

# Progress Report on Oil-Palm / Thailand

May-2011



2010



## •Introduction:

- Thailand cultivate 3,9 million Rai of Palm Oil Plantations.
- Oil Palms need a monthly Rainfall of not less than 150 mm, dry spell shouldn't last longer than 60 days.
- Plantation should not be higher than 300 meters above sea level, otherwise yield will be low.
- No more than 22 Trees per Rai should be planted as roots are dense and reach wide.
- Palm oil fruit branch can weigh up to 40-50kg
- **Test Site** is located in Trat Province, near to Cambodian Border, age of Plants 4 years.

## Plantation efficiency: comparing to Malaysia (Market leader)

- avg. Yield in Thailand - 2,45 tones/Rai
- Avg Yield in Malaysia - 3 tones ,18,3% more than Thailand
- Oil extraction in Thailand - 14%, Malaysia - 18%
- Malaysia run harvest in 3<sup>rd</sup> year Thailand only in 4<sup>th</sup> year

# Test Site: Trat Province



- Objective:
- Improve health of Palm
- Increase plant into more green Leafs
- Bring Plant earlier to Harvest
- Make Plant more drought resistant
- Increase weight of Oil Palm Fruit
- Increase numbers of fruit
- Increase oil content of Seeds
- Intl.: 100kg Fruit Branch deliver 22kg Palm Oil and 1.6 kg Palm Kernel Oil
- Compare above standard with Test Site and close efficiency gap
- Intl.: Oil Yield 1,160 liters / Rai (7,250 liters/ha)
- Avg Harvest of 1,6 tones of fruit and 80 kg of Kernels / Rai



# Actual Situation

July 2010



## Actual:

- 23 Palm /Rai
- 8 Month /year Rain, 4 Month without
- only 20 kg weight per Palm Fruit (max)!
- no Insect problem except Rat eat Palm Fruit
- output depend on age ( to be defined )
- will clarify cost of farming on next visit / set HG target
- Plantation need more Female than Male flowers
- need larger Fruit with thicker Skin
- need bigger and wider Body, resulting in more fruit
- Leafs are dry and yellow, need more green and wider



