



A Scientific approach  
in Seed Coating...



# About the Scientist

Dreams are not thoughts but achievements.  
No dream can be complete without eagle's wings.

These were the thoughts in the mind of Prof. Dr. C. Dharmalingam (a qualified seed technologist - Ph.D, (CAL) and Post Doctorate, (Sweden) Founder of Hitron Seed Coating. Born in a country which worships Agriculture, and has led a life of clear mission and vision. It is this mission and vision that enable the birth of Hitron Seed Coating.

Prof. Dr. C. Dharmalingam

Seed Technologist & Former Head of Dept. of Seed Science & Technology,  
Tamilnadu Agricultural University, India.

Founder and M.D.

The Hitron Herbal Seed Coat

Now succeeded by his son Arvind Dharmalingam. Who is involved with his Dad in all his research and development activities for last 28 years. Now running both Domestic and international Division of Hitron.







## Committed to Research

Our major strength comes from intensive research and development of new technologies in this area of seed coating. Hitron does not stop with this achievement but continuously researching upon to further upgrade the performance of coated seeds.

## Seed Deterioration

Seed quality matters everything for seed industry. A lapse in this will greatly affect the performance of the crop and result in great economic loss to the farmers. To overcome this use of an invigorated Hitron coated seeds for sowing will solve the problems. Educating the farmers about the various causes responsible of seed detrition of seeds especially under ambient storage conditions where the RH and temperature vary from place to place. They are also very important.



Hitron seed coating polymer has an edge over other polymers where the halogenation process is incorporated at the molecular level that helps quenching of free radicals (FR) as and when they are produced at the site during storage. This helps the seeds to extend the storage life with high vigour and viability. Further, addition of organic ingredients in the formulation further enriches and enable the seeds to become more vigorous enabling them to produce very vigorous plants possessing high yield potentials as well as protection from pests and diseases. Ultimately the farmers will have bumper yield. The resultant seeds will also have high germination and vigour potential. This will have greater significance to make agriculture a profitable venture.

# Why Hitron® ?



All our Hitron products are purely organic. We incorporate the process of halogenation and incorporate organic herbal extracts to the formulation make it a unique product which will greatly help the farmers to get higher yield with quality seeds. We believe in growing healthy plants for beneficial agriculture and increased productivity. We look up on the farmers as our backbone and try to help them through supply of enriched seed inputs and improved technologies to offset their lifestyle.



## What is Halogenation ?

It is a process through which free radicals are quenched and erased. Halogenation stabilizes the weak bondage (at molecular level) making it more stable & resistant. The process of halogenation is patented by Hitron. The deterioration of seeds is difficult to stop. But can be minimized by Hitron application to prolong the storage life of seeds.



## What is Seed Coating?

Globally, seed coating means coating the seeds with a range of agro-chemicals and color polymers to enhance the marketable quality of seeds and to suit the consumer preference. Hitron, on the other hand transformed this technology into a 3 in 1 formulation keeping in mind both the qualitative as well as quantitative attributes of the marketable seeds. This is where this product Hitron differ from other products available in the market.



# Proven Results

We had conducted extensive field studies to ascertain the effects of halogenation in a variety of crop seeds. All the results consistently proved the beneficial effect of Hitron treatment to improve the field stand and seedling vigour by (10 to 15%) and ultimately the yield.



|              |         | Stored for 8 Months |                |
|--------------|---------|---------------------|----------------|
| Paddy        | Initial | Control             | Hitron Treated |
| Germination  | 87      | 70                  | 80             |
| Vigour Index | 1400    | 900                 | 1800           |

|              |         | Stored for 10 Months |                |
|--------------|---------|----------------------|----------------|
| Hybrid Rice  | Initial | Control              | Hitron Treated |
| Germination  | 90      | 69                   | 81             |
| Vigour Index | 1320    | 800                  | 1200           |



