# Green Chemicals For Control Of Plant Diseases & Escalating Crop Yield & Quality

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Asian Council of Science Editors


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The presentation is available on the websites:

- http://osp.mans.edu.eg/wakil/cv/publications/acstm-2018.pdf
- www.mwakil.net/cv/publications/acstm-2018.pdf

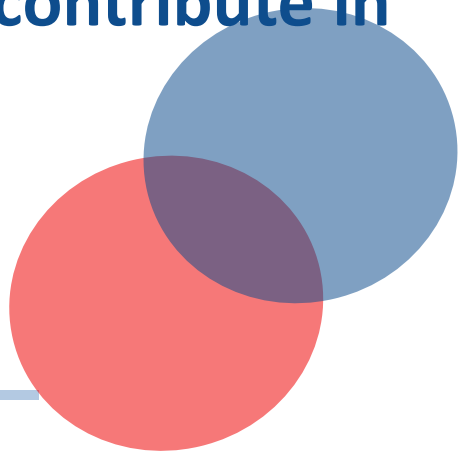
For decades and decades a number of international organizations and governments have tried to solve the poverty crisis in the third world with no much success.

One of the reasons for the mass poverty is lack of food. While the scientific communities especially in the third world tend to go for the costly basic sciences. Probably they look for promotion, scaling up their ranks or just for boasting, pride or self-satisfaction and other reasons.

## Our Target aimed to:

Develop a research of potential to scale up the yield and quality of cultivated crops and vegetables to contribute in solving this drastic problem.

Regardless and from our point of view, it is a wise choice to correct the old trend.

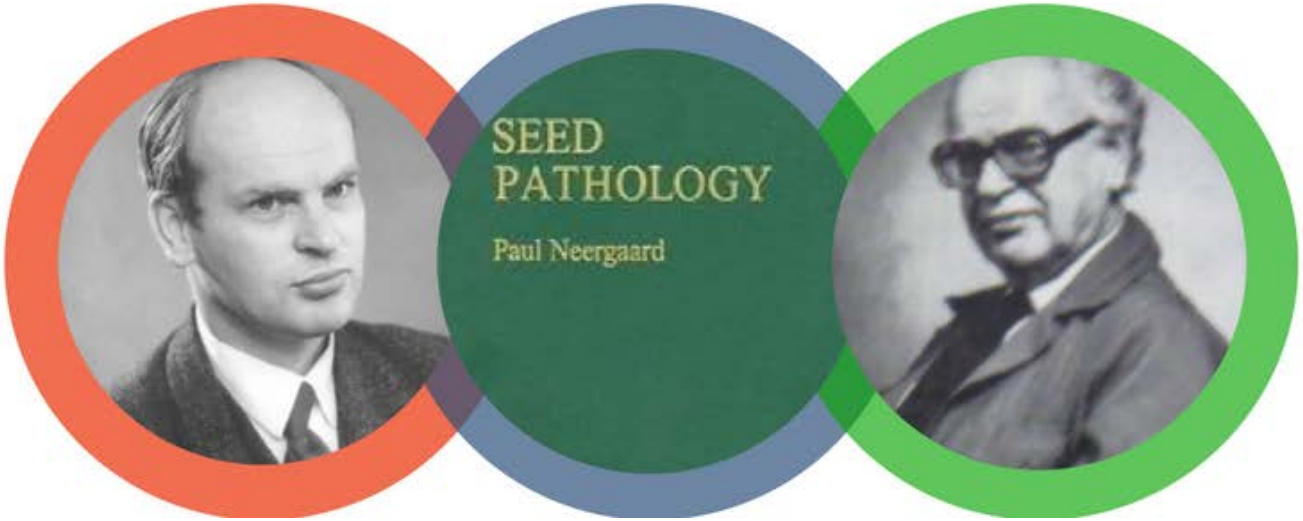


In this regard

In 1985, Dr. P. Neergaard, the father of seed pathology and the founder of Seed Pathology Institute for Developing Countries, Denmark, published a book titled:

"Seed- A Horse of Hunger or a Source of Life".

He highlighted the food crises in the third world and spotlighted the importance of seed as a source of life.



# Our meditation:

Healthy seeds

Healthy plant

Healthy planet

Healthy people

During the last two decades, we as a research team, from Mansoura University, Egypt in cooperation of the ex-Minister of Agriculture licensed green chemicals as an innovative strategy in the agriculture regime.

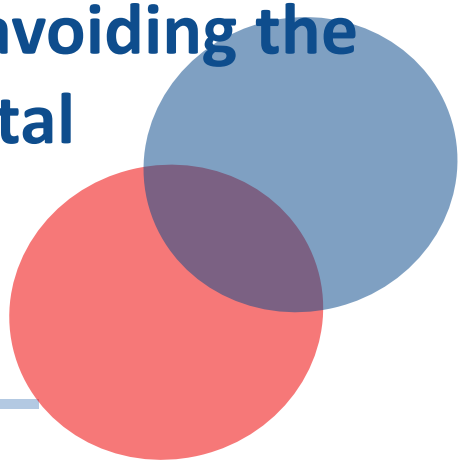
This is to scale up the yield of edible crops and vegetables to narrow down the gap between production and consumption.

## How ?

**1- We found that a number of green chemicals have potential to overcome both biotic and abiotic stresses occurring on the plants during their life span**

**2-Also, they scaled up the yield and quality of the edible crops and vegetables by enhancing their immune system**

**3- This keeps the environment clean while avoiding the intensive use of pesticides, the environmental devastating chemicals.**



4- Also, Stop turning the soil from suppressive to conductive ones as a result of continuous injection of such chemicals in it.

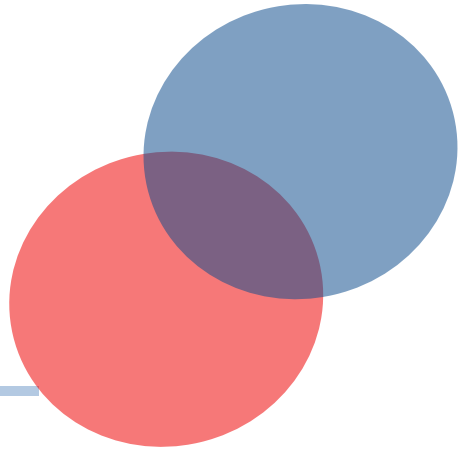
5- In this context, Produce healthy crops and vegetables free from the accumulated toxic heavy metals, the main cause of a number of serious diseases i.e.: HCC, Kidney failure, liver dysfunction and others.
http://scialert.net/qredirect.php?doi=rjet.2017.55.61&linkid=pdf

# Impact of This Work

1- It reflects Socio-economic and health impact when scaling up the crop productivity:

2- Reduce the famine in several parts of the world which expected to start this year (2018) as reported by a number of international foundations. They declared that over 150 Millions will famish to death or die of hunger.

