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**Regional Sericulture Training
Centre For Asia-Pacific
(RSTCAP)**

**Dept. of Sericulture, College of
Animal Science**

Dr. Ji-Ping Liu

**South China Agriculture University
Guangzhou, China**



Silk in China

- China is the cradle of the world's sericulture, and it has a long history of 5000 years.
- As early as two thousand years ago, it was called the “silk country”. Now, China is the largest silk producer and exporter in the world.





Sericulture in Guangdong

- Guangdong Province is one of the major silk-producing regions in the country.
- Owing to its **adequate climatic conditions** and to the traditional techniques, the production of silkworm cocoons **per hectare stands in the world's**.
- The techniques of mulberry planting and silk producing in the province are comparatively adaptable to **tropical** and **subtropical** zones.

Sericulture in SCAU/RSTC

- In Nov. 1982, to promote the sericulture development and technical cooperation among the developing countries,**
- UNDP, FAO and the Chinese Government co-sponsored the Regional Sericulture Training Centre for Asia-Pacific (RSTC) in the South China Agricultural University (SCAU),**
- With a view to assisting those countries interested in sericulture by training personnel in S & T and management in this field.**





Staff in RSTC

- In the Sericulture training center, There are now 15 staff, and 4 professors, 7 associate professors and 4 lectures.
- 8 Ph.D
- 6 Ph.D students,
- 45 MS.C





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Sericulture On-going in RSTC/SCAU



1) Silkworm physiology and Bio-technology

**What about
silkworm? How
is the silk
fibre
made?**

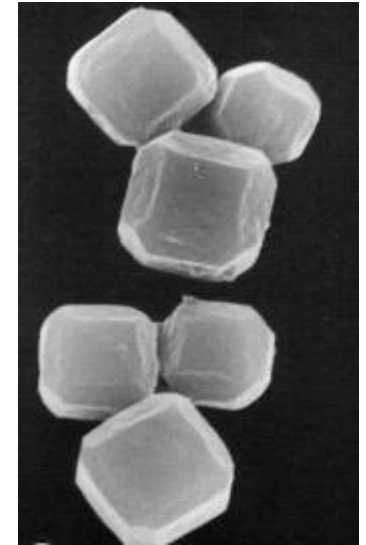
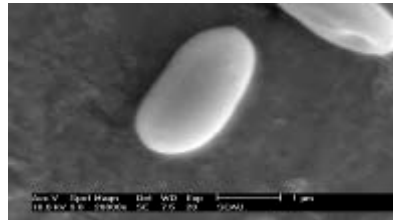




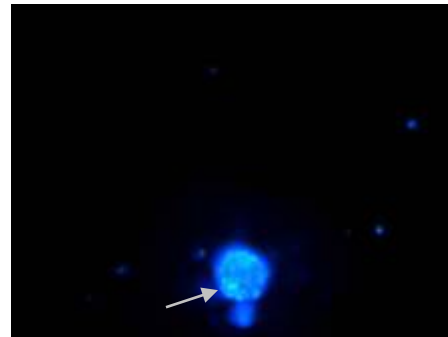
2) Silkworm Disease and its control



Pebrine Disease



Bacteria Disease



Disinfectant and Control



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3. Mulberry Cultivation and Breeding and pest control



