



ADRITEC
YOUR WAY

7 PLASTIC FILM & LINING



Plastic Film & Lining Agricultural Film

7a

7a1- Ground Cover

7a2- Greenhouse Cover

Agricultural plastic ground cover are commonly used as a protective cover placed over the soil used with all types of vegetable crops. It has several advantages namely to increase soil temperature, reduce soil compaction and erosion, provide nutrients, reduce fertilizer leaching, suppress weed growth and seed germination. It helps decrease the evaporation of irrigation water. It also reduces weed growth and helps in bringing about an early crop with a much enhanced growth & quality. Several types of plastic covers are available such as the black mulch, the transparent type, and the silver / black double sided type. The plastic Mulch cover can be used any time of the year for practically all crops, however the best time to use it is late in spring after the soil has warmed up. Early spring application will delay soil warming and possibly plant growth. Some of the advantages of using plastic mulches are outlined below.

Product Category	Type	Material	Thickness	Colour	Applications
Ground cover Films	Thin Films	LLDPE	15 - 25 Micron	Transparent / Black / Fumed	To cover soil / Economical category
	Long Life Black films	LLDPE / Carbon Black / Anti Oxidants	50 - 100 Micron	Black	Mulching of all vegetable crops / Perforated or non-perforated
	Special films	LLDPE & functional Pigments	20 - 30 Micron	Yellow	Attracts whitefly insects away from crops
				Green	Weed Control / Heating up of soil
				Black / White	Allows useful sun / Weed control
				Black / Silver	Repels insects / Protects Plants from viruses
	Biodegradable films	Master-Bi	15 - 25 Micron	Transparent	Biodegradable / Environment friendly
		Special degradable additives	15 - 25 Micron	Transparent	Economic alternative to Biodegradable film
Reflection films	LLDPE & additives	50 - 70 Micron	Black White OR White	Hydroponic applications	
Low Tunnel Films	Strong Thin films	LLDPE	17 - 25 Micron	Transparent	To cover late crops
	Thermic films	LLDPE special grade	30 - 80 Micron	Transparent	Frost Protection / Earlier Harvest
	Cooling films	LLDPE & additives	20 - 50 Micron	Transparent	Reflect NIR radiation / Prevents heating
Soil disinfection Films	Regular	LLDPE	25 - 50 Micron	Transparent	Fumigation / Solarisation
	Adrifum	Virtually Impermeable Film (VIF)	32 - 35 Micron	Transparent	3 Layer Film - Soil fumigation / Reduction of use of methyl bromide by 50%
	Adrisun	Improved Virtually Impermeable Film / Anti fog / EVA / Infrared	32 - 35 Micron	Transparent	Same as Adrifum with higher resistance / UV stabilized



Ground Cover Films



Low Tunnel Films



Fumigation Film

Greenhouse cover films are the material used to cover the greenhouse frame. The most widely used materials are polyethylene film. It is a thick flexible material that comes in sheets of various widths and thicknesses and raw material specifications which can be used in a single or a double layer. A quick and inexpensive option for growers, polyethylene high quality greenhouse film has UV stabilizers and antioxidants and offers excellent tensile strength durability. It is translucent, diffuses light by bouncing the available sunlight and reducing shadows, both of which help in plant growth. We offer a variety of greenhouse films types which serve from 1 to 5 years depending on the thickness of the sheet and the UV percentage in the material mix. Greenhouse covers increase the temperature by more than 2 - 3°C and maintain a warm environment and better heat distribution, without heat buildup or stress which reduces energy costs in the process. Greenhouse covers have been developed in recent years allowing for control of many factors that negatively affect high yield growth namely the thermic effect, light diffusion, drip and mist, cooling, disease control and photosensitive effects. Therefore, greenhouse covers are presently tailor made to minimize the effect of these factors.

Following are some technical characteristics offered by Adritec Greenhouse Films:-

Service Lifetime

The lifetime of a film depends on its quality and technical characteristics and on the conditions of use (area, climate, greenhouse type, installation, use of agrochemicals). Adritec offers greenhouse film products with a lifetime of up to 5 seasons, containing special combinations of UV-stabilizers and antioxidants that protect them from the harmful effect of UV light and heat for very long periods. Its products simply last longer thanks to the application of specialty UV stabilizers, selected HALS, UV absorbers and co-stabilizers, and Ni-Quencher all combined to give improved resistance to agrochemicals and all other factors affecting the service life of the cover.

Product strength

A new generation of super-tough films has now been introduced which uses special high-strength polymers. These films offer additional safety in areas with very strong winds, or significant economy as they can be produced at a lower thickness than regular films while maintaining the same yet higher strength.