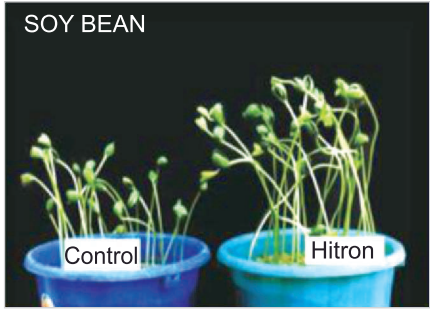
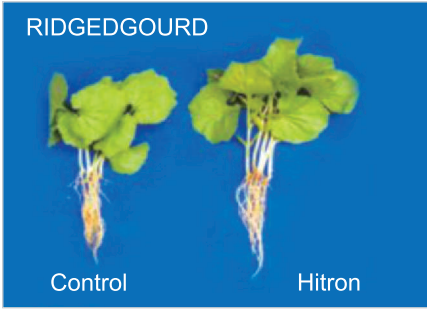
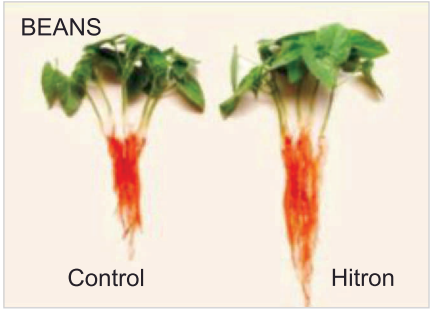
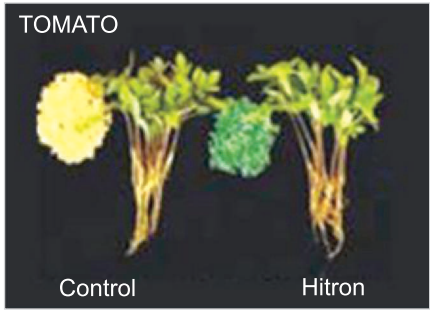
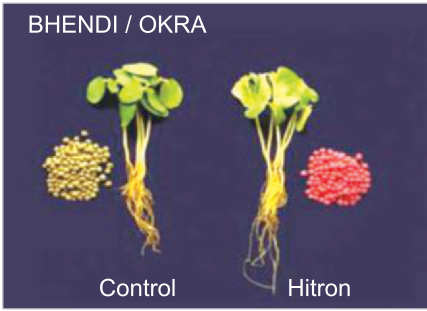
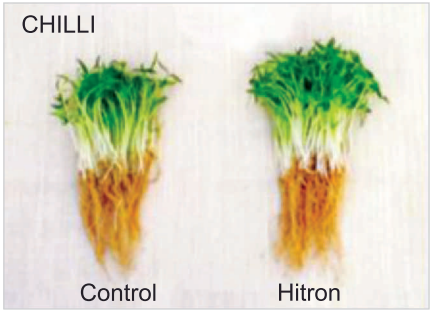
|              |         | Stored for 8 Months |                |
|--------------|---------|---------------------|----------------|
| Maize        | Initial | Control             | Hitron Treated |
| Germination  | 94      | 83                  | 91             |
| Vigour Index | 4800    | 3250                | 3700           |

|               |         | Stored for 10 Months |                |
|---------------|---------|----------------------|----------------|
| Hybrid Cotton | Initial | Control              | Hitron Treated |
| Germination   | 76      | 83                   | 88             |
| Vigour Index  | 1700    | 1750                 | 1800           |



|              |         | Stored for 8 Months |                |
|--------------|---------|---------------------|----------------|
| Sun flower   | Initial | Control             | Hitron Treated |
| Germination  | 85      | 74                  | 82             |
| Vigour Index | 2324    | 1982                | 2240           |