2006 10 23



华南农业

大学

Mulberry Variety



伦40



试11



粤诱33



新1



塘31



大10



苗66

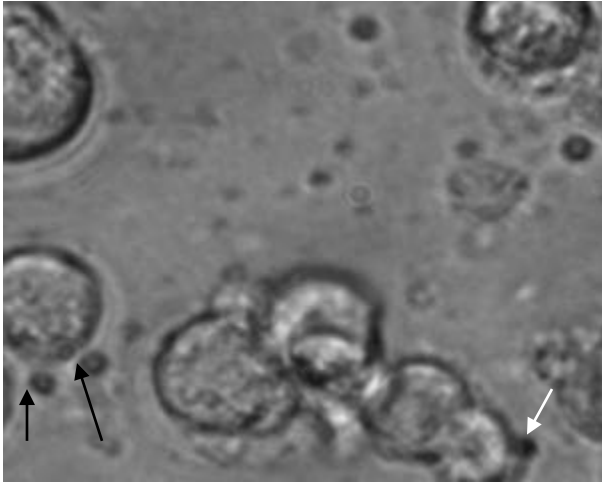


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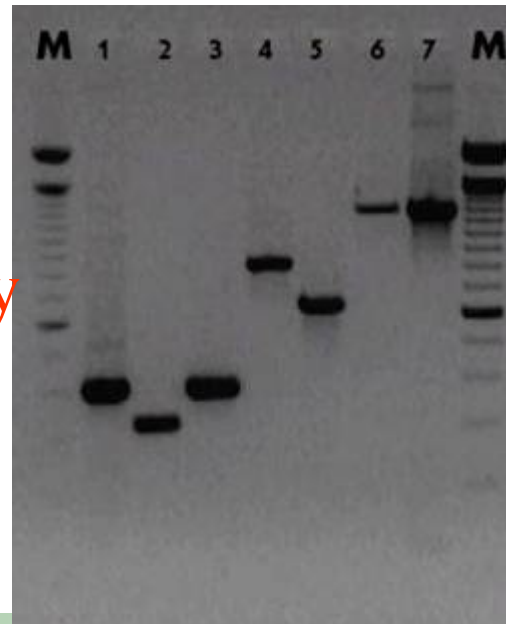


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Silkworm Bio-technology



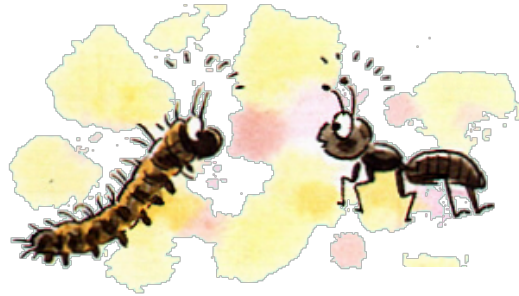
cellular and molecular biology



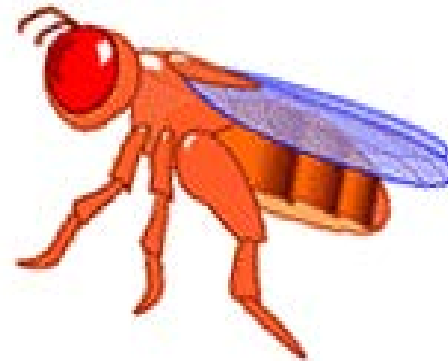


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Comparison of silkworm and other insects



Vs



Silkworm gene count 18,510

Fruitfly gene count 13,379

Silkworm genome size 480Mb

Fruitfly genome size 117Mb



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Silkworm as a Model of Pests

Over 50% pests of Agro-forest are Lepidoptera

N.b-Bombyx a Model of Parasite and Pests??





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Silkworm Rearing & breeding





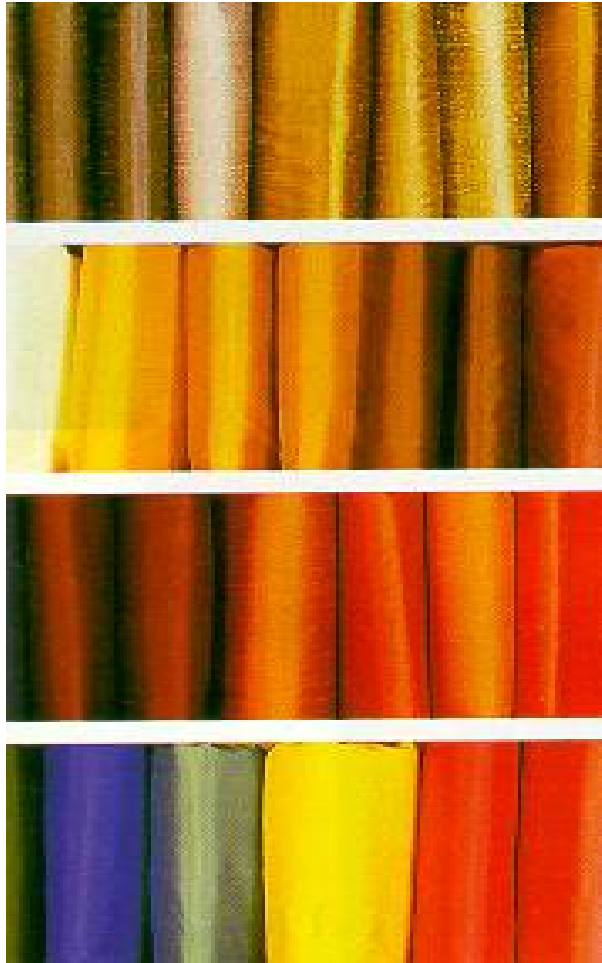
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Cocoon and Silk Reeling