3- Improve the quality of life to stop or retard the immigration to other regions.



# Spread the momentous finding

## You can read more about our research via the following QR code

# The presentation

## Show a case of:

# Green chemicals for the control of wheat diseases and revolutionizing their yield and quality

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# GAWDA

## FORMULATION

## ( Patent No 23798 )

*The Egyptian Academy of Scientific Research and Technology*

*(ASRT) 2007*

# This is the order

Academy of Scientific Research and Technology
(ASRT)

Arab Republic of Egypt
Ministry of State for Scientific Research

# Official Extract Of
# Patent No 23798

PRESEDENT, ASRT

According to Article 19 of the Intellectual Property Rights Law issued by law No. 82 for the year 2002, and according to the Presidential decree No. 377 for the year 1998 reorganizing the Academy of Scientific Research and Technology ; and In accordance with patent application No. **2004080341** and the documents attached to it

| | | |
|---|---|---|
| **Article 1** | : | A patent with number 23798 is granted to Prof. Dr. Mohamed Abdel Rahman Ali Elwakil |
| *Addres* | : | AL Gish Street , Awadalla Tawar , El Mansoura , Egypt |
| *for the invention* | : | Formulation For Boosting The Immune System Of The Plant And Increasing The Production |
| *Inventor Name* | : | Prof. Dr. Mohamed Abdel Rahman Ali Elwakil |
| *Patent Period* | : | 20 years, Starts on August 10, 2004 , a certified description of this patent is attached with this certificate |
| **Article 2** | : | This decree was issued in Cairo on August 19, 2007 |
| **Article 3** | : | The concerned authority must publish the issuance of this patent in the Egyptian Patent Gazette |

**Granting this Patent does not give the right to market the product in the Arab Republic of Egypt. To market the product of this patent in the Arab Republic of Egypt, legal regulations and procedures specified by the concerned ministries must be followed.**

Mervat. T.

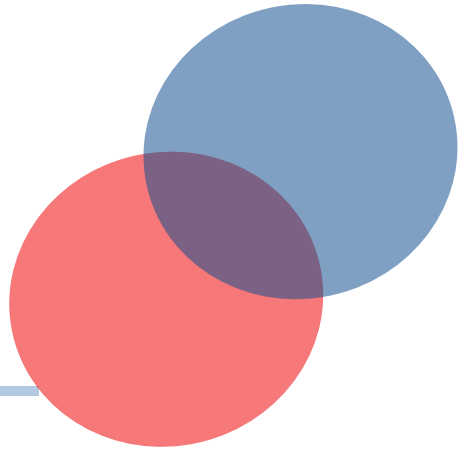
**President,**
**Egyption patent office**
Nadia Abd Allah
**Eng· Nadia I. Abd-llah**

**Acting President**
M.M.Shokry
**Prof. Dr. Mohsen Mahmud Shokry**

# GAWDA

- A formulation of green chemicals consists of antioxidants and salts of potential to reduce the chain reaction of free radicals in the plant cells by donating them enough electrons needed for their stabilization.

- Subsequently, stop damaging the cell constituents and enhances the plant's own defense mechanism against the biotic and abiotic stresses.



# HOW to apply GAWDA





Wheat

The treatment protects the wheat from loose smut disorder, the devastating disease of wheat and barley

