Format

Formal Presentations

• Professor Fuhe Yang Chinese DFA Executive Chairman: Chinese deer industry and potential collaboration opportunities.
• Rhys Griffiths: Overview of the NZ velvet industry and its markets

Velvet Panel (interactive)

• Chair – Collier Isaacs
• Colin Stevenson: CK Import Export
• Tony Cochrane: PGG Wrightson
• Ross Chambers: Provelco Cooperative Ltd
• Rhys Griffiths: DINZ
China Animal Agriculture Association

National Deer Industry Association
Executive Chairman
Professor Fuhe Yang
Development and cooperation for sustainable deer industry

Fuhe Yang

Deer Branch of Chinese Animal Husbandry Association

Institute of Special Economic Animals and Plants

2014.05
Contents

1. Current status of Chinese deer industry (CDI)
2. Velvet and TCM
3. Main problems encountered in our deer industry
4. Strategy for development of a sustainable deer industry
5. Cooperation —— the only way for the success of both Chinese and NZ deer industries
Current status of CDI
Deer family widely distributed in China. China has 9 genus and 16 species.

Domesticated deer: sika deer, wapiti, reindeer, sambar, White-lipped deer and roe deer etc.

Deer that produce velvet for TCM: velvet deer. The species included in Chinese Pharmacopeia—sika deer and wapiti.

Velvet from red deer and sambar not listed in the Chinese Pharmacopeia.
Percentage of each farmed deer species in China
Changes in velvet price (Chinese RMB)
Herds of sika and wapiti (10K)
Distribution of deer species in China

- **Sika** — Jilin, Heilongjiang, Liaoning (65%)
- **Wapiti** — Xinjiang, Inner Mongolia, Heilongjiang, Liaoning (80%)
- **Reindeer** — Inner Mongolia, Heilongjiang (100%)
- **Sambar** — Hainan, Guangxi, Taiwan (90%)
- **Roe** — Hebei, Liaoning, Jilin
- **White-lipped deer** — Qinghai
- **Musk deer** — Jilin, Heilongjiang, Shaanxi, Sichuan
Sika deer breeding

Local breeds: Jilin Sika deer (400 years)

Artificial breeds: Aodong, Siping, Dongfeng, Xingkaihu, Shuangyang, Xifeng
Wapiti breeds

- Chinese wapiti: mainly in Northwest and Northeast
- Their velvet famous for size, tender, plump tip

- Local species: **Northeast wapiti**
- Breeds:
  - Qingyuan
  - Tahe
  - Yihe
Tahe wapiti——In Xinjiang, over 40 years of domestication, around 30K

Yihe Wapiti——Yili, Akesu and Urumqi, Introduced to Northeast and Huabei

Aertai——Buerjin of Aertai, Habahe etc. Body size and velvet size all above other wapiti breeds
Northeast wapiti mainly distribute in Northeast and Inner Mongolia
2. Velvet and TCM
**Velvet:** Can enhance body activities, enrich blood and speed up wound healing

**Velvet:** Can speed up uterus development, anti-fatigue, improve sleep, boost immunity
Yan Emperor

——Shen Nong Shi

around 5500 years
Bian Fu (B.C. 407—B.C. 310), Han nationality, as known as Lu Yi, Renqiu Hebei, Chunqiu Dynasty. "Hebei Boye Record" he was buried in Lu Village.
Hua Tuo (A.D. 145 - A.D. 208) was a famous doctor in the East Han Dynasty. He was of Han nationality from Yongcheng Longgang Village, Henan Shangqiu...
Compendium of Materia Medica
Li Shizhen
Comprehensive use of deer products

- Besides velvet, hard antler and deer fetus; deer bone, tail, sinew, blood etc also have important value.
Main problems encountered in our deer industry
Velvet unique biological features—Bases for TCM

- Spring
- Summer
- Winter
- Autumn

茸
Tradition: sika deer —— every body part is a treasure

Velvet knowledge of Asian people: based on TCM

Likewise: understanding health value of deer fetus, pizzle, sinew, tail, heart, hard antler, blood, hide gel, venison etc also based on TCM and prescriptions
a. Bioactive substances and efficacy of velvet and deer co-products. No 1 animal TCM (enhance body activity and sexuality)
b. Product processing method is primitive
c. Costs for farming deer ↑ (feed and labor etc)
d. Species degradation (reproduction rate and velvet yield etc)
e. Disease
External problems

a. Forest Administration Dept —— “Wild”

b. Health Administration Dept —— ”medicine” (velvet, fetus, hard antler, bone)

c. Lacks of Market Regulation —— fake

4. Industry administration —— association
4. Strategy for development of sustainable deer industry

1) Scientific and technologic problems in utilization of deer products
   a. Reveal the pharmacological mechanism of velvet and other deer co-products
   b. Reveal biological features of deer
   c. Toxicology of velvet and deer co-products
   d. Chemical composition of bioactive compounds of velvet and other co-products
   e. Extraction methods for velvet bioactive substances
   f. Scientific evaluation of TCM prescriptions