Reeling Factory

Silk Costume/ Designs Dresses



Indian Sari or saree



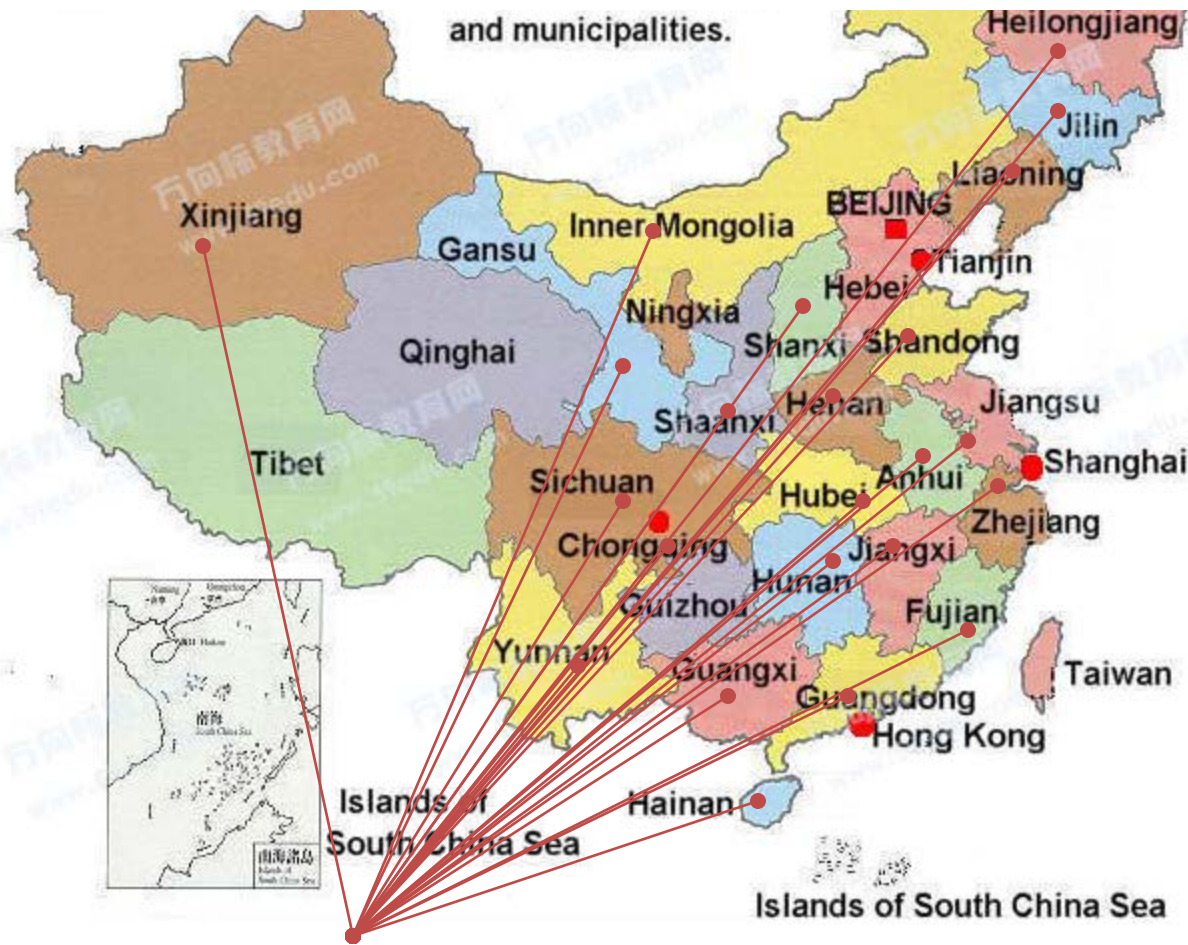
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Application of natural colorful cocoon