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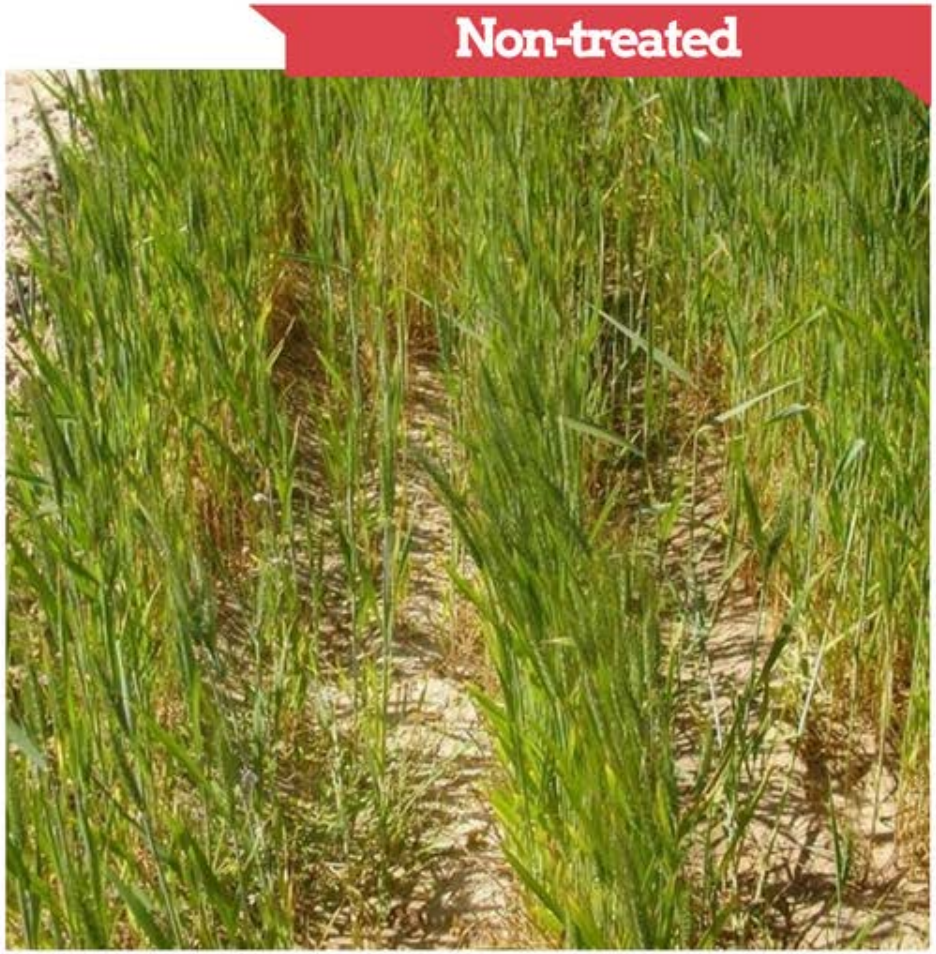
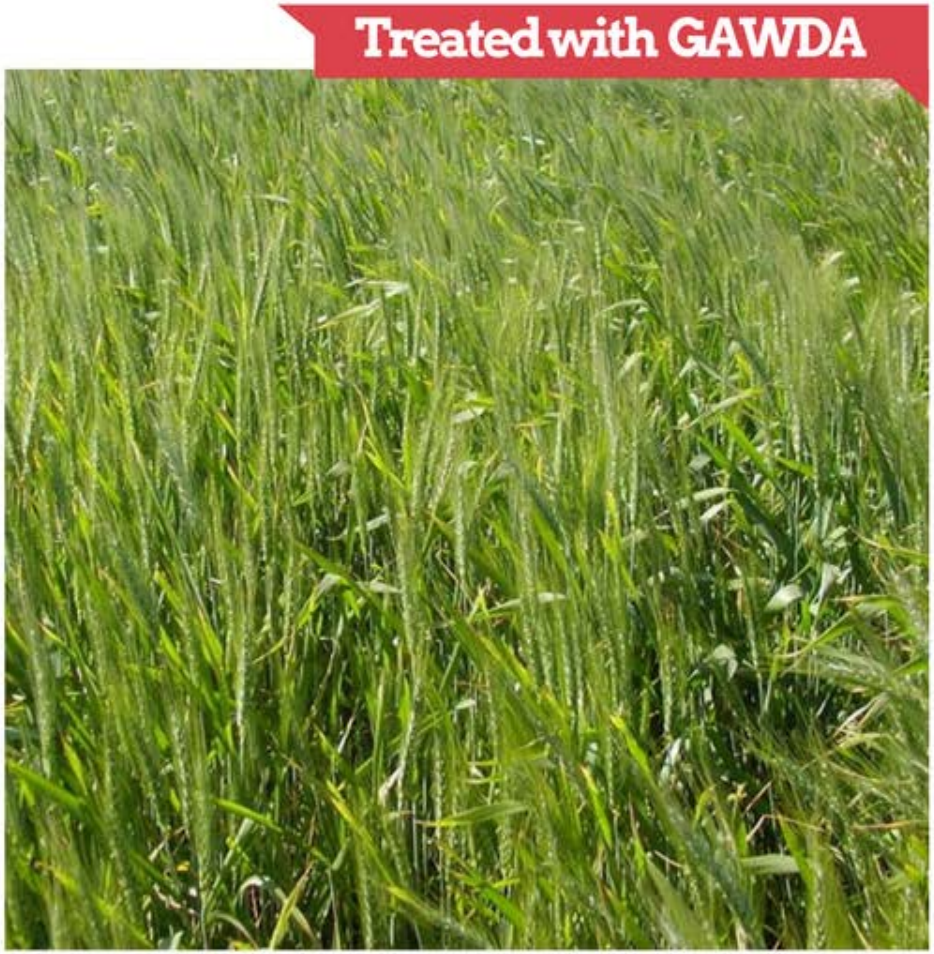
# Field Monitoring

## 120 days old

# Plant Density



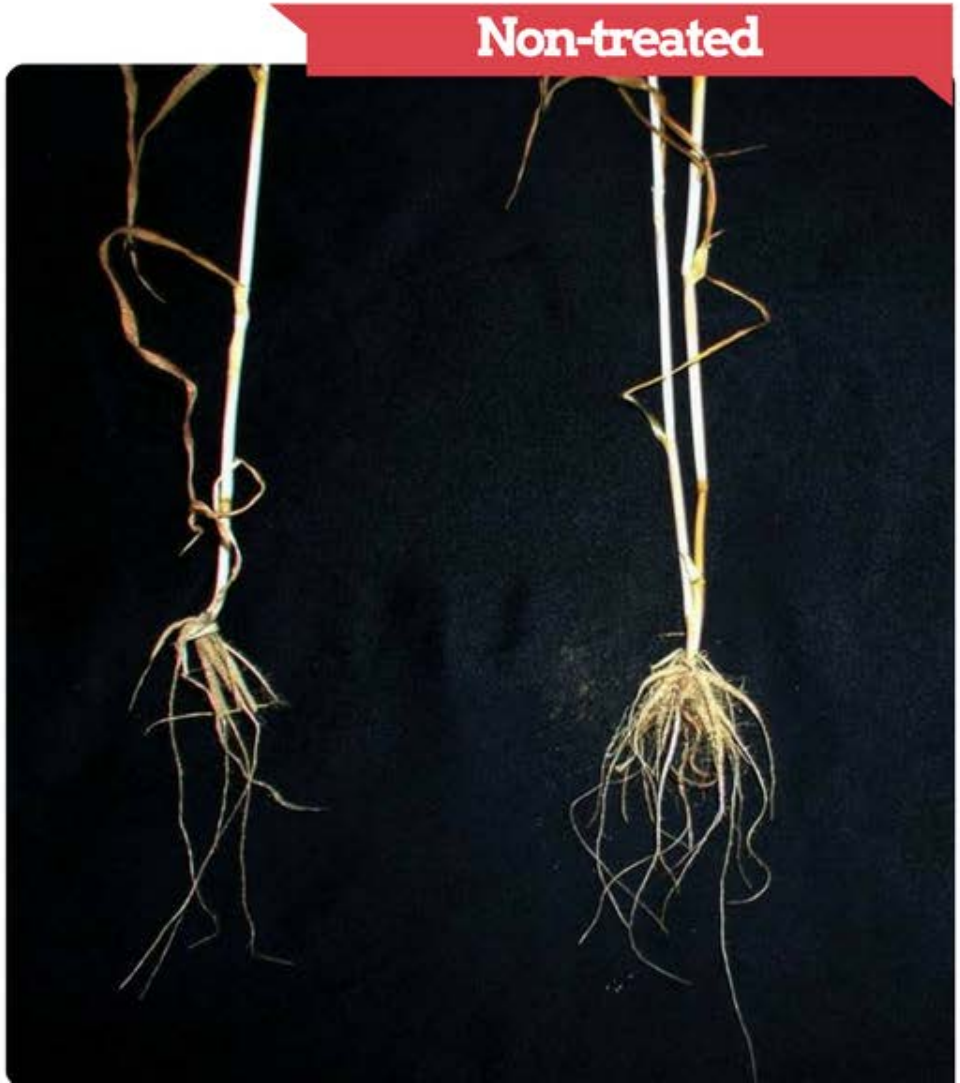



# Wheat

**Non-treated**

**Treated with GAWDA**

# Number of Tillers and Root Density

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# Ministry of Agriculture
# Field evaluation

