

GACP for medicinal plants

GAP

- Selection of medicinal plants for **cultivation**
- Selection of propagation materials
- Selection of cultivation site
 - Environmental conditions
 - soil
 - Climates
 - Temperature
 - Length of day
- Methods of cultivation
 - Standard operation procedure
 - Maintenance and pest managements
- Methods of harvest

GFCP

- Selection of medicinal plants and their parts for collection from **wild population**
- **Assessment of availability of wild population of target medicinal plant and parts**
- **Selection of collection site**
- **Authorization for collection**
- **Consider for conservation**
- **Concentration level of toxic constituents**

Meeting on **Conservation** and Utilization of Medicinal Plant 1988

Cheng Mai Degradation (Thailand)

by WHO, WWF, IUCN

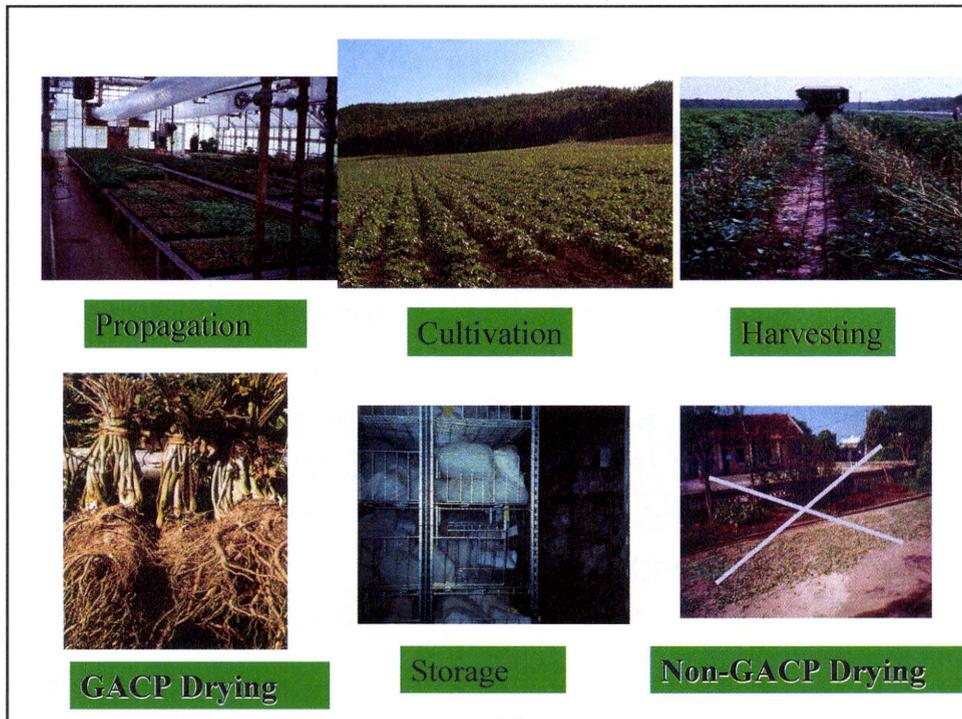
**Save as Medicinal Plant, Save as our Healthy
1993 Guidline on Conservation of Medicinal Plant**

by WHO, WWF, IUCN, TRAFIC

2003 GACP WHO Meeting

**31 Countries and FAO, WWF, IUCN, UPOFU,
TRAFIC**

2011 Conservation of Medicinal Plant in Japan



1. Botanical Name
2. Use part
3. Plant character
4. Crude drug description and distribution
5. Character of cultivate strain
6. Method of cultivation
7. Quality evaluation
8. Classified table for medicinal plant strain
9. Calendar for cultivation

Personnel
Who is treated the herbal
medicines

Producers and growers (farmers) must have knowledge of the medicinal plant.

They are growing, including botanical identification, cultivation characteristics, habitat requirements (soil type, soil pH, fertility and spacing, and shade) and the mean of harvest and storage.

Convention on International Trade of
Endangered Species (CITES)

- For medicinal plant materials intended for export from the country of collection, export permits, phytosanitary certificates, the Convention on International Trade of Endangered Species (CITES) and other permits must be obtained.