Answer: Value and efficacy of velvet and other deer co-products——TCM
2) Scientific and technologic problems in farming deer

a. Discovery of the genes controlling useful traits

b. Molecular technique assisted breeding to cultivate new high performance, disease-resistant breeds

c. Application of biological attributes of deer rumen micro-organisms

d. Development of new sources of deer feed

e. Prevention and treatment of important deer diseases

- Provide technological support for deer industry
5. Cooperation —— the only way for the success of both Chinese and NZ deer industries

- International counterparts
  - Cooperation: **win-win**
  - Competition: **both suffer**

- Suggestion:
  1) Collaborate to establish International Deer Research Centre (IDRC) providing scientific and technologic support
  2) Enhance the exchange and cooperation between the two deer industries
First: Difference in Chinese and NZ deer industries

- Usage (purpose of farming deer)
  - China — Multiple (velvet, bone, hide etc, medicinal use, health products; rare for venison)
  - NZ — venison; rare for health products

- Farmed deer species
  - China — sika, wapiti; NZ — red deer, wapiti

- Market
  - China — mainly domestic; export small quantity (tradition, aging society, 1.3 b population, huge market)
  - NZ — exportation; small amount consumption domestically

- Complimentary
2nd: NZ velvet cannot be simply considered equally to Chinese velvet in TCM

- **Medicinal use of Chinese velvet is based on TCM**
- **Authenticity**
  - original production site not only related to species, but ecology, feed and feeding method etc.
- If tangerine is planted in Huainan, will produce edible orange; if planted in Huaibei, will produce inedible orange (geographic difference)
- March wormwood, May Artemisia (harvest season difference)
- Velvet antler early harvest as velvet, late harvest as hard antler
- 20 years of exportation, never been formally labeled, the reason would be no scientific data back up.
3rd: Advantages of NZ deer farming

- Beautiful ecology and ample feed --- Provide solid basis
- Venison, complemented by velvet – sensible model
- Relatively stable market --- reliable income
- DINZ and DFA --- Complete management system
- Velvet exportation --- develop new market
- All these are admired by Chinese deer farmers
Possible cooperation areas

- Explore and determine bioactive substances from velvet
- Test efficacy – in vitro, in vivo models and clinics
- Establish new processing methods for maximally preserving the bioactive substances
- Set up standard quality control for sustainable markets
- Study nutrition requirements: Improve productivity
- Product traceability
Let the magical velvet serve for the whole mankind
Deer Industry Conference
2014

New Zealand

VELVET
Sustainability

- The key theme of this presentation
- Focus on keeping the relative stability for the next few years
  - 5 years
  - “relative stability” with inflationary trend
For velvet and co-products.....

- Grass roots
  - Korea and traditional medicine

- Green shoots
  - Healthy foods and China
History

• Step back a little
History to 2008/09 season
Volatile history

- Why so volatile?
- Price takers – sold as an undifferentiated commodity
- No product stewardship
- Product integrity at risk
- Hard to build a brand
Recent history
So what's changed?

- Key influences
  - Reducing global production
  - Increasing consumption:
    - Healthy food + 20%
    - China
  - NZ velvet’s improved position
    - First choice by Oriental doctors
    - Understand the value proposition
      - Healthy
      - Clean/natural
      - Quality
Key influences…..

Led to a 5 – 10% increase in weighted average price
New Zealand
New grading guidelines

- Strong market signals
- Exporters report good response by producers
  - More valuable regrowth (RG) as a result?
Around the markets

Protect and grow core markets:

• South Korea
• China
• Taiwan
Update on the US

• Before we go to our core markets
• Update on the US
  – Last years IGF-1 story – Vijay Singh
  – Huge exposure including Letterman etc
  – CBS contacted DINZ
  – High profile programme, new season launch
    • Shady supplement company
    • Respected industry promotion
USA – NZ Velvet

- “Deer velvet originates from New Zealand!”
- “Deer antlers are a growth industry”
- Created a real buzz among athletes

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Core Markets

Protect and grow core markets
- South Korea
- China
- Taiwan

Why these markets......
- A higher awareness/understanding of velvet role in health
Taiwan
Taiwan

- Free Trade Agreement (ANZTEC) 1/12/13
  - Venison: 17% duty to 0% immediately
  - Processed velvet: 25% to 0% over 4 years
  - End date to frozen velvet quota 12 years

- Deer farmer delegation during ratification
  (thanks to: Clachanburn, Raincliff & Peel Forest)

- Market research .............
THE OPPORTUNITY FOR DEER VELVET PRODUCTS IN THE TAIWAN MARKET

Carol Yu
2014/1/20
Expected benefits from an ideal health supplement

Strengthening the immune system, and strengthening tendons and bones are the benefits all consumers commonly expect from an ideal health supplement.