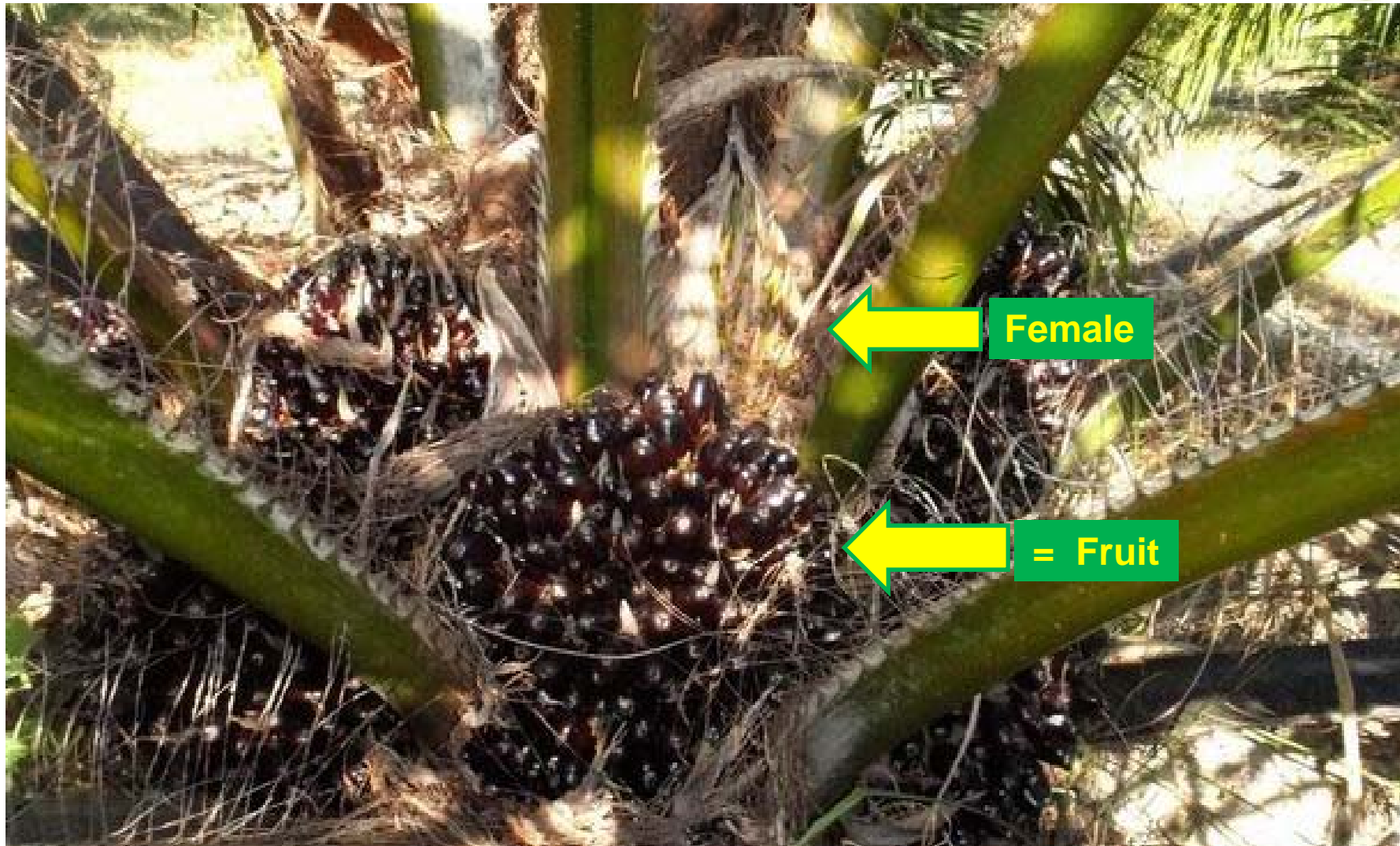


# Visual review after 5 ½ month

January 2011



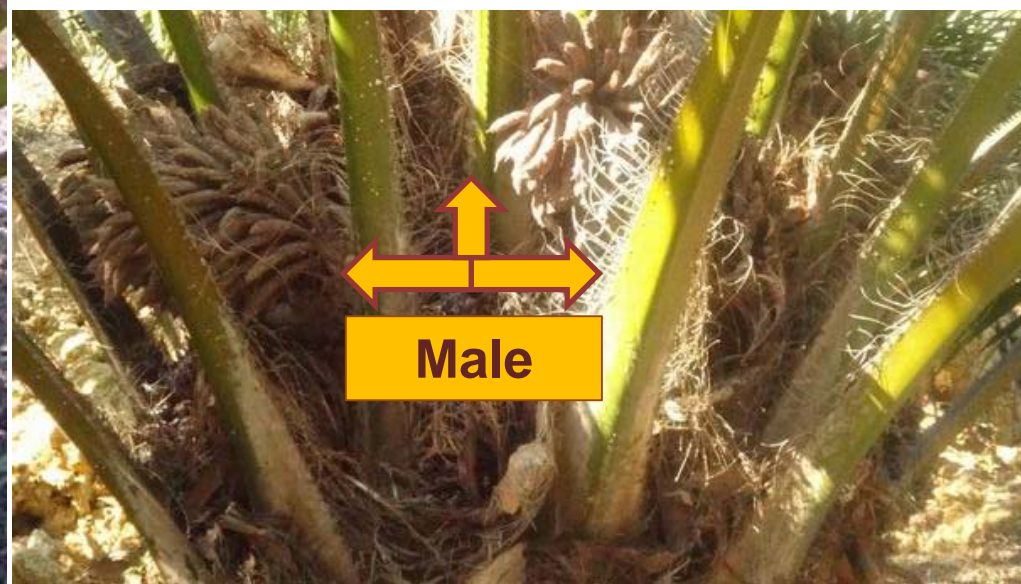