Cocoon flower

The comprehensive utilization of resources are very rich in sericulture



Sericulture resources all over the country's 26 provinces (cities, districts) more than 1,000 counties

The national annual output of **600,000 tons** of fresh cocoons resources:

- 
- 120,000 tons of silk
 - 480,000 tons of fresh pupa
 - 1.8 million tons of mulberry branches
 - 600,000 tons of mulberry Fruit
 - 900,000 tons of silkworm excrement
 - 810,000 tons residual mulberry



Utilization silkworm pupae

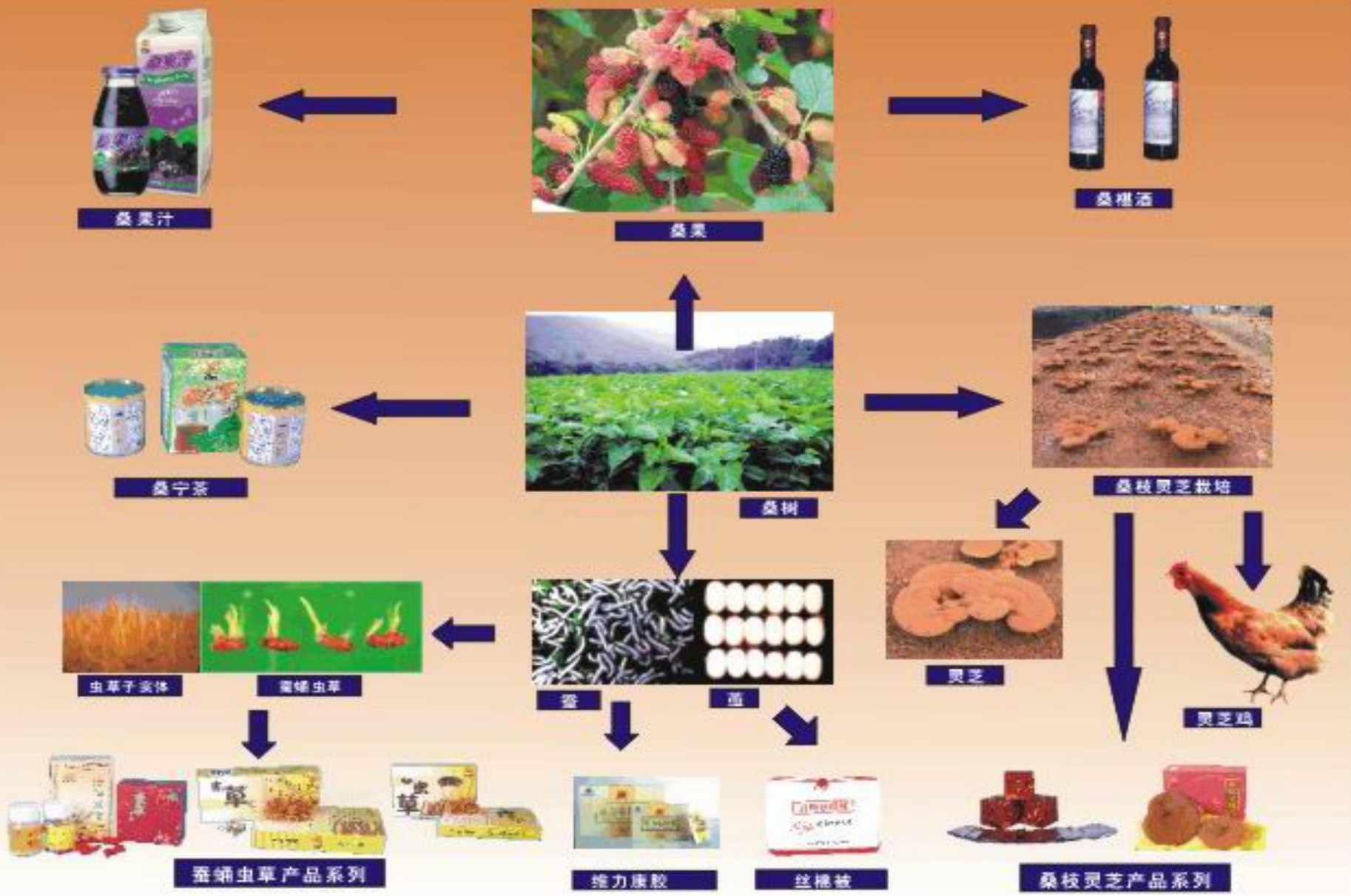


Pupae protein



Pupae for table

Utilization Mulberry and silkworm





8. Seri Culture & silk culture