Medicinal orchid cultivated in
Myanmar (Propagation)



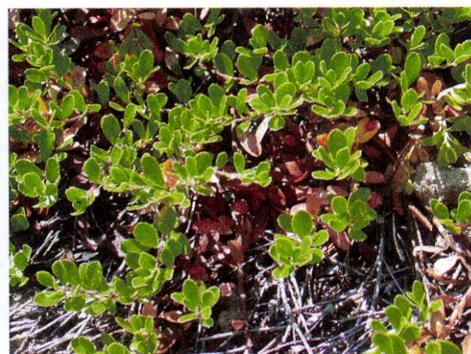
Dendrobium paluchirum



GAP
Good Agricultural Practice



Gentiana lutea cultivated
in Japan
(European herb:)



Arctostaphylos uva-urusi cultivated
In Japan
Distributed Northern Europe

Pinellia ternata(半夏) cultivation
in China



Pinellia(半夏) cultivation in China



Pinnelia(半夏) cultivation in China



Cinnamon Bark

Viet Nam Market

MNKS



MNK I



MNK III



YB I



YB II



YBIV



Chinese Market

Type 1 Oily Cinnamomum bark
油桂皮



Type 5 Branch of Cinnamomum
桂枝・桂枝尖



Type 2 東興桂通



Type 3 西江桂通



Type 4 広南桂皮



Morphological Character

Under the microscope (Cinnamon bark)

ケイヒの鏡検図解説

Cork Layer

Stone cell

ray

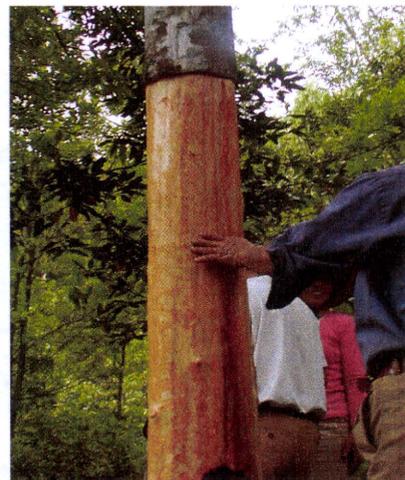
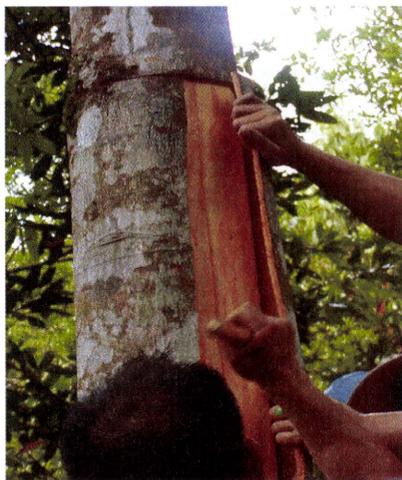
secretary cell



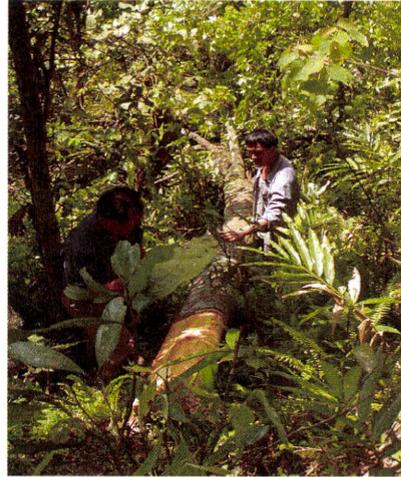
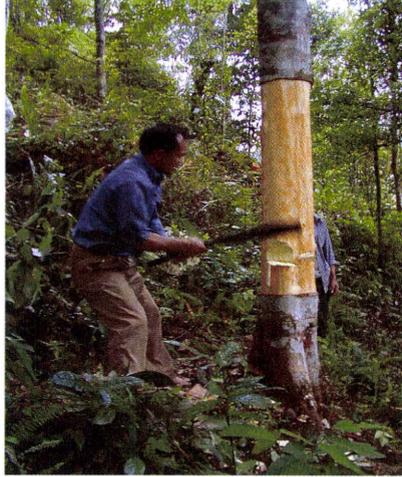
Chemical compound in Cinnamon Bark

		Cinnamomic acid	Cinnamomic aldehyde	essential oil
Viet Nam	YB-1	0.09	5.4	3.38
	YB-3	0.06	4.9	2.69
	YB-4	0.05	4.2	2.2
	YB-V	0.06	4.1	2
	QN-4	0.06	4.5	2.25
China	China type1 油桂	0.07	3.1	1.44
	China type2 東興	0.1	3.4	1.51
	China type3 西江	0.05	2.4	1.18
	China type4 広南	0.07	2.5	1.01