- **Strengthen immune system**

  - Enhance energy and stamina
  - Allow the body to heal better
  - Slow aging
  - Restore energy and power for work and outdoor activities

Females typically expected benefits related to beauty (maintaining the complexion), boosting metabolism, and prevention of osteoporosis (calcium replenishment).

Enhanced energy and stamina are the most common benefits expected by males, with a particular emphasis on improved sexual ability.

Strengthen tendons and bones to prevent damage (強筋健骨)
Conclusions

Strengthening the immune system is the key benefit expected from both the ideal health supplement and deer velvet. In terms of format, ready-to-drink products deliver a more premium image.

**Expected benefits from an ideal supplement**

- For senior citizens: strength tendons and bones to prevent damage (強筋健骨)
- For younger people: replenish energy and boost strength for work and outdoor activities
- For males: boost vigor and sexual ability
- For females: preservation/maintenance, enhance metabolism and replenish calcium

**Expected benefits of deer velvet**

- Increase energy levels
- Strengthen joints and tendons
- For female senior citizens: increase bone density
- For young females: blood tonic
- For young males: enhance sexual ability

**Strengthen immune system**

**Expected ingredients**

- Deer velvet is perceived as mainly good for bone and joint health, and so should be combined with other ingredients (i.e. in a compound formulation) to fulfill consumer expectations

**Expected format**

- A ready-to-drink format is perceived as most suitable for premium ingredients such as deer velvet, bird’s nest, ginseng, etc.
Immune function

Deer velvet supports healthy immune function and is traditionally taken as a tonic before and during winter to help boost the body’s defences against seasonal ills and chills.

Deer velvet is an ideal part of your regular family health programme. Not only can it help protect your health, but also it helps support the growth and development of your children.

Growth
A range of factors in deer velvet help support the growth and development of children.

Immune function
Deer velvet supports healthy immune function and is traditionally taken as a tonic before and during winter to help boost the body’s defences against seasonal ills and chills.
Focus Groups

• What did the focus groups think of NZ
  – NZ a real selling point
  – Understood as
    • Clean, natural, unpolluted
  – Should use the NZ heritage
Taiwan

Oriental medicine retailers keen to give focus:

- Direct mail the DVD and new brochure
- Importer Exporter Assn Taiwan Kunshan Expo
South Korea

• ~50% of NZ’s velvet sold as oriental medicine
• Oriental medicine sector under pressure
  – State health insurance implications
  – Stricter regulation around traditional ingredients
  – Causing a decline in this sector.
  – Will impact velvet....but no worse than other herbs
South Korea

+ NZ velvet still gaining in popularity
  – Omniherb rising in their market share
  – Assn of Korean Oriental Medicine & DINZ
    • relationship very strong
South Korea

Healthy foods on the rise: Promoting NZ

• >20% of production
• Large and significant companies developing new products

Deer Industry
New Zealand
South Korea

Improving Market Access

• FTA back in full swing!
• In line with Canada and Australia
• Although some work needed with velvet
South Korea

• Economy........

OECD revises up 2014 growth estimate for S. Korea to 4 pct

2014-05-06 21:47

SEJONG (Yonhap) — The Organization for Economic Cooperation and Development revised up its 2014 growth outlook for South Korea, saying that the global economic recovery could help boost its exports.

Its growth projection for Korea was hiked to 4 percent for this year from the previously-forecast 3.8 percent. The international entity also raised its growth estimate for next year from 4 percent to 4.2 percent.

The 2014 outlook is in line with projections by the Bank of Korea and the Seoul government which expected the national economy to grow 4 percent and 3.9 percent, respectively.

The revision was attributed to a hike in exports possibly driven by the global economic rebound and the free trade deals that South Korea signed with the United States and the

Fighting Fat With Oriental Medicine

If you've tried all manner of Western diets, why
China
China

- Rising economic wealth = increasing consumption (health products)
China

Caution

• Proliferation of new factories = false economy at wholesale end?

• Xifeng, Shuangyang (>NZ$20m), Others.....
China

- Market access challenges
- Some wins........AQSIQ
- But many frustrations......
China

- The world is trying to supply China as its wealth and tastes evolve