar radiation.

25

25-Mesh Nets

These nets are used for protection against Mediterranean fruit flies in peppers.

40

40-Mesh Nets

These nets are used the partial blocking of whiteflies where climatic conditions do not allow the use of 50 mesh nets.

50

50-Mesh Nets

These nets are used for blocking whiteflies, aphids and leafminer. Also available in the color grey.

55

55-Mesh Nets

These nets are similar to 50-mesh nets but with even more protection against whiteflies, aphids and leafminer.

75

75-Mesh Nets

These nets are used for blocking whiteflies, aphids and thrips in greenhouses with forced-air systems.

OptiNet® Dual Thrip Control

OptiNet is a patent-protected, new-generation anti-insect net that integrates physical and optical protection. This innovative net dramatically reduces the number of pests and insects that enter the crop environment, especially thrips, whitefly and leafminer.

OptiNet
Dual Thrips Control

OptiNet® - new-generation anti-insect.

The net contains optical additives (non-toxic) that blind and repel the insects before they reach the net. Four-year trials conducted at the Besor experimental station in conjunction with the Volcani Institute of the Agricultural Research Organization demonstrated that the thrips population under 40-and 50-mesh OptiNet is eight times lower than under standard 50-mesh nets.

OptiNet is the only net that provides a solution for the problem of thrips while maintaining an adequate air flow, and its optical properties are maintained throughout its lifecycle. The use of the 40-mesh OptiNet provides even better ventilation conditions.

Features & Benefits

- Five times less pest penetration as compared to a standard 50-mesh net
- Reduces heat in structures using light reflection and shading
- Remains dust-free compared to a transparent 50-mesh net
- Reduces the development of leaf diseases (such as late blight of tomatoes)
- Enables the use of a thinner net (40-mesh) to obtain better insect control results as compared to a standard 50-mesh net, thus achieving better ventilation in the growth house.

Types of OptiNet® Products:

40 50

Optinet® 40-Mesh and 50-Mesh Anti-Insect Nets

The Optinet® 40-mesh net and Optinet® 50-mesh net are both anti-insect nets that reduce the penetration of insects such as bemisia tabaci, tunnel flies, leafminers and more into greenhouses and nethouses, and also offer protection against thrips.

The penetration of insects and pests is prevented by combining two effects:

- Physical protection – the density of the net (40- or 50-mesh) reduces the penetration of insects into the growth house.
- Optical protection – the net is made using optical additives that affect the insects' vision and prevent them from landing on the net and penetrating it.

This dual effect is effective against all insects and pests, and as a result, the nets significantly reduce the amount of pesticides used. However, they do not eliminate the need to monitor the crops and treat against insects while the Optinet® 50-mesh is slightly more effective than the Optinet® 40-mesh net in terms of insect prevention, the Optinet® 40-mesh net offers a higher level of ventilation and a lower percentage of shade (44-46% of shade versus 50-52% shade in the 50-mesh).

For this reason, it is important to select the type of net based on the specific crop and environmental conditions.

These nets are ideal for use with flowers and vegetables. They are made of monofilament and special UV-resistant materials to offer long-term durability, have exceptionally strong external margins, are flexible and easy to install, and are recyclable and do not harm the environment.

Shade Nets

Ginegar offers a new generation of colored light-spectrum management nets. These nets enable growers to control and bring forward flowering dates and ripening times, and to influence the growing properties of plants such as leaf and fruit size and color, branch and stem length, number of nodes, plant weight and size. This enables growers to adapt yields to market preferences, with significant economic advantages.

ChromatiNet®
Light Spectrum Management

ChromatiNet® - Light Spectrum Management

Plants depend on light as their ultimate source of energy. Photosynthesis converts light energy into the chemical energy required for plant growth and development, and plants are extremely sensitive to both light quality and quantity. By integrating special additives that break up direct light, ChromatiNet® increases the proportion of diffused light that reaches the crops. This diffused sunlight covers a large volume of leafage and stimulates plant activity.

Produced using a multi-layer manufacturing process and technology that integrates unique additives, ChromatiNet® is the result of intensive efforts invested by Ginegar's R&D department in cooperation with international research institutes.

Types of ChromatiNet® Products

ChromatiNet® Black

This black net is used for growing vegetables, in nurseries and for flowers.

The net is designed for use on the roof of the greenhouse, inside the greenhouse and in the net structure. The net is flexible, light, strong and easy to install, it is stabilized against UV radiation and can be recycled.

ChromatiNet® Red

ChromatiNet® Red contributes to:

- Rapid plant development
- Greater vegetal mass
- Higher yields
- Earlier flowering and ripening
- Larger fruit
- Longer decorative stems

ChromatiNet® Silver

ChromatiNet® Silver contributes to:

- More branches and secondary branches
- Higher yield of stems
- Frost protection – blocks infrared (IR) radiation

ChromatiNet® Pearl

ChromatiNet® Pearl contributes to:

- More vegetal mass
- Higher yield
- Better quality

ChromatiNet® Hail Protection

ChromatiNet® Hail Protection contributes to:

- Physical protection against wind, hail, birds and bats
- Micro-climate control
- Protection against sunburn and abrasion
- Adaptation of produce to market requirements – resulting in higher profits
- Significant improvement in fruit quality and higher yields

Thermal Screens

Ginegar offers a new generation of thermal screens that enable growers to control the growing conditions in greenhouses and nurseries to create the optimum environment for quality crop production.