Wild collection of Cinnamom Bark 30 years old tree

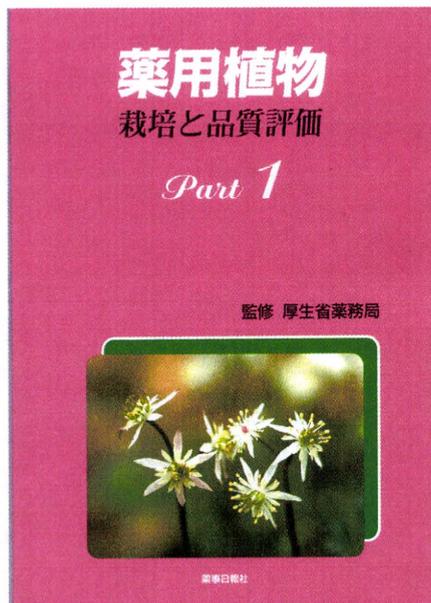


Wild collection of Cinnamom Bark
30 years old tree



Wild collection of Cinnamom Bark
New seedling after the collection
in China





**Japanese Guideline for
Cultivation and Quality of
medicinal Plant**

Part 1

Coptis japonica, 黄連

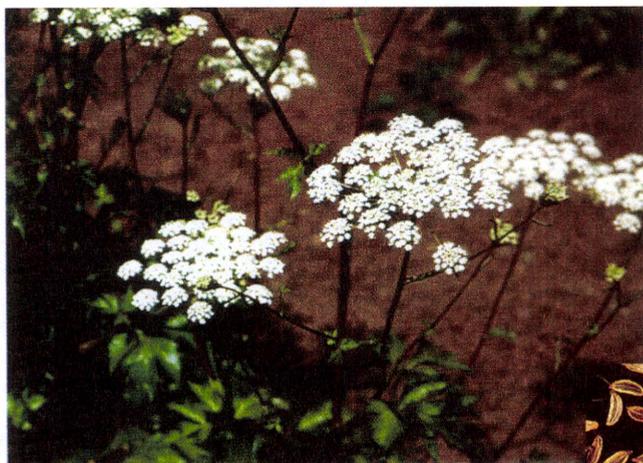
Rehmannia glutinosa 地黄

Rheum palmatum 大黄

Angelica acutiloba 当帰

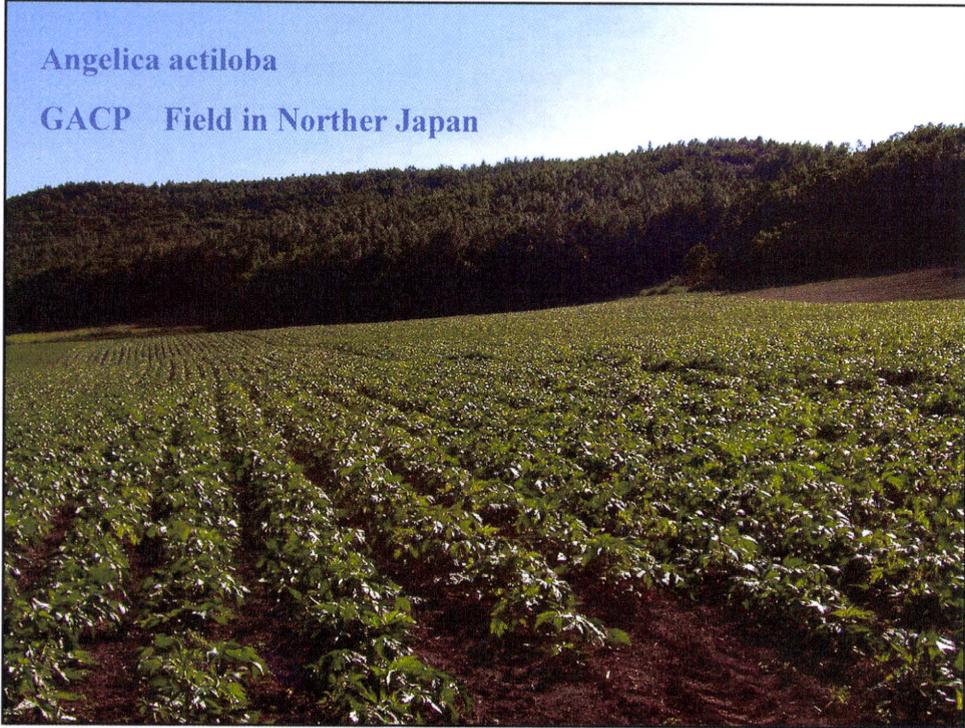
Bupleurum falcatum 柴胡

Angelica actiloba



Angelica actiloba

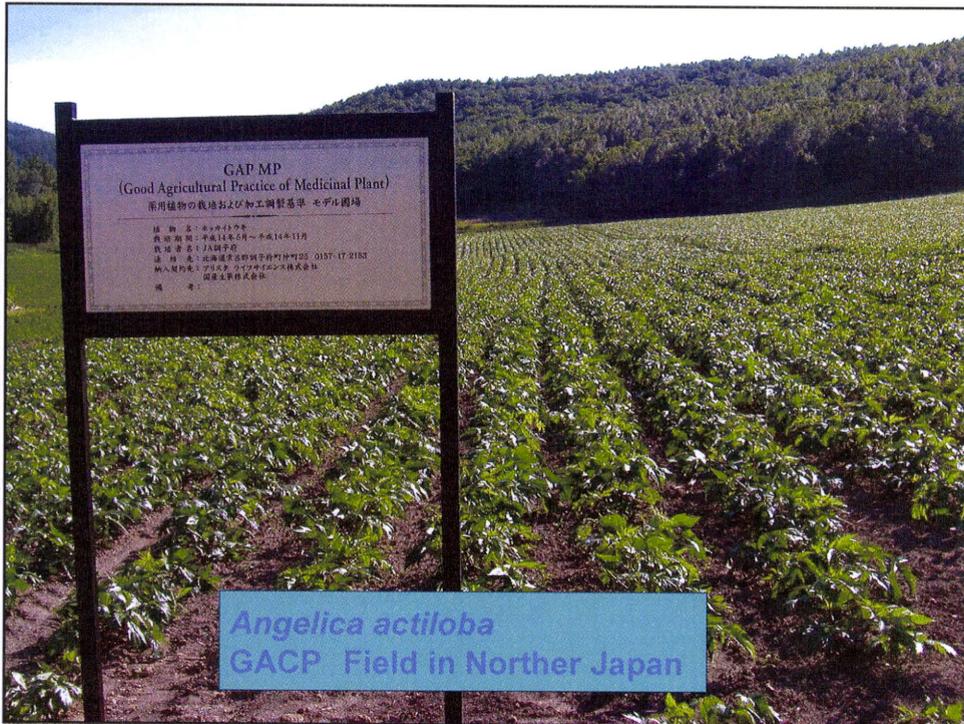