# May 2005


**For the credibility, documentation of the research was Presenting at a forum on the GROWTH SPURT of wheat Mansoura University**

**Gather of Decision makers and Authorities attended the meeting and following up the presentation**


# Official Inspection / Assurance

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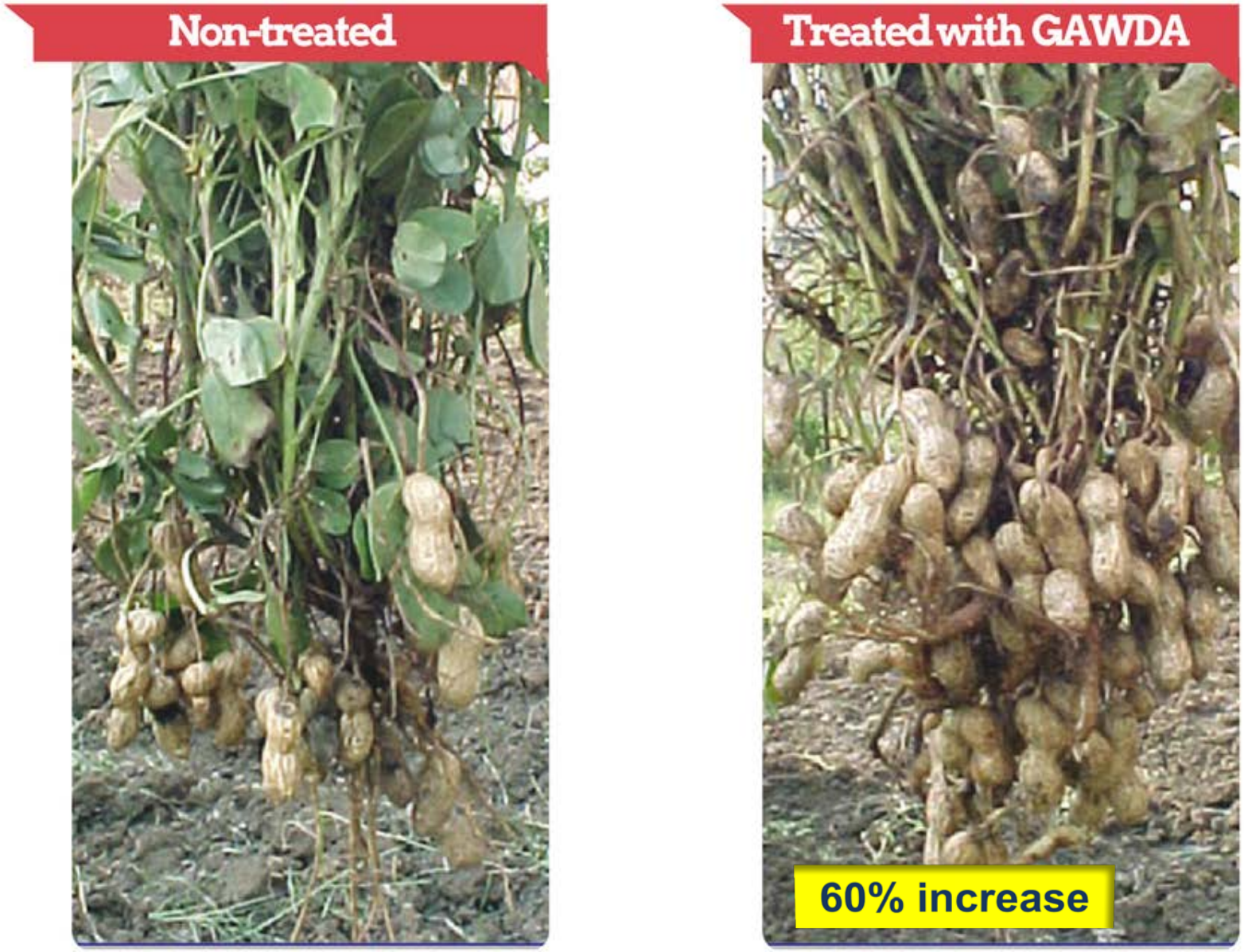
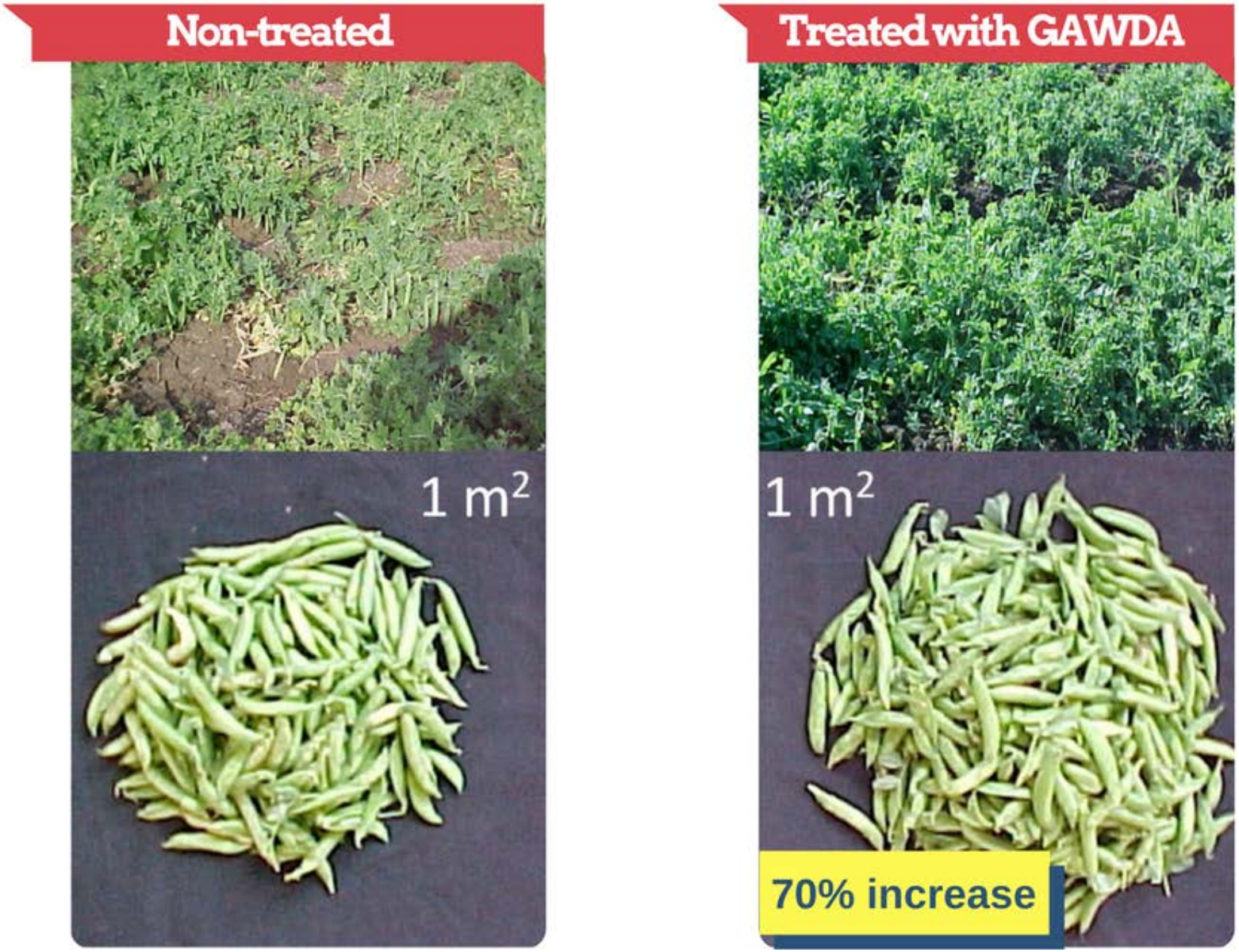
# OTHER
# Crops

