

REVOLUTIONARY SHADING SYSTEM

ReduHeat® & ReduClean®

MORE PAR LIGHT LESS HEAT

ReduHeat transmits a high percentage of PAR-light and reflects the heat radiation significantly.

Characteristics:

- Higher light to heat ratio
- Better light quality
 - Increased red to far-red light ratio
 - Diffused light, so gives better light distribution throughout the greenhouse
- Can be applied in different dilutions
- Can be applied in several applications to increase heat reduction during the season, also in combination with ReduSol
- Very wear resistant
- Easily removable with ReduClean



mardenkro
harmless to the environment



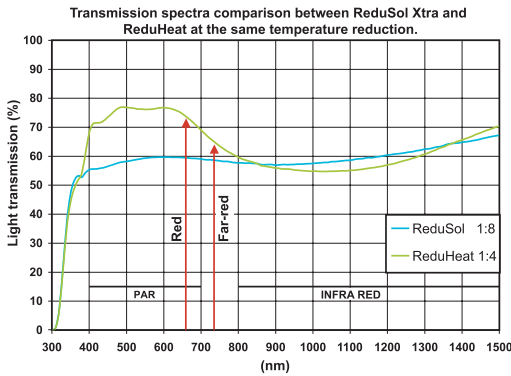
ReduHeat®

The development of ReduHeat is a major innovative step towards customised shading! ReduHeat is especially suitable for crops which require a moderate to light shading layer as a protection against heat and for which a maximum amount of PAR light is desirable.

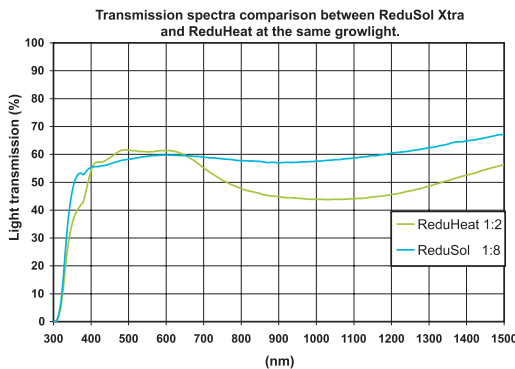
Why ReduHeat?

ReduHeat has all the advantages of ReduSol® Xtra. ReduHeat distinguishes from ReduSol Xtra and other traditional shading agents by having a different balance between light transmission and heat reflection.

More PAR light and less heat-radiation is transmitted.



- With the same reduction in temperature, higher light transmission is achieved with ReduHeat.



- With the same light transmission, a lower temperature is achieved with ReduHeat.

Benefits, depending on crop

- Higher photosynthesis
- Deeper penetration of light because of diffused characteristics
- Reduced operation of shading curtain
- Increased CO₂ levels because of less venting
- Better water-management, decreased water use
- Healthier and sturdier crop
- In vegetable crops less blossom-end rot and skin-cracks
- Better color retention
- More even greenhouse climate
- Nicer work conditions

Red to far-red ratio

The transmission spectrum shows red light at 660 nm and far-red light at 730 nm.

When using ReduHeat, the transmission ratio changes and this also changes the way in which phytochrome cells are controlled. This change generally leads to a stronger crop.

When to use ReduHeat

1. For shading crops which require a significant amount of light, such as rose, freesia, alstroemeria, chrysanthemum, lily, etc.
2. In all situations where shading agents with effective shading rates of 60% or less are used.
3. For traditionally non-shaded crops in order to provide them with a more even climate with diffuse light and minimum light loss. For example tomato, pepper, cucumber, strawberry, etc
4. For adapting the light requirement and heat shading to the crop by shading with a light layer of ReduHeat early in the season, and

ReduClean®

then subsequently applying a layer of ReduSol Xtra or ReduHeat. For example orchid and anthurium. This will increase the shading effect.

Note: After subsequent spraying with ReduSol Xtra, the layer of ReduHeat will lose its unique characteristics.

Light-transmission (PAR) of ReduHeat versus ReduSol at equal heat reduction:

For 1 hectare				Versus ReduSol Xtra	
Dilution Factor	Number of buckets of ReduHeat	Number of litres of water	Transmission (in %)	Transmission ReduSol Xtra	Ratio with ReduSol Xtra
1:2,0	44	1330	60	46	1:5,5
1:2,5	38	1430	64	50	1:6,0
1:3,0	33	1500	68	54	1:6,5
1:4,0	27	1600	72	65	1:8,0

Conclusion: The relative light gain in PAR is approximately 25%.

Price-quality ratio

ReduHeat is highly wear-resistant.

Mostly one application per season is sufficient.

Removal with ReduClean at the end of the season is very easy.

Directions for using ReduHeat

ReduHeat is a viscous paste and is sold in 15 kg (approx. 13 litres) buckets. It is recommended to stir ReduHeat briefly and then to add to clean water while stirring. ReduHeat should be applied to a dry surface.

In order to achieve a proper layer, it is important to spray during dry weather conditions.

ReduClean®

ReduClean easily removes ReduHeat from glass, acrylic, polycarbonate and plastic film. A rain shower after using ReduClean is usually sufficient for a clean result. ReduClean is economical and safe for the user.

ReduClean is sold in 10-litre and 25-litre containers.

Directions for using ReduClean

Dilute ReduClean with clean water, using a mixing ratio of 1 litre of ReduClean to 7 litres of water. (One hectare requires 250 litres of ReduClean).

Add ReduClean to the water while stirring. Apply diluted ReduClean during dry weather by spraying on a dry greenhouse, ensuring that the shading layer is moistened completely.

The time between applying ReduClean and its removal by the rain is irrelevant to its effectiveness.

For an immediate clean result, rinse with generous amounts of water.

Note: ReduClean can only be used on ReduHeat and ReduSol Xtra.

Environmental aspects

ReduHeat and ReduClean do not contain any environmentally harmful ingredients. The Royal Decree on Greenhouse Horticulture (Koninklijk Besluit Glastuinbouw) (Regulation 2, section 1,d) of 21 February 2002 stipulates that it is legal to release rinse water into surface water if ReduClean is used on ReduHeat.

Important

- In order to prevent the pH value of water from changing, it is recommended to close the water basin before applying or removing ReduHeat.
- To guarantee efficient cleaning of the greenhouse, never use ReduClean in combination with other shading agents, other than ReduSol Xtra.
- The use of roof sprinkler systems using surface water containing calcium or iron can hinder the removal process.

Patent

Removable shading agents by Mardenkro are patented worldwide.

Mardenkro is the inventor, producer and supplier of ReduSol Xtra / ReduHeat-ReduClean, a shading system used worldwide.

Their laboratory and testing, production, sales, storage and transport facilities are located in the Netherlands, Canada, Brazil, Japan and China. Mardenkro products find their way to growers across the globe through a worldwide distribution network.