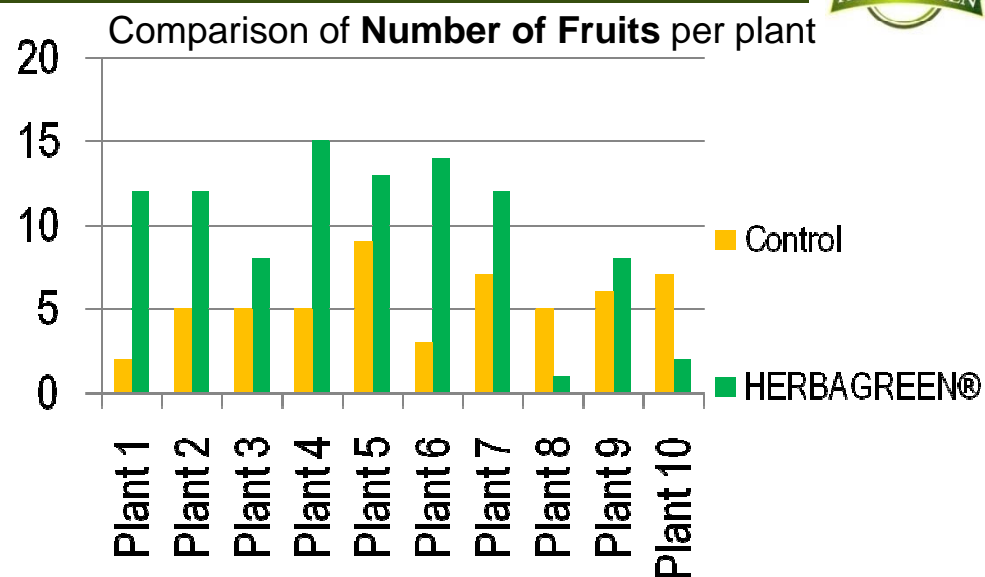
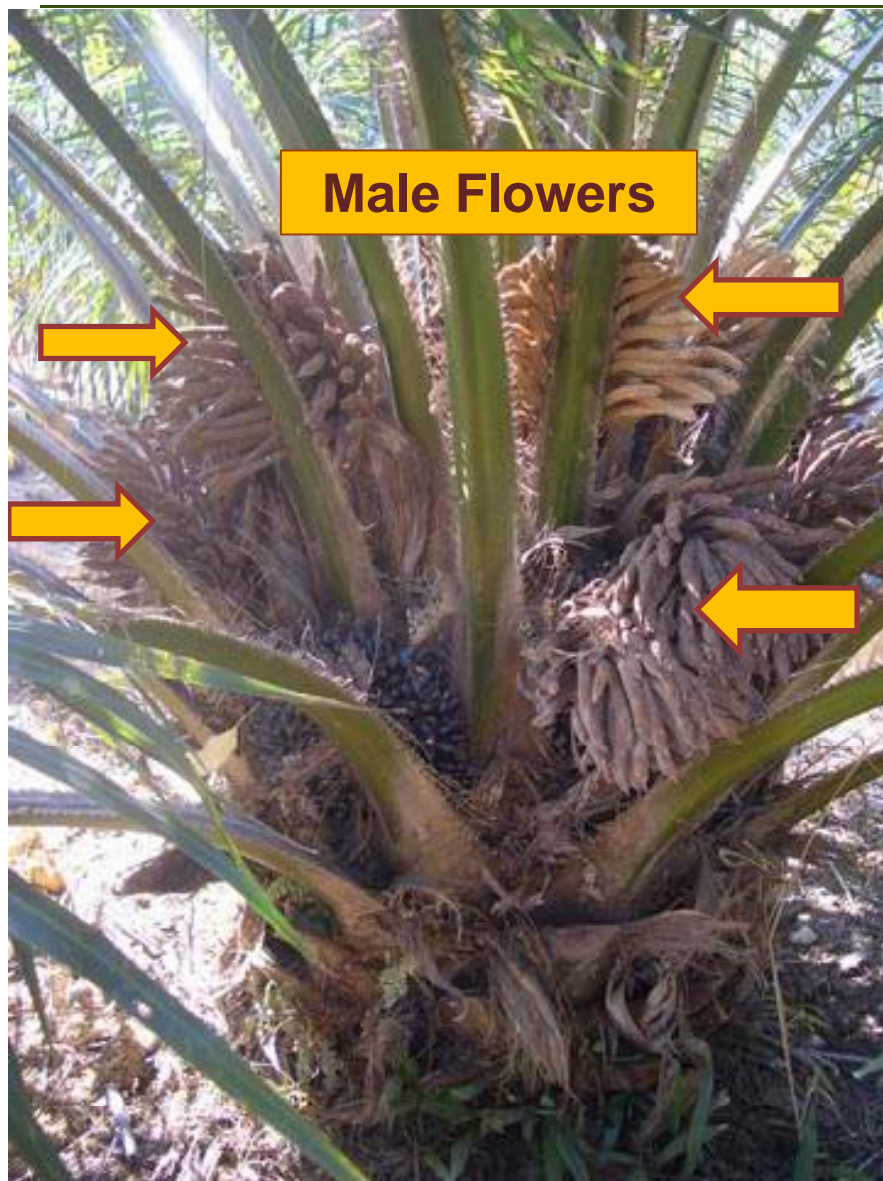
**HERBAGREEN®** 2 - 4 time sprayed



