

# ORCHARD PROTECTION SOLUTIONS

## **HAIL SAFE**

**Secure your investments  
AND improve results with this  
revolutionary NEW system.**



More than just fail-safe protection against hail ...

- Reduce sun-burn
- Reduce chemical loss
- Reduce water loss
- Increase humidity
- Increase pest control with less chemicals

**ORCHARD PROTECTION SOLUTIONS** is a business born out of the necessity in the KZN Midlands for a dedicated installer of quality and conditions specific agricultural cover structures.

It was apparent at the time of inception that local farmers were battling to procure the services of installers, generally based out of province and that traditional installation methods did not necessarily suit local conditions with regards to hail and snow loading experienced in some farming districts.

### Reduce risk AND improve results

Having been in the building industry for some 36 years and running my current business for 22 years, the infrastructure and resources were readily available to embark into a diversified field.

In addition, being involved in small scale farming for the past 9 years in the Underberg district has seen me gain experience in the requirements of farming activities and the constraints experienced in actually working in and around cover structures.

### Protect fruit against sun burn

The journey which led me to arriving at the concept for a overload relief system started with a request from a local Underberg Kwazulu-Natal blueberry farmer to construct a cover for a new orchard.

The reason for him talking to me was that he was unhappy with the installation of a previous structure which experienced a collapse during a hail storm shortly after completion.

At the time I also became aware of another catastrophic failure of a large area of cover in Hilton, Kwazulu-Natal.

### THE DESIGN

Being aware of the potential failure which can be experienced due to structural overload from hail and also snow packing on the cover I applied my mind and experience in erecting similar structures and arrived at a design to improve on current installations and to introduce an overload relief system to counter the risk of failure of the structure or cover fabric.

### Prevent catastrophic structure failures under snow and ice

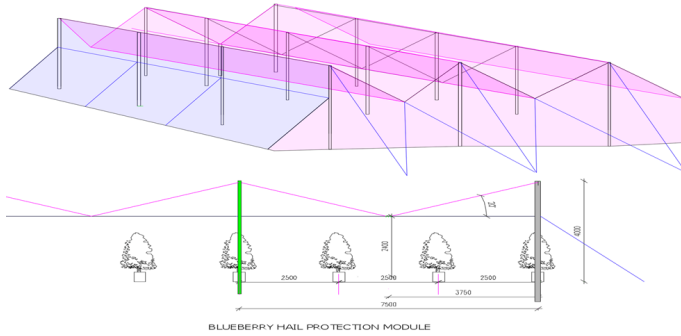
### HAILDUMP

(PATENT APPLICATION APPROVAL 2021/01509  
3 MARCH 2021)

Consists of a sloping facade to a central gutter

position. The fixing and tensioning cable or wire in the gutter is allowed to elongate along the length of the gutter to allow the gutter to open when loaded.

The system further allows for a fusible link, which is designed to fail under extreme conditions of loading allowing complete opening of the gutter dumping hail or snow between the cultivated rows avoiding damage to plants and crops.



**MATERIALS**

**GRP REINFORCED COMPOSITE POLES** – The use of GRP poles throughout the structure allows not only for our unique erection methods, transport cost benefit and speed of installation but also has the important advantage of longevity of the structure with a 60years **ENGINEERED** service life and integrated UV protection.

**Global Gap compliant materials that LAST LONGER**

In addition there is uncertainty as to the acceptability of CCA-treated poles being used in food production areas by EU and UK buyers and consumers in the future.

**GALVANIZED WIRE ROPE** – only galvanized wire rope is used for the primary straining lines, transverse straining lines and guy lines.

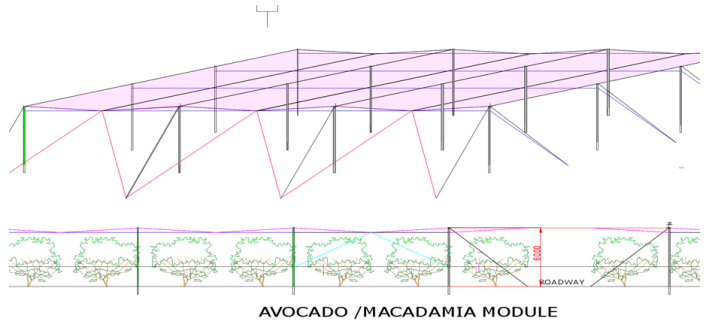
**GALVANIZED GROUND ANCHORS** – all ground anchors pre-fabricated and hot dipped galvanized for longevity and corrosion resistance.

**FITTINGS** – All fittings, turnbuckles and fasteners are galvanized.

**COVER FABRIC** – Generally to customers choice in accordance with application but where possible fabricated to widths conducive to module and tensioning requirements.

The fabric is ordered to suit module of the structure and drop zone positions.

All fabric sections are fabricated pieces with no joining or sewing of fabric across the covering.



Individual sections are fixed point to point with pneumatically crimped hog rings enabling entire sections to be removed and replaced if necessary or when renewing cover.

It is also possible to modify the system to allow opening of the fabric should this be required.

