

# Farmers' Production Challenges to Meet Export Markets Expectations

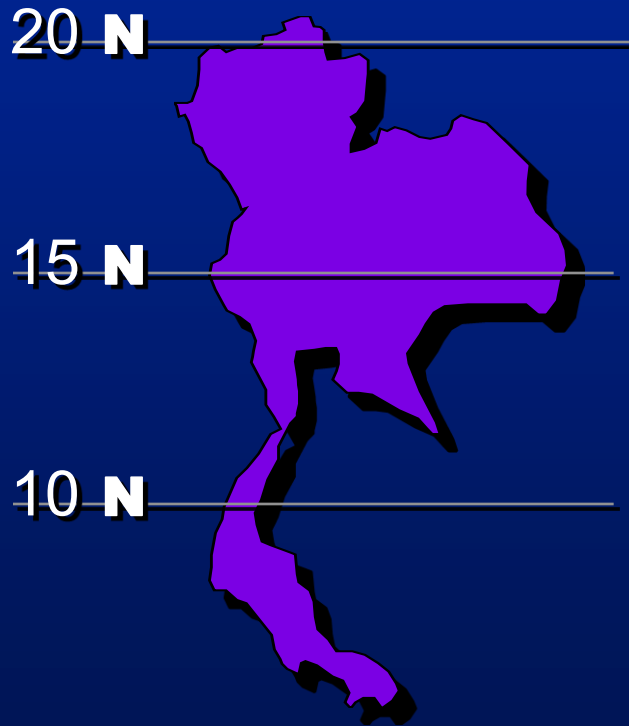
Dr. Suwit Chaikiattiyos,  
Director, Horticulture Research Institute

- ◆ **Background Information**
- ◆ **Potential in production**
- ◆ **Constraints**
- ◆ **Challenges to meet export**
- ◆ **Conclusion**