GACP Field in Norther Japan



GAP MP
(Good Agricultural Practice of Medicinal Plant)
薬用植物の栽培および加工調製基準 モデル農場

種 名：オウゴン
栽培期間：平成14年5月～平成14年11月
栽培者名：八幡子酒
住 所：青森県東津軽郡八幡子町神野25 0157-17-2153
納入契約先：アリス 2-177中野区本郷4-15-1
調査実施者：農研機構

Angelica actiloba
GACP Field in Norther Japan



Bleeding Species of the Medicinal Plants in Japan

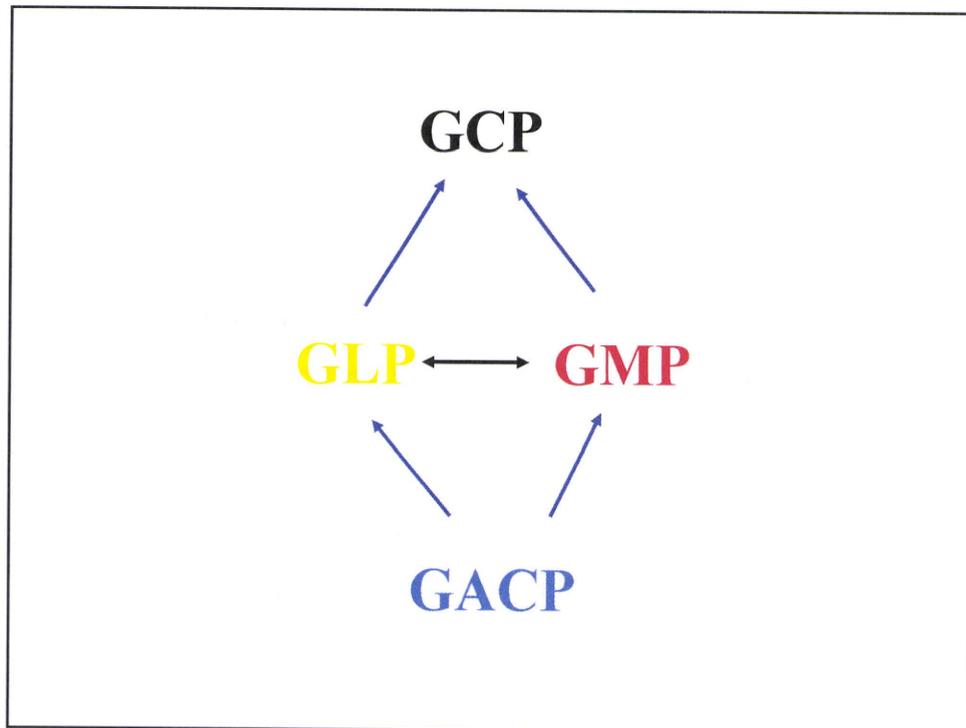
- **Aconitum** **dig root strain**
- **Rhuem** **high laxative activity for**
- **Paeonia** **high root production**
- **Rehemanina** **root shape**
- **Atremisia** **santonin high conten**
- **Coix**