**New design. Better installation. Inherent durability.**



**Lower water loss means you can grow more hectares under the same water rights**

**ORCHARD PROTECTION SOLUTIONS** site-specific designed structure and innovative overload protection system offers improved protection of both crop and structure as well as benefitting in a lower environmental impact and less time consuming installation.

**Improve pest and disease control in this enclosed environment**

#### **CURRENT PROJECTS**

ORCHARD PROTECTION SOLUTIONS is currently erecting a blueberry enclosure in the Underberg District, an avocado propagation nursery cover and has successfully erected a trial cover to an existing avocado plantation in the Wartburg district.

**Improve results through climatic control (humidity and moisture)**

#### **APPLICATIONS**

ORCHARD PROTECTION SOLUTIONS system is suitable for all covering structure requirements including:

- General nursery and shade house cover
- Berry orchard enclosures
- Citrus fruit enclosures
- Kiwi fruit enclosures
- Avocado shade structures
- Macadamia shade structures

For more information on how this structure can revolutionise your operation, contact **Rob Kemp**.

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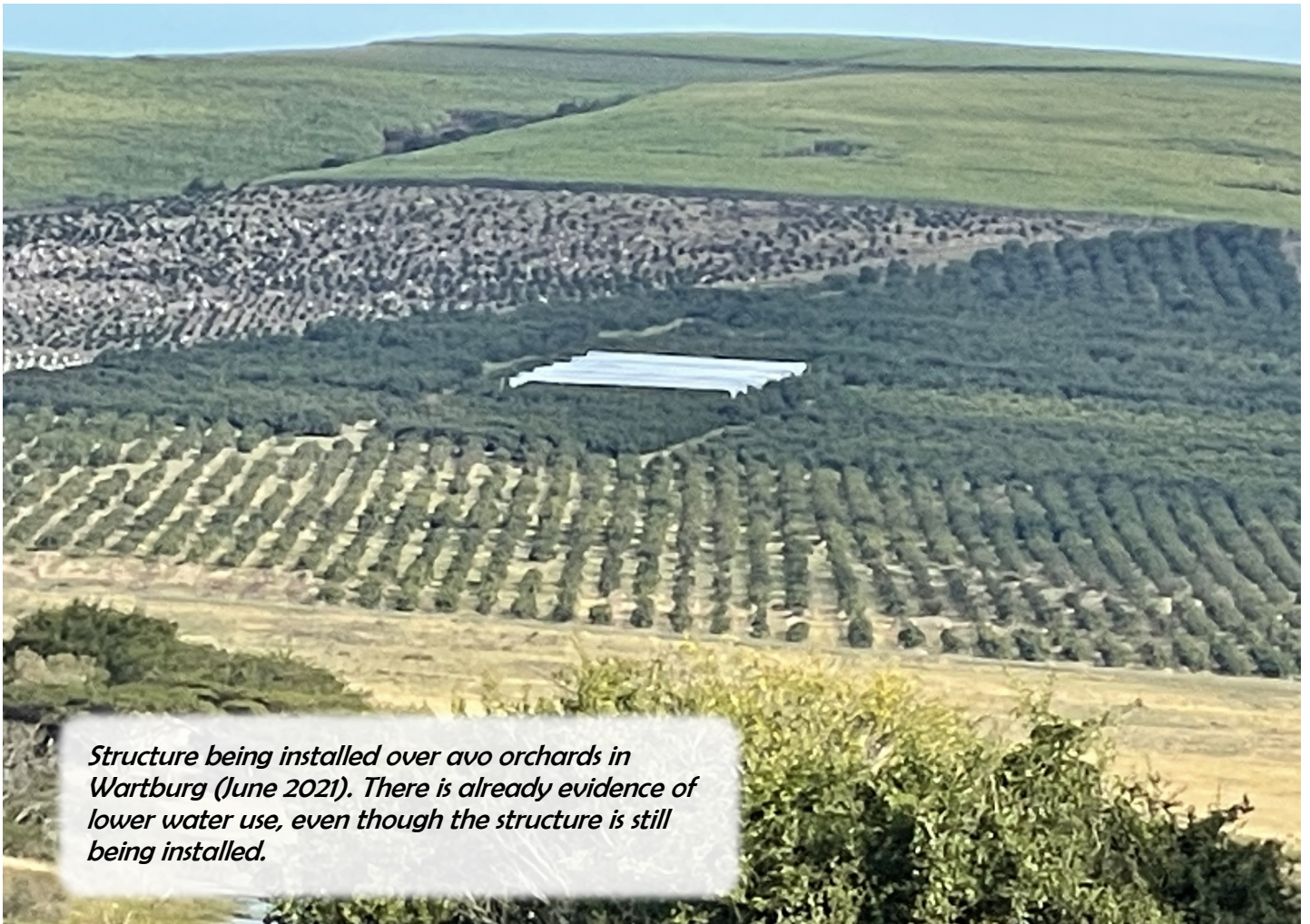
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**ORCHARD PROTECTION SOLUTION**

**HAIL SAFE** PATENT PENDING NO. PPN00002279



*Structure being installed over avo orchards in Wartburg (June 2021). There is already evidence of lower water use, even though the structure is still being installed.*