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Sericulture Activities in RSTC/SCAU



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So, no need your any more aid ?

Congratulations, China

**(So, no need for
any more aid,
then?)**





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1.S&T cooperation and promotion



**Workshop on Sericulture Based on Biotechnology in
Thaksin Uni., December, 16-21 , 2002, Thailand**

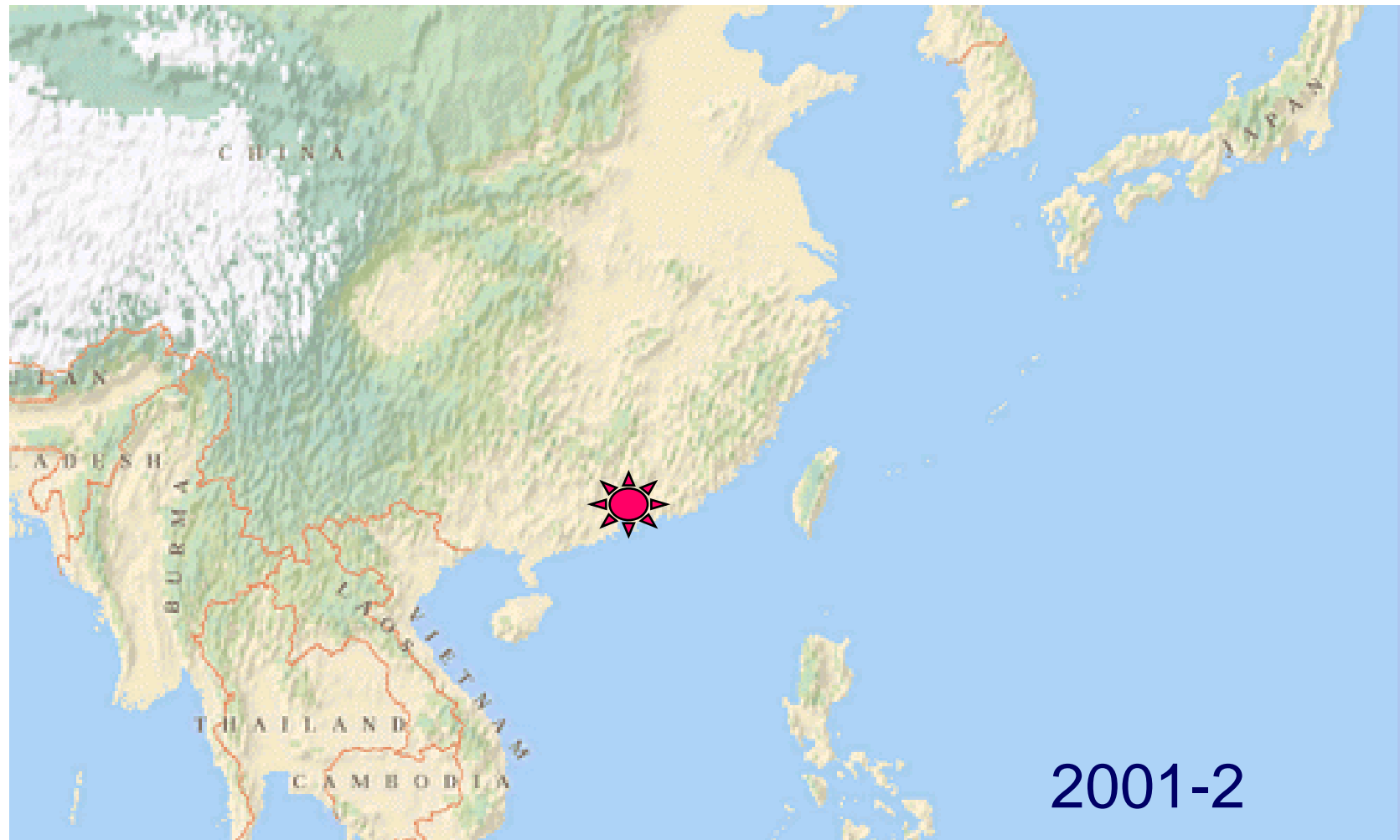


Result of Cooperation with Thailand government,2011



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Construction Cooperation Net