Light transmission

High light transmission is critical for healthy crop growth and quality. Adritec greenhouse cover is known for its crystal-clear film to benefit from maximum direct light.

Light diffusion

Light from the sun passing through a greenhouse film is split into direct and diffused. Light diffusion causes a film to look hazy to the human eye which does not mean that the film is less transparent. The PAR (photosynthetic active radiation) received by plants remains the same. Diffused light has a positive effect on plant growth, especially for spring and summer crops and in areas with strong sunlight. Light diffusion reduces shadows, ensures more uniform distribution of light in the greenhouse so that it reaches even the lower parts of the plants, and prevents burnings and offers a moderate cooling effect. Greenhouse covers can be supplied with more or less diffusion, according to the specific requirements of each area and crop. Films with medium diffusion, or with very high diffusion are offered bearing in mind that the most appropriate level of diffusion depends on the climate of the area, the crop and the season(s) of growing.

Thermic effect

Adritec offers special 3-layer thermic films, containing a combination of EVA and Infra-Red additives structured into 3 layers. This special film type helps absorb Infra-Red radiation and reduces heat losses throughout the night. The advantages of thermic films can be in protection from frost and low temperature, a smoother temperature drop and higher overall night temperatures, a reduction in energy consumption for heating, a higher crop yield, an early harvest and a better quality of crops.

Anti-drip effect

It is known that droplets formed at the inside surface of greenhouse films due to water condensation have negative effects on plant quality and growth, as they reduce light-transmission by 15 to 30% and increase the occurrence of certain diseases. The "anti-dripping" films offered contain special additives which eliminate droplets and form instead a continuous thin layer of water running down the sides. Anti-dripping films, when used properly, offer several benefits such as more light in the greenhouse, a higher crop yield, early harvesting, a better quality of crop at a higher commercial value. It helps decrease diseases which is a direct saving in application of pesticides. Anti-dripping films are mainly recommended for well ventilated and/or heated greenhouses, with adequate inclination of the roof. The "anti-dripping" effect lasts for up to 2 years, as the additives function by migrating to the surface of the film and are slowly washed out by water. Under certain circumstances there is mist (fog) formation in greenhouses covered with anti-dripping films. Such mist usually occurs at sun-set and dawn and is undesirable as it could cause damages to the plants. It is strongly advisable to ventilate and/or heat the greenhouse immediately, to remove this mist. No warranty or any liability is assumed on the effectiveness and duration of the anti-dripping effect.



Anti-mist effect

To allow the use of anti-dripping films, with all their benefits, without fear of the mist (fog) that is sometimes formed during sun-set and dawn in greenhouses covered with such films. Films with anti-dripping features mixed with a special anti-mist function that reduces or prevents the formation of mist are offered.

Cooling effect

There is a growing requirement for films that cut-down excessive heat during day-time and maintain a cooler environment in the greenhouse particularly in the "tropics", in areas with strong sunlight and hot weather. This is noticed in nurseries for shadow-loving ornamental plants. Films offered can reflect and/or absorb the Near Infra-Red (NIR) Radiation, the part of solar spectrum carrying most of the heat entering a greenhouse in day-time and which is otherwise useless for plants growth, thus reducing the heat inside the greenhouse during the day. It has been demonstrated that the higher the outside temperature, the larger is the temperature difference achieved by use of "cooling" films. Films include a wide range of "cooling" films which are high diffusion films, special double-effect "silver" film (cooling during day, more thermic during night) and "Selective interference" films.

Disease control effect

Films offered include a newly developed range of special disease control films, which contribute efficiently in "Integrated Pest Management" and help to reduce the usage of pesticides. An important type of disease and insects control films is the "UV-blocking" films, which absorb UV-radiation up to 390 nm, thus achieving: Reduction of the population of whiteflies, thrips, miners, aphids and other insects in greenhouses, thereby reducing the viruses which are vectored by these insects. A good example is the reduction of "blackening" of red rose petals, thereby increasing their commercial value.

Photoselective effects

Adritec offers a range of special films incorporating selected additives and pigments to modify the light spectrum entering the greenhouse, thus changing the growth behaviour of plants (photosynthesis and photomorphogenesis). By using such films it is possible to increase the yield, to promote or retard the growth and to cause elongation or dwarfing of the stems.

Notes:-

* Thickness of plastic ranges from 80 – 300 microns.

* Comes in a Single layer, 3-layer and 5-layer types.

* The dimensions of each piece is 5.5 meters in width and between 13 – 15.5 meters in length. It can be higher in length if so required by the customer.