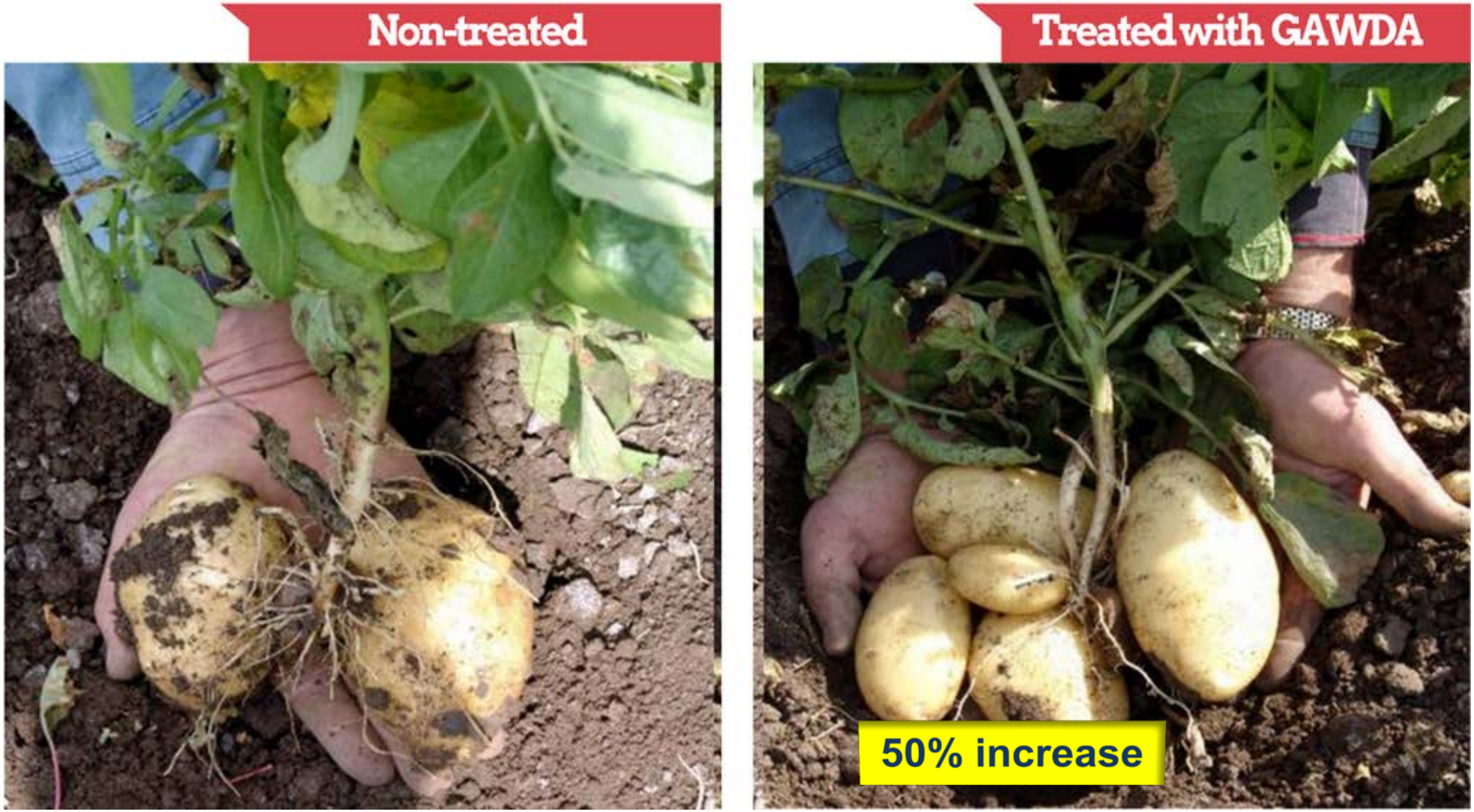
# Peanuts



# Green Peas



# Potatoes

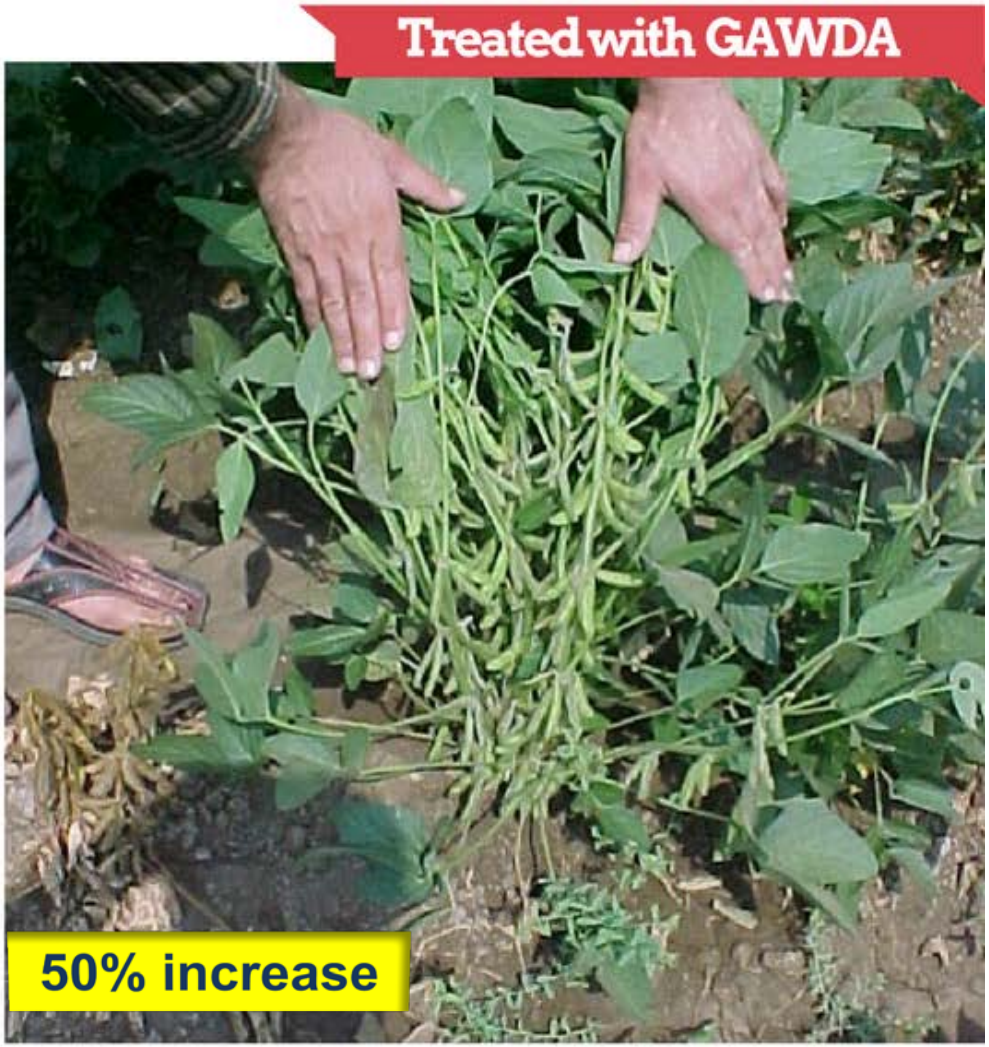


# Tomato

Non-treated

Treated with GAWDA

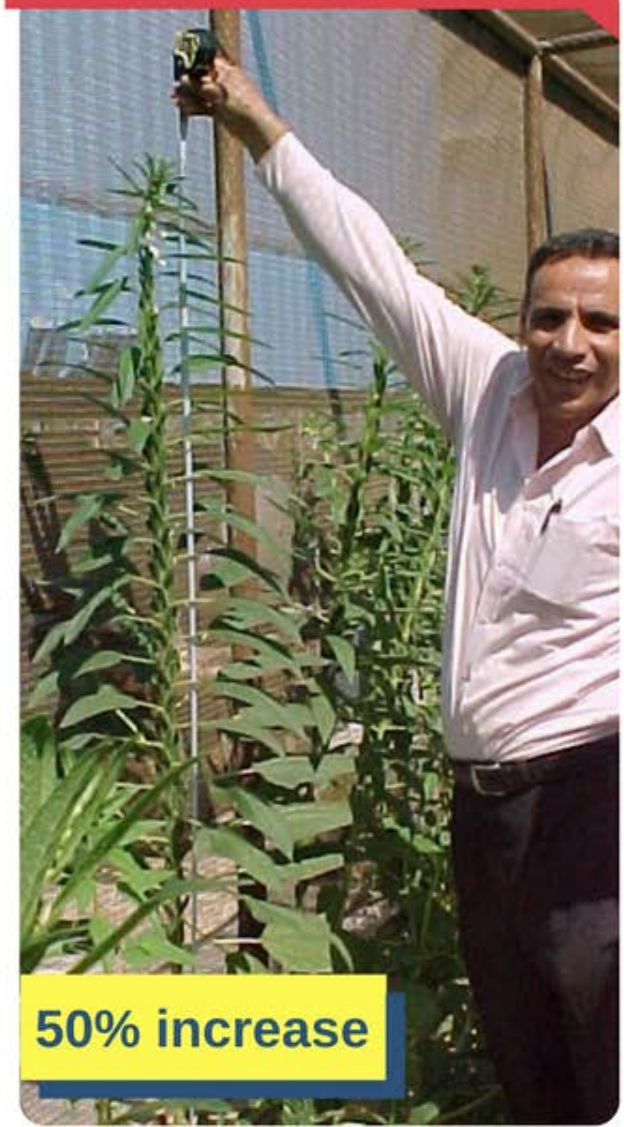
# Soybean

# Sesame

Non-treated

Treated with GAWDA



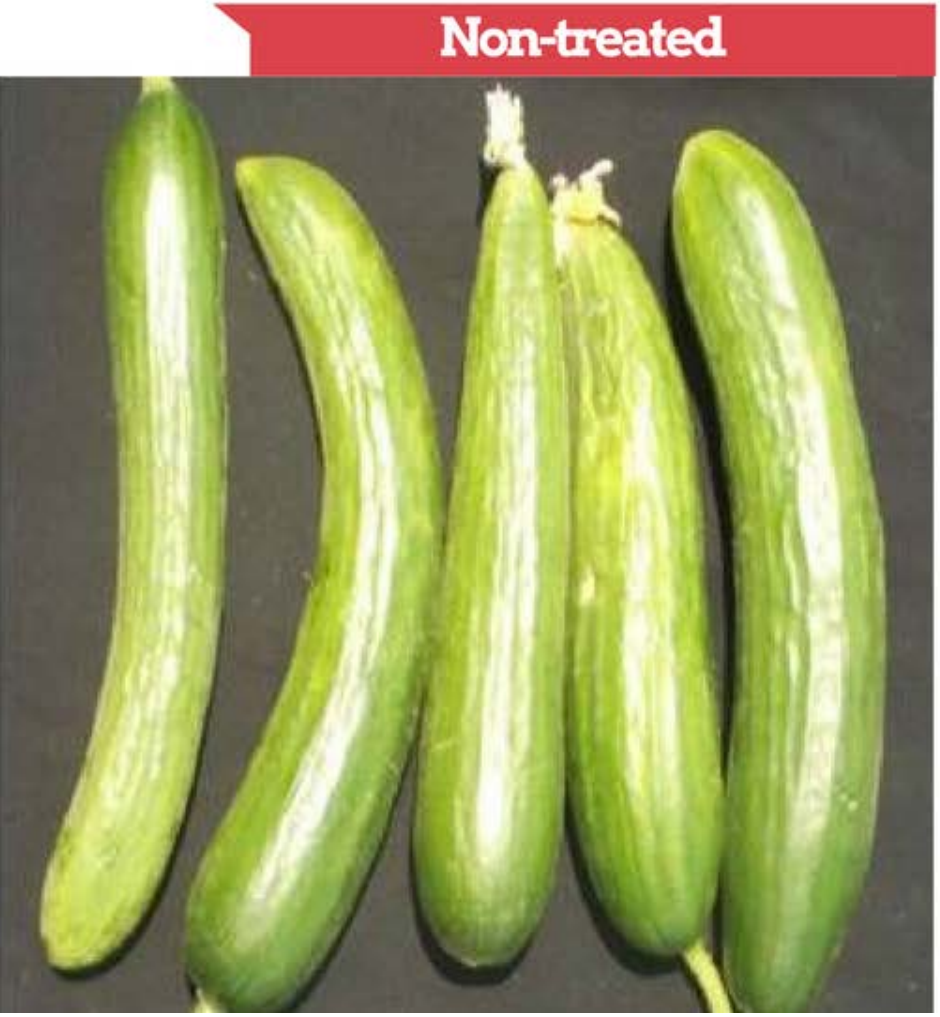
# Cotton

# Faba bean

(harvest of one plant)

# Sugar beet

# Cucumber




# Table Beet

Non-treated

Treated with GAWDA

# Table Beet

**Astonishment of the president of Mansoura university to see such size of table beet (~6kg)**

# Table Beet

**The root core is fresh and tasty (no senescence)**

# Table Beet

**The president of Mansoura University has received the PI of the project**

# Table Beet

Panel discussion with the board of Genetic Engineering And Biotechnology Center of the University