2001-2



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Construction Cooperation Net



2002-3



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Construction Cooperation Net



2006-4



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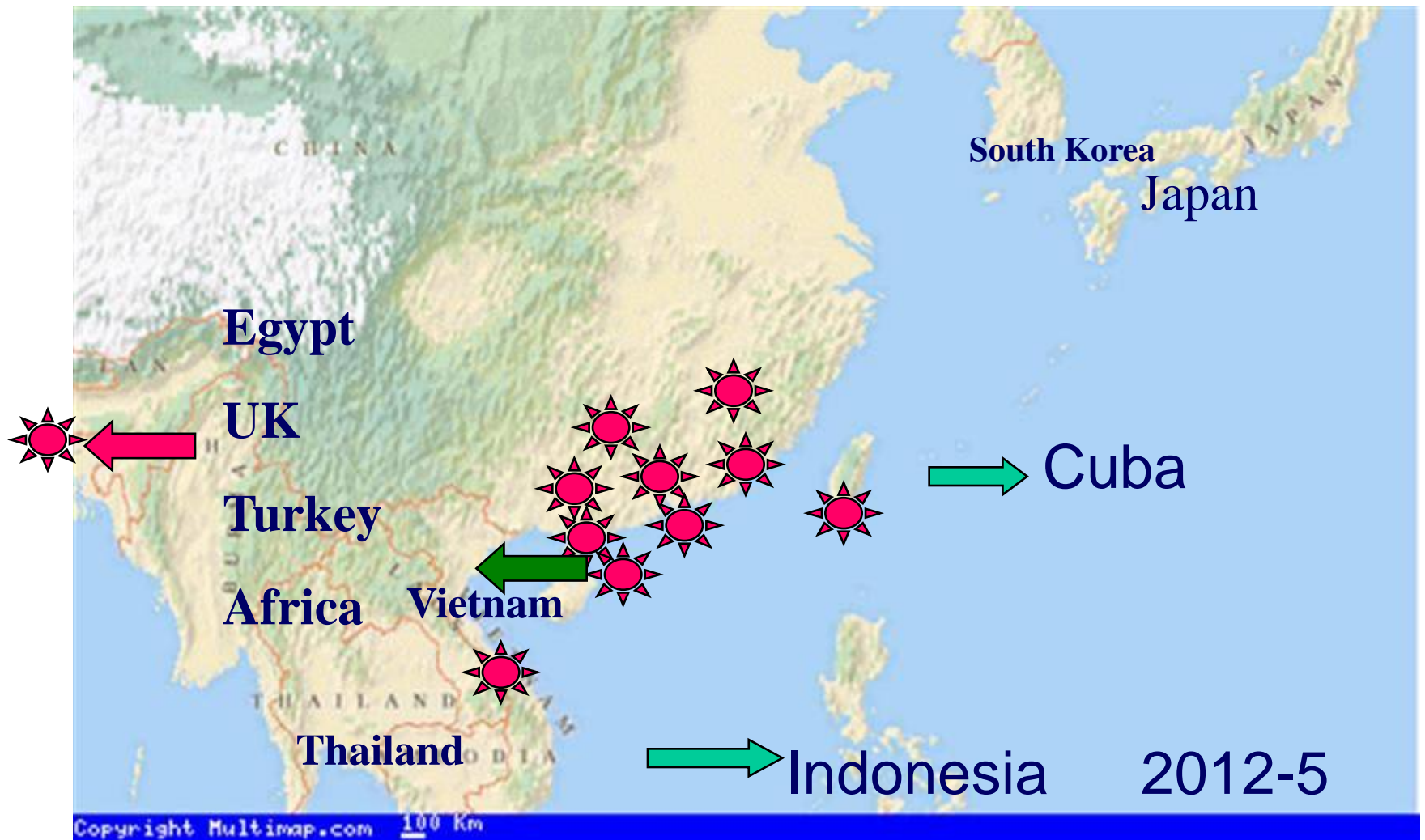
Construction Cooperation Net