Aconitum japonica



Paeonia latifolia



3. Conservation

1. 1

チェンマイ宣言

The Chiang Mai Declaration

Saving Lives by Saving Plants

Congress of **Conservation** and Utilization of
Medicinal Plant in Chaing Mai, Thailand (26
March 1988)

By

World Health Organization (WHO)

IUCN- The World Conservation Union

WWF- World Wide Fund for Nature

1. 2 Draft Guidelines on the
Conservation of Medicinal Plants

By

- World Health Organization (WHO)
- IUCN- The World Conservation Union
- WWF- World Wide Fund for Nature
- TRAFIC- Wildlife trade monitoring network
of WWF and IUCN

17 May 2004

1. 2-1 Outline of Draft Guidelines on the Conservation of Medicinal Plants

1. Health care, development and conservation
健康管理、開発と保護
Importance of traditional health care system
伝統的健康管理方法の重要性
2. Policy frame works and legislation to support medicinal plant conservation
薬用植物の保護に関する政策の範囲と法制度の支持
3. Research and information
研究と情報
4. Conservation strategies
保護に関する方策
5. Sustainable production and harvest
持続的な生産と収穫
6. Equity Bonn Guidelines
平等に関してはボンガイドラインに記載した
7. Responsible trade and business practices
責任ある貿易と取引の実行
8. Promoting public awareness
国民的意識の振興

NAGOYA DECLARATION

On Parliamentarians and Biodiversity

We, the Parliamentarians participating in the GLOBE & CBD Parliamentarians and Biodiversity Forum held on the occasion of the tenth meeting of the Conference of the Parties (COP10) to the United Nations Convention on Biological Diversity (CBD), in Nagoya, Japan, on 25th – 26th Oct 2010,

We declare that the CBD COP10 is a critical juncture for international efforts to achieve sustainable development and harmony between the environment, the economy and society and identify four critical elements for the successful implementation of the Convention as follows:

3.3 「伝統的知識」尊重の原則（生物多様性条約 8条）

Article 8(j): Traditional Knowledge, Innovations and Practices

- Each contracting Party shall, as far as possible and as appropriate:
 - Subject to national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge innovations and practices.
 - 原住民・地域社会の知識・工夫・慣行（伝統的知識）を尊重する（国内法に基く）
 - 伝統的知識の利用がもたらす利益の公平な分配を奨励

FHH

- Harmonization of Asean Traditional Medicine like as *Forum for the Harmonization of Herbal Medicines (FHH)*.
- Harmonization and Setup the Pharmacopoeia and ASEAN Pharmacopoeia.
- Education of Herbal Medical Doctor.

Dr Margaret Chan to be next Director-General of the World Health Organization



Mar. 2002

FHH Meeting (Beijing, China)

Thank you so much

for your kind attention !

- ❖ 「地道薬材」というのは本場の薬草である。
- ❖ 広東には「十大広薬」を褒められています。
(1) 広藿香 (2) 広陳皮 (3) 広仏手 (4) 化橘紅
(5) 高良姜 (6) 砂仁 (7) 巴戟天 (8) 何首烏
(9) 玉竹 (10) 芡実

もう一説は以上の玉竹、芡実を代わりに以下の9番、10番です。

(9) 金錢白花蛇 (10) 広地竜

1、広藿香 こうかっこう

[基源] シソ科の植物**広藿香** *Pogostemon cablin* (Blanco) Benth. の地上部。