**Female flower = Fruit**



# Control plant





Average Result: **HERBAGREEN®** - 9,7 fruit/plant, Control - 5,4 fruit/plant





# ***HERBAGREEN®***

**up to 21 fruits / palm, higher avg. yield by 89% !**



Test phase of 10 month	No. of Palm	1 <sup>st</sup> harvest 5. 2. 11	2 <sup>nd</sup> harvest 20.2.11	3 <sup>rd</sup> harvest 18.3.11	4 <sup>th</sup> harvest 26 .4.11	Total harvested	Average per palm	yield difference
<b>HERBAGREEN®</b>	800	1,380 kg	2,300 kg	5,915 kg	9,025 kg	18,620 Kg	23.28 Kg	+ 89%
Control	3000	1.910 ka	4.250 ka	12.000 ka	19.425 Ka	37.585 Ka	12.53 Ka	



# Final test result

May 2011



- Age of Palm - 4 ½ year
- **HERBAGREEN®** plot contain 800 Palm
- **Control plot** contain 3000 Palm
- **HERBAGREEN®** Palm were sprayed 2 times, few 4 times
- 27<sup>th</sup> July 2010, first spray application with **HERBAGREEN®**
- **Harvesting:**
  - 1<sup>st</sup> harvest was on 5<sup>th</sup> February 2011: (**HERBAGREEN®** + 171%)
  - 2<sup>nd</sup> harvest was on 20. February 2011 (**HERBAGREEN®** + 103%)
  - 3<sup>rd</sup> harvest was on 18. March 2011 (**HERBAGREEN®** + 84%)
  - 4<sup>th</sup> and last harvest was on 26. April 2011 (**HERBAGREEN®** + 86%)
- At the end of this 4 harvests a conclusive first test result showed a **yield increase of 89 % by HERBAGREEN®** - compared to control plot. (see previous slide)
- It can be said that HG palm developed substantial more female flowers, resulting in **more but also larger palm fruits**.
- From the feed back of the plantation owner, the harvested **HERBAGREEN® palm fruit appears to be more heavy** within the same size of fruit!
- The overall **HERBAGREEN®** Palm condition was easily recognizable by its **healthier appearance**, darker and more vital leafs.