ALUMINET® THERMO-REFLECTIVE SCREEN

Aluminet® - Thermo-Reflective Screen

Ginegar's Aluminet® screens are light, elastic and easy-to-install. They offer IR protection screens that offer IR protection and microclimate control in greenhouses & nurseries as well as:

- **Climate control –** enables the reduction of temperatures during the day and control of the micro-climate in greenhouses and nurseries, uniform shading and light diffusion, control of airflow, protection against the cold and frost, and protection against pests.
- **Protection from direct sunlight –** prevents damage caused by direct sunlight on plants and fruit, and prevents overheating in greenhouses. The screens diffuse the light by reflection through them and increase the assimilation rate in the plant.
- **Protection against frost.**

How Does it Work?

Double-Sided Reflection

Aluminet® screens reflect sun radiation during the day to reduce overexposure to heat, and reflect IR radiation at night to increase plant temperature and reduce the risk of freezing. They also prevent condensation on leaves.

Light Diffusion

Aluminet® screens have a special texture that improves light management.

The use of special additives and the multifaceted reflection of the twisted screen strips contribute to efficient diffusion of incoming radiation to create uniform light through the greenhouse.

Save Energy

Aluminet® screens have been tested and proven to save over 50% of heating energy, which means a direct reduction in operational costs.

Increase Yields

Aluminet® screens offer better temperature control, as well as optimized light management, to ensure maximum yield from your greenhouse. These screens raise plant temperatures at night, avoid overheating in the day and improve photosynthesis by increasing the amount of scattered light.

Protect Against Frost

Many outdoor crops benefit from improved climate management. Aluminet® screens installed on light-frame shade houses protect crops from frost, wind and heat stress, increasing both crop quality and yeild.

ISO 9001

Warranty

Aluminet® screens carry a long-term guarantee on product quality.
Ginegar's quality assurance policy focuses on the supply of quality products to its customers – for long-term use – under harsh and diverse field conditions. All of the company's activities are conducted under ISO 9001 and IQNet standards.

Features & Benefits

- Creation of favorable conditions for plant development as compared to growing in open areas
- Significant increase in yield as compared to in open areas
- Significant reduction in use of pesticides
- Protection against weather conditions
- Control of shading required for the plant development, rate of fruit ripening, and fruit quality
- 15-30% savings in water used for crop irrigation

Types of Aluminet® Nets

Aluminet® Open Screens

Aluminet® Open Screens provide multiple solutions where both heat-stress reduction and frost protection is required.

The double-sided reflection screen helps to protect your crop against both midday heat stress and overnight frost.

Light transmission parameters were tested according to ASTM-D 1746 & ASTM-D 1494 methods.

Aluminet®	Shade Percentage	Diffused Light Transmission
40 I	40-43%	72%
50 I	49-53%	65%
60 I	62-64%	55%
70 I	70-74%	45%

Aluminet® O Screens for Outdoor Applications

Many outdoor crops such as vegetable and leaf crops benefit from moderate climatic conditions. Reduction of direct radiation and temperatures in summer improves product quality and can save water and fertilizers, prevent some diseases and save on disinfection treatments.

These screens also provide wind and frost protection and improved humidity control. Light transmission parameters were tested according to ASTM-D 1746 & ASTM-D 1494 methods.

Aluminet®	Shade Percentage	Diffused Light Transmission
30 O	30-35%	79%
40 O	39-41%	70%
50 O	50-55%	60%
60 O	57-58%	56%
70 O	69-72%	44%
80 O	75-80%	32%

Aluminet® IC Closed Screens for Energy-Saving

Aluminet® IC is highly recommended for greenhouses where a high level of energy saving is essential. Tests show that Aluminet's insulation properties contribute significantly to reduced energy consumption. Energy savings tested by INTRON Quality Assessment Institute in test no. R20010307 on Nov. 8 2001. Light transmission parameters were tested according to ASTM-D 1746 & ASTM-D 1494 methods.

All FR screens have been tested according to:

- STD EN13501-1:2007 + A1 2009 and EN/TS 15117 (European standard)
- NFPA 701 (American standard)

Aluminet®	Energy Saving	Total Light Transmission	Shade Percentage
IC TS	43%	94-95%	22-24%
IC 50	55%	74-75%	46-48%
IC 60	60%	60-61%	59-61%
IC 70	70%	45-46%	73-75%
IC 100	75%	0%	98-99.5%

Aluminet® Darkening Screen

Aluminet® DS Darkening Screen controls daylight hours by combining daylight management and energy saving.

This product is highly recommended for all plants that require control of daylight hours, such as chrysanthemums, and is suitable for moderate, cold and other climates.

Aluminet®	Energy Saving	Light Transmission
DS	75%	0.1%

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