# Honors

The university board of Mansoura awarded Prof. Elwakil the Prize of Merit and shield of honor along with a prize for his patent

"A formulation for boosting the immune system of the plant and increasing the production".


***And nominated him for the World Food Prize.***

**The University president, vice-presidents and the ex-governor honor Prof. Elwakil**


**The Arab Fertilizer Association awarded Prof. Elwakil its annual prize for the best applied research in the Arab countries (2009)**

# AFA 2009 Award

## For The Best Agricultural Research or Practical Application

Dr. Mohammad Al Wakil

In line with AFA board policy, aiming at encouraging, honoring fertilizer industry researchers- materially and morally- acknowledging their efforts and presenting their scientific works, hence, contributing in the provision of an atmosphere motivating the scientific and creative competition and the development of fertilizer industry in the Arab region; AFA board has decided to grant an annual award to such an end to those working in fertilizers' agriculture use. The competing researches are not restricted to the staff of AFA board member companies; however universities, research centers and academic institutions of AFA board countries can also participate.

Competing research topics focus on increasing agriculture productivity via using mineral fertilizers, improving and raising the efficiency of fertilizer quality, protecting health and environment, promoting mineral fertilizers> usage and increasing sales.

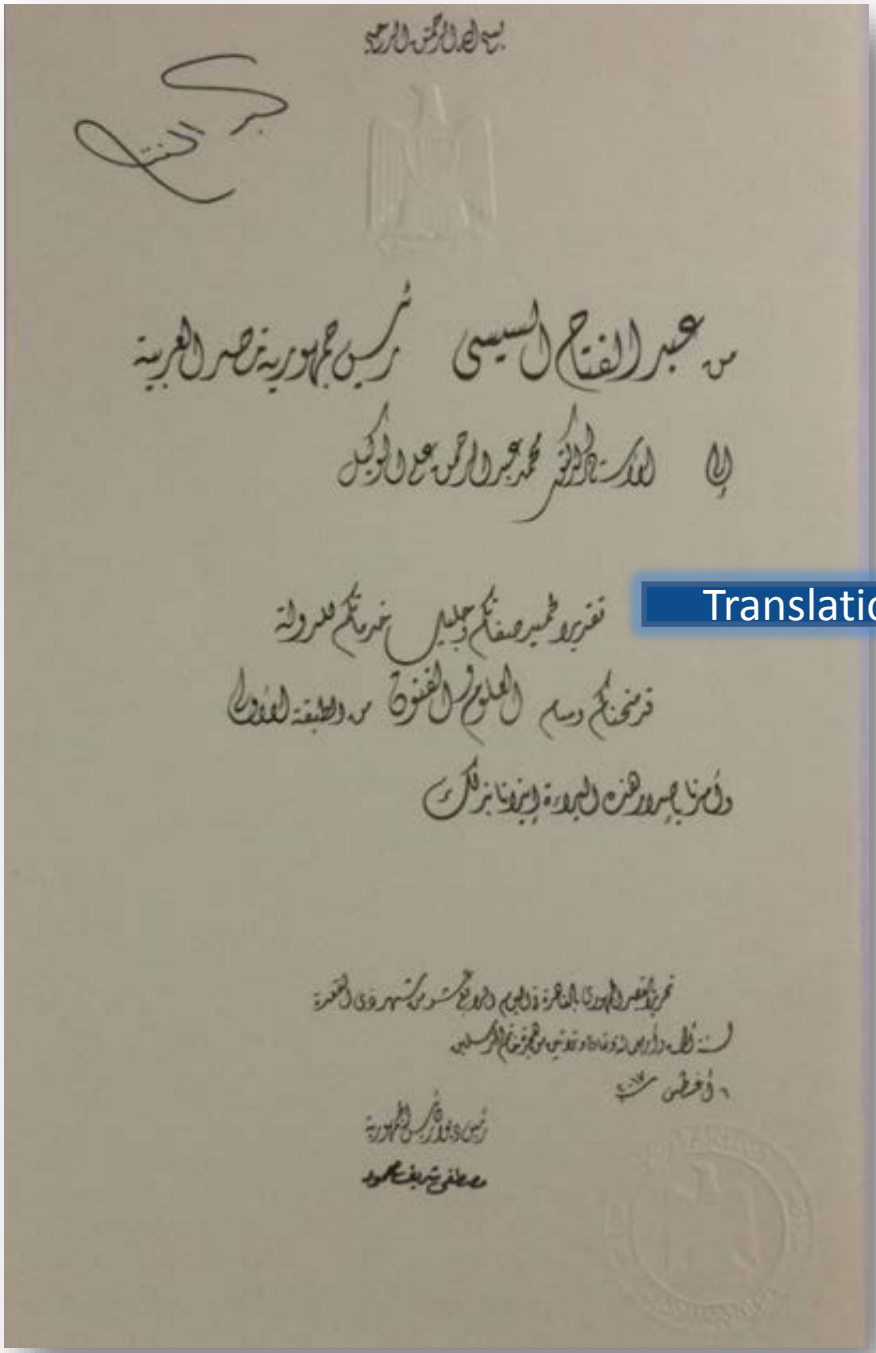
According to the Evaluating Committee of researches competing on 2009 award, formed by:

- Arab Organization for Agricultural Development — Sudan
- National Institute for Agricultural Research — Tunisia
- Dr. Ahmed Abo Aziz -Professor of Agriculture- King Hassan II University Morocco
- Dr. Ali Masmody – Faculty of Agriculture – Baskra University The winner of AFA 2007 Award
- Dr. Ghassan Hamad Allah – FAO Consultant

AFA Board came to a conclusion to grant AFA 2009 Award to
Dr. Mohammad Abd El Rahman Al Wakil
For his research:
Case Study : Application of New Formulated Fertilizer For Optimizing wheat Production and Produce High Quality Seed.


**The Egyptian Academy of Science and Technology awarded Prof. Elwakil the State Merit Prize and precious Golden Medal made by coinage authority.**

In August 2017, The president of Egypt, his Excellency Mr. Abd El-Fattah El-Sisy honored Prof. Elwakil the Wissam (order) of Science and Art of the first class along with a Golden state of the Art medal.



Translation

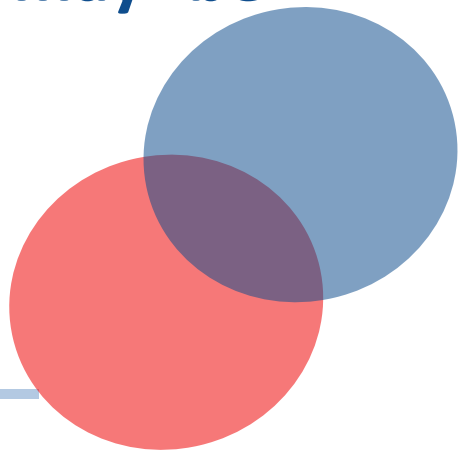
From Abdul Fattah El-Sisy, the president of Egypt to Prof.Mohamed A. Elwakil

In recognition of your Quality and your great service to the state, we have awarded you the order of science and art of the first class

# Massage

We invite all who have interest in agricultural sciences to direct their attention to our strategic vision for using green chemicals as a friendly environmental tactic to produce healthier food with less cost, protect the soil from the successive uses of toxic chemicals.

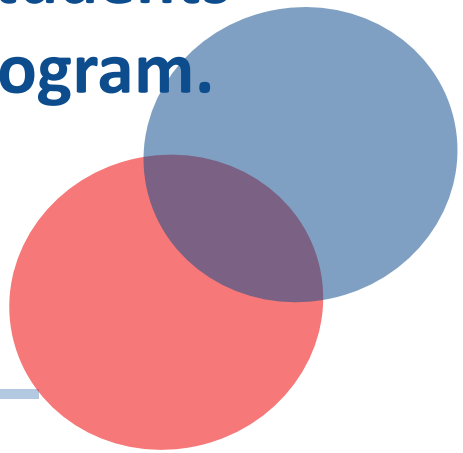
Also, the international private entities may be encouraged to invest in this innovation.



# Finally

I would like to thank the President of Egypt, his excellency Mr. Abd El-Fatah El-Sisi, The President of Mansoura University Prof. Mohamed El-Kinawy, The Arab Fertilizers Association, the ex Minister of Agriculture of Egypt Eng. Ahmed Ellithy.

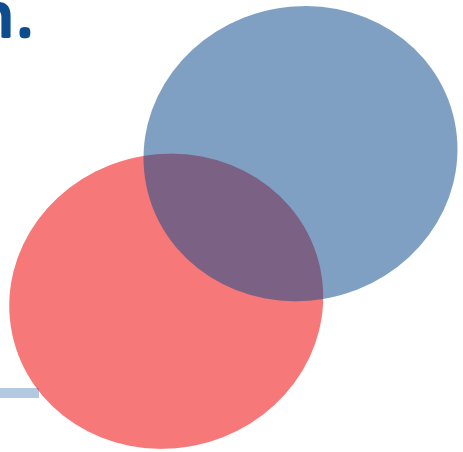
Also, many thanks to my colleagues and students who did a good job during the research program.



Our thanks also go to the University Information and Communication Center, Science Alert, ANSI*net*, Research gate, Google Scholar, Acadimia edu, Menedly, Scopus and Orcid.

Special thanks are due to Dr. M. Sarwar for making our finding open access.

And ready for your comments and discussion.



Lastly I have a Massage to his Excellency

Sheikh Mohammed Bin Rashid Al Maktoum

We invite your Excellency to embrace our initiative to narrow down the gap between the agricultural production and the human demand.

This long term research project was carried out on a number of the main food crops and vegetables, proved that green chemicals have a potential to protect the environment from the successive uses of toxic chemicals and ramp up the yield and produce healthy food for keeping the forthcoming generations healthy and productive.

Education is the most powerful weapon which you can use to change the world.

Nelson Rolihlahla Mandela

1918 – 2013

# Thank You For Your Attention