# Background Information

# Thailand

## Southeast Asia



**Average temperature**

**\* day : 30 °C**

**\* night : 20 °C**

**Annual rainfall**

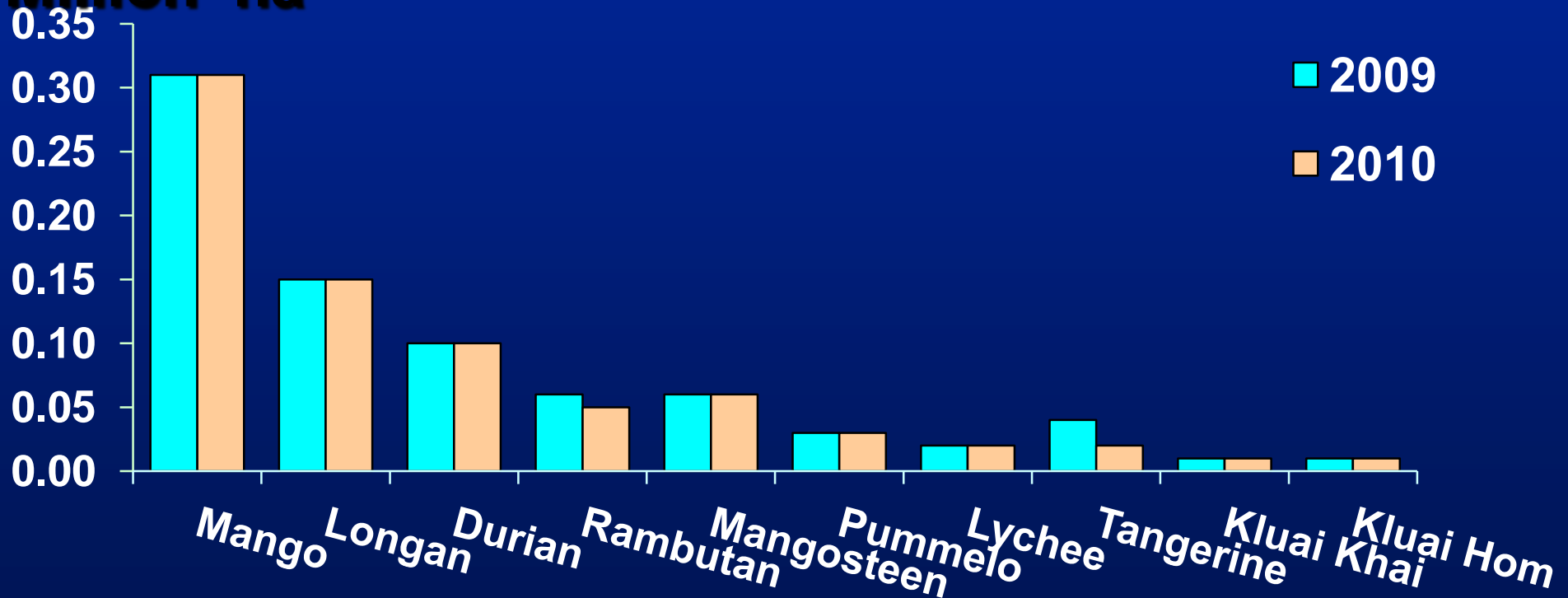
**900 - 4000 mm**

# National Cultivation Area

- **Total national area :** **51 m.ha**
- **Agricultural area :** **21 m.ha**
  - Fruit & industrial crops** **4.4 m.ha**
  - Vegetables & ornamental** **0.19 m.ha**