# Proven Results

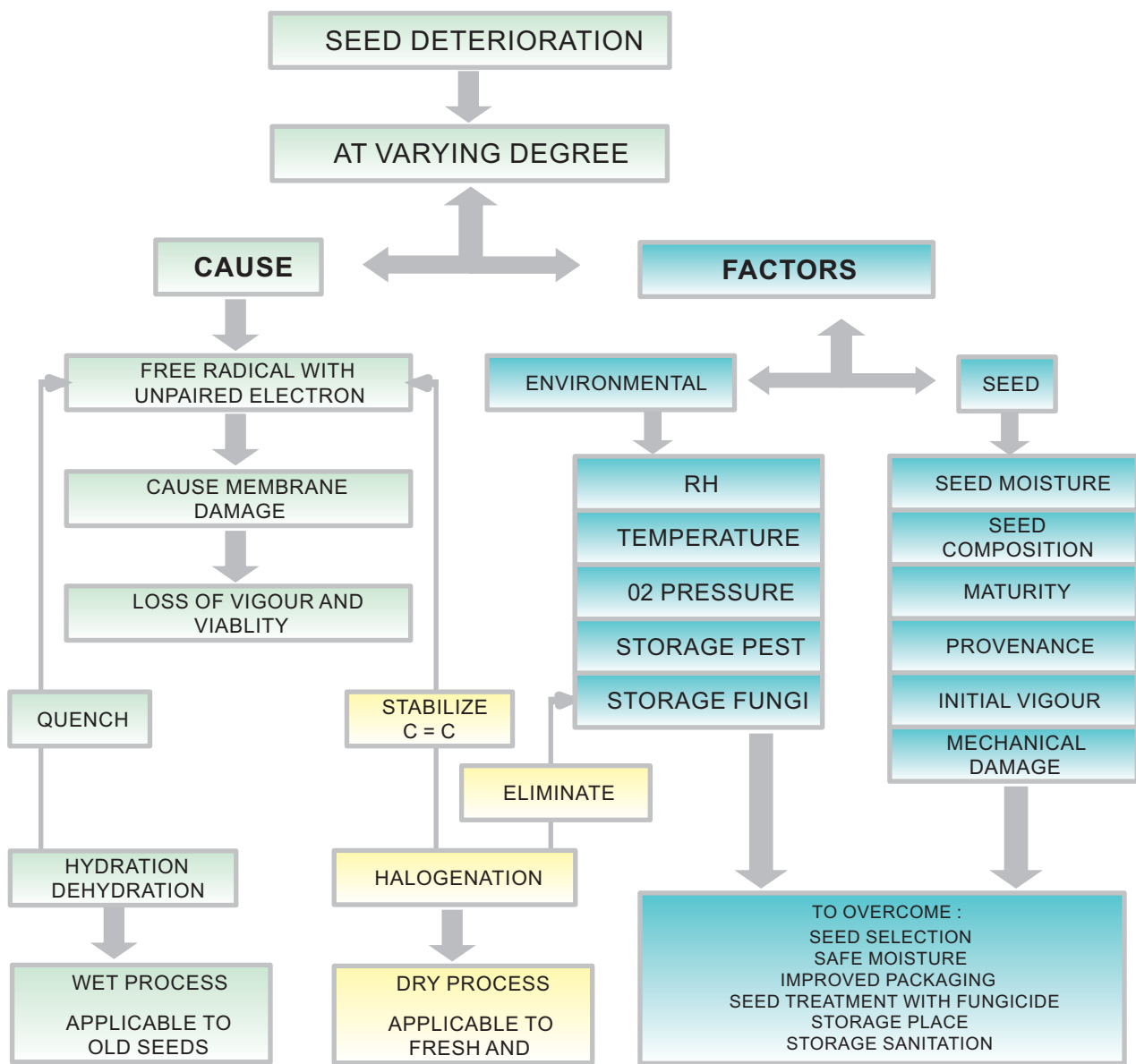


| Vegetable   | Method                 | No. of Days |
|-------------|------------------------|-------------|
| Chilli      | Laboratory Germination | 10          |
| Bhendi      | Field Emergence        | 15          |
| Tomato      | Field Emergence        | 15          |
| Beans       | Field Emergence        | 12          |
| Ridgedgourd | Field Emergence        | 15          |
| Soybean     | Bucket                 | 7           |

## Product Range

- Hitron Halo Herbal Liquid
- Hitron Clear Solution
- Hitron Binder
- Hitron Low Shine Polymer
- Hitron High Shine Polymer
- Hitron High Shine Polymer and Binding





## Science behind halogenated coating

Q. What are the causes for aging and deterioration of seeds?

A: Free radicals (FR) are the primary cause for the deterioration and aging of seeds

Q. What are free radicals?

A: Radicals with unpaired electron having single electrical charge(+ve or -ve)

Q. How will it affect the seeds?

A: It damages the membrane systems

Q. What will happen if the cell membranes are damaged?

A: The cell contents will ooze out through the damaged membrane parts

Q. What happens if the cell content oozes out?

A: Seed will commence to deteriorate

Q. What happens if deterioration proceeds?

A: The seeds will lose the vigour, germination and finally affect the field stand and yield

Q. How to control free radicals?

A: By Halogenation process

Q. What the Halogenation process does?

A: The process controls the free radicals by stabilizing the weak bondage (at molecular level) and making it more stable and resistant

Q. Who owns this process?

A: This process is patented by The Hitron Herbal Seed Coat Pvt Ltd

Q. How is this made available to market?

A: The Hitron Herbal Seedcoat company is manufacturing the halogenated herbal formulation and supplying it to seed companies and to the market



## The Hitron Herbal Seedcoat

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