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Construction Cooperation Net



2012-5



Course in RSTC

- The curriculum for the field offered includes:
- Mulberry Cultivation,
- Silkworm Rearing,
- Silkworm pathology,
- Silkworm egg production.
- (optional)





Special topics (optional)

- The special topics given include:
- Silkworm Anatomical Physiology,
- Silkworm Genetics and Breeding,
- Silkworm rearing safely and management,
- Prevention and Control of Mulberry Plant diseases and insect Pests,
- Marketing of Silkworm Cocoons and Cocoon Drying,
- Processing of Raw silk,
-





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Training Course in RSTC (Dept. Sericulture)

- **The curriculum for the field offered includes:**
- **Mulberry Cultivation,**
- **Silkworm Rearing,**
- **Silkworm pathology,**
- **Silkworm egg production,**
- **(optional)**



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Special topics (optional)

- **Silkworm Anatomical Physiology,**
- **Silkworm Genetics and Breeding,**
- **Mulberry Genetics and Breeding,**
- **Prevention and Control of Mulberry Plant diseases and insect Pests,**
- **Marketing of Silkworm Cocoons and Cocoon Drying,**
- **Processing of Raw silk.....**





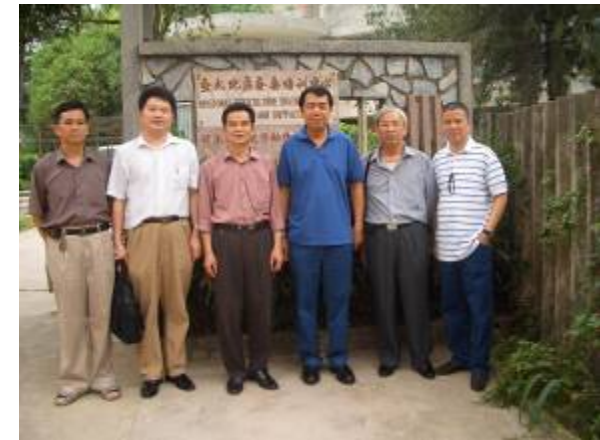
Activities in RSTC

- **During 1982-2012, 22 training sessions have been sponsored by FAO.**
- **With more than 350 participants from 42 countries, mostly from Asia-Pacific Regions, and partly from Middle East, Africa and Latin America.**



Present Activities in RSTC

- **Leeds University, UK.**
- **Tokyo University, Najoja University, Juba University, etc. Japan**
- **Thaksin University, Thailand**
- **Bengal**
- **National Department of Agriculture, Egypt**
- **Bandung University, Indonesia**
- **Indonesia IPB**
- **Suwon Uni. , Korea**
- **Vietnam Sericulture Research Centre**





The others

- Collaborating to foster Bachelor, Ms.C and Ph.D students in SCAU;
- E.g., share courses, and research work in two sides laboratory





What can RSTC do?

1. **Fast growing and high yielding mulberry cultivation techniques**
2. **Breeding silkworm varieties of good resistance and good silk quality**
3. **Labour saving rearing techniques**
4. **New disinfectants and integrated control of silkworm diseases**
5. **Cocoon grading, pricing and drying techniques**
6. **Filature techniques**

Cooperation between RSTC and Institutes in Asia-Pacific

- 1. Jointly implement the sericulture project in your country under the international funds**
- 2. Feasibility report and agreement on cooperation**
- 3. Training for trainers and training for farmers**
- 4. Demonstration farm**
- 5. Supply of silkworm eggs and Mulberry seeds/seedlings to the farmers**
- 6. Technical extension**
- 7. Cocoon and silk processing**



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S&T promotion



Cocoon shows in Latin America,2011

Contact in RSTC

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The Thai Silk Association



Thanks for your attention !
Welcome to visit RSTC!