# Cultivated area of fruit crops (2009-2010)

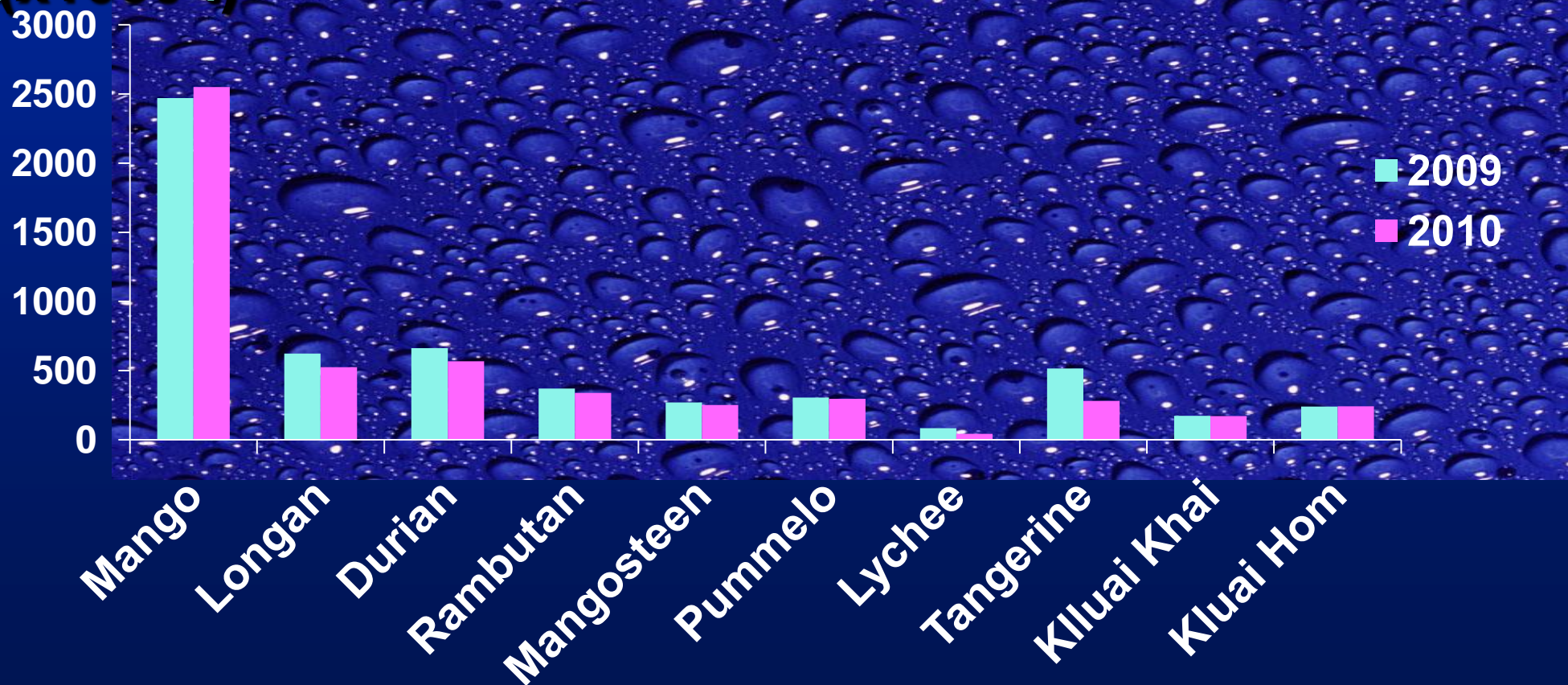
Million ha



Source: Office of Agricultural Economic, 2010

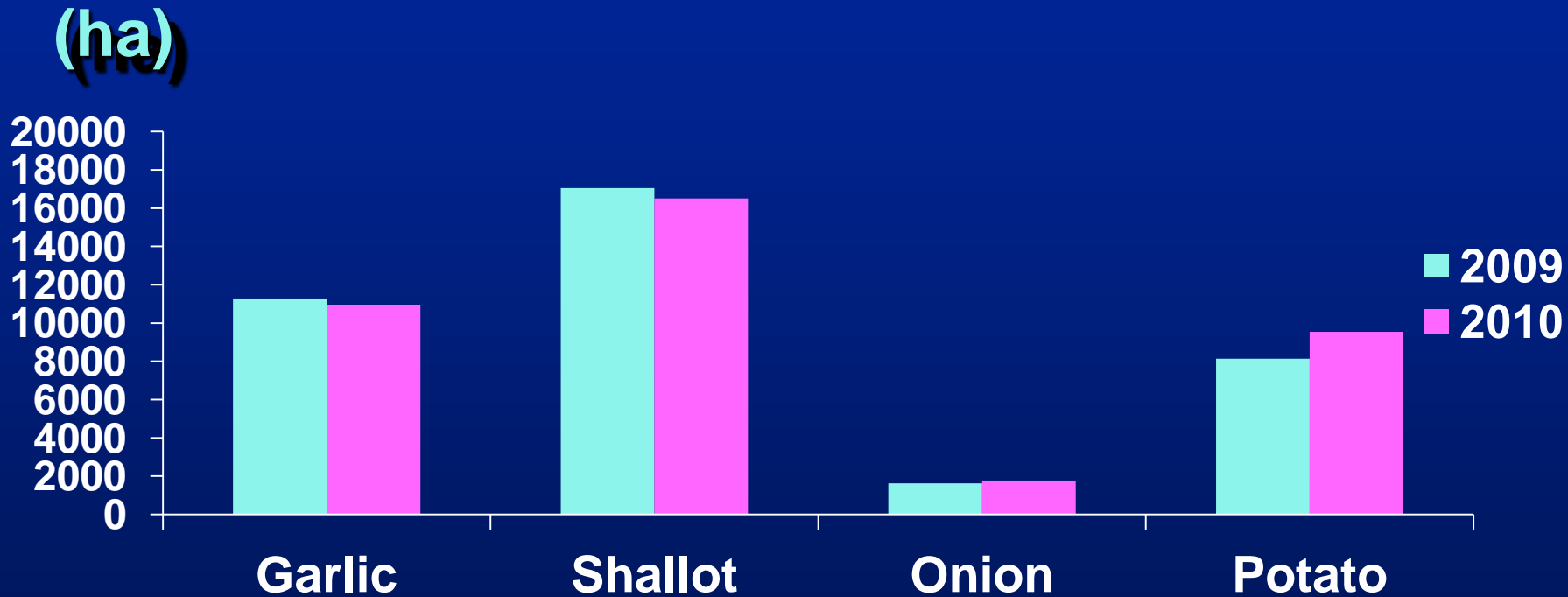
# Major fruit production (2009-2010)

(x1000 t)



Source: Office of Agricultural Economic, 2010

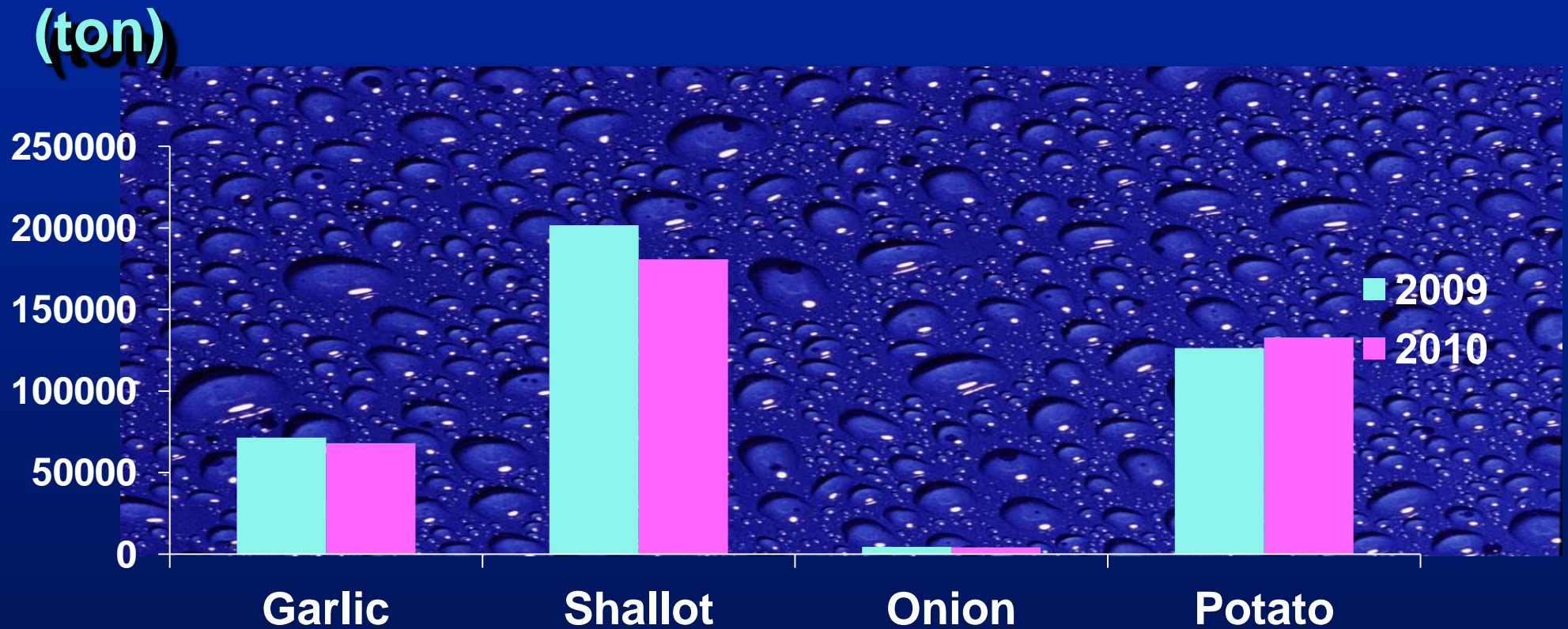
# Cultivated area of vegetables (2009-2010)



Source: Office of Agricultural Economic, 2010



# Major vegetables production (2009-2010)



Source: Office of Agricultural Economic, 2010

# Export and potential fruits & vegetables



## Export crops

Mango, Longan, Durian, Lychee, Mangosteen.

## Potential crops

Pumello, Papaya, Rose apple, Banana.



## Export crops

Chili, Okra, Asparagus

## Potential crops

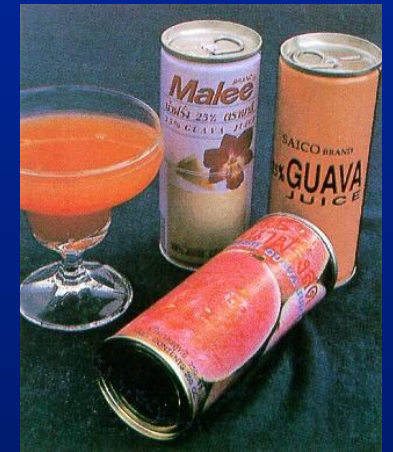
Ginger, Sweet potato

# Top ten of principal agriculture export (2010)

Rubber & products	(1st)	: 8,367	m. \$US
Rice & products	(3rd)	: 3,323	m. \$US
Fruits & products	(6th)	: 1,468	m. \$US
Sugar & products	(8th)	: 1,160	m. \$US
Cassava & products	(9th)	: 1,143	m. \$US
Veg. & products	(12th)	: 686	m. \$US



# Great varieties of canned fruit and juice



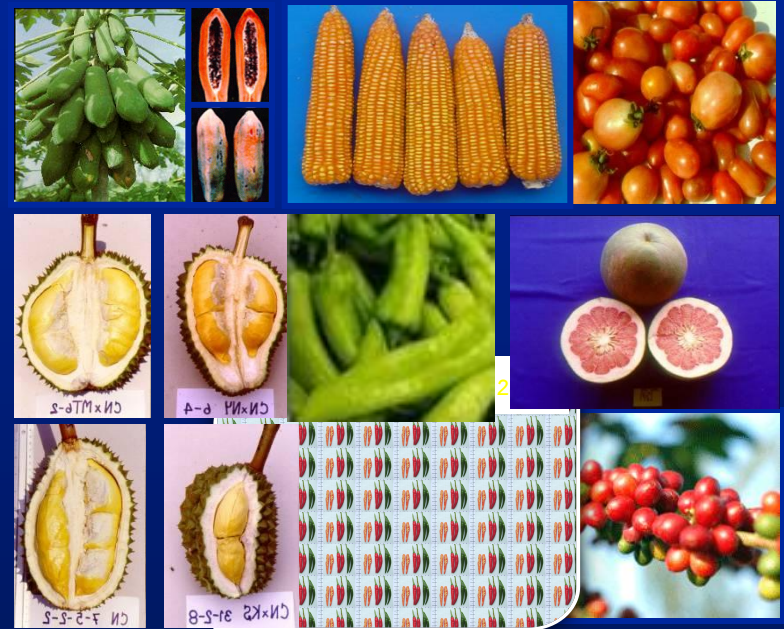
# Potentials in Production

- ◆ **Diverse source of genetics**
- ◆ **Climates suitable for various tropical and sub-tropical crops**



- ◆ **Farmers of good skills**
- ◆ **New technologies allow all year round production in specific crops**





**334 tropical fruit sp.  
found in Thailand**

**Several  
promising lines  
bred regularly**

# Constraints



# Production problems

- ✦ **Small-scale orchards**
- ✦ **High cost of fertiliser & chemicals**
- ✦ **Relatively low farm-gate prices**



# Marketing problems



◆ **Quality of produce**  
◆ **Irregular supply in some crops**

◆ **Post harvest handling**  
◆ **Transportation cost**

# Challenges:

- ◆ Implementation of national food safety program
- ◆ Strengthening in controlling quality standards
- ◆ Nutritional traits for better produce

# **Implementation of national food safety program**

- ◆ **National policies**

**(In 2003, Thailand defined itself as the World's Kitchen and addressed the food safety year)**

- ◆ **Support in R & D program**

- ◆ **Revised attention to GMOs utilisation**

- ◆ **Extend implementation to farmer's co-operative groups**

# **Food Safety Strategies in 2004**

- ◆ **Controlling quality of agricultural input & raw materials**
- ◆ **Encouragement GAP certification**
- ◆ **Certification of GMP & HACCP certified factories, packing houses, SO<sub>2</sub>, fumigated plants, methyl bromide fumigated plants**
- ◆ **Controlling quality of export produces & products**

# Changes in R&D strategies

- ◆ **Year 1960– 2000**  
**increasing yield / productivity**
- ◆ **Year 2000 – 2007**  
**minimizing chemical residue**
- ◆ **Year 2007 onwards**  
**increasing nutritional / health**

# **Strengthening in controlling quality standards**

- ◆ **Importers require safe products that can be traced back**
- ◆ **Certificates of chemical residue**
- ◆ **Certificate of Good Practice**
- ◆ **Certificate of GMP & HACCP**

# MOAC encourages growers to comply with GAP guidelines in FFV production

(enforced by DOA)

- ◆ **(2003)** 12 kinds of fruit and vegetables to 7 countries are recommended to produce under GAP procedures
- ◆ **(2004 – 2008)** 29 kinds of fruit and vegetables are produced under GAP and GMP procedures
- ◆ **(2008-2009)** 19 kinds of herbs are produced under GAP procedures



◆ **Inspection and certification of GAP farms**

◆ **Inspection and certification of organic farms**

◆ **Inspection and certification of GMP packing houses**

◆ **Over 120,000 farms**

◆ **Over 2,000 farms**

◆ **Over 700 plants**



# Quality control



- ◆ One of the governmental policies emphasized on quality control of products before being exported.
- ◆ Inspection and analysis carried out under the 'Office of Export Control and Inspection System for Food and Agricultural Products'

# Different analysis for quality certification



- ◆ Sanitary Certificate
- ◆ Mycotoxin Certificate
- ◆ Analysis certificate
- ◆ Microbiology Certificate
- ◆ Mercury Certificate
- ◆ Health Certificate
- ◆ Cooking Certificate
- ◆ Filth Certificate
- ◆ Endorsement Certificate

# **Nutritional traits for better produce**

- ◆ **Breeding program in order to obtain lines with rich in nutrition and vitamin increasingly needed**
- ◆ **Attention also paid on crops that provides different pigments eg. Encouraging**



# Various phyto-pigments found in crops of 5 different colors



**lycopene , anthocyanin**



**carotenoid, beta –carotene, Vit. A and C**



**zeaxanthine , thiocyanate, flavonoids**



**anthocyanin**



**anthoxanthin, allicin**

# Conclusions

**In order to meet export markets expectations, attention should be paid on**

- ◆ **National plan for Implementation of food safety program**
- ◆ **Strengthening in efficient controlling quality standards required (CODEX, ASEAN)**
- ◆ **R & D programs focusing on nutritional traits for better produce**



### Making a Difference

Flight Attendant Khattiya Pongpatanont and Air  
Purser Kant Kruegthong both enjoy serving  
passengers on Thai flights. Miss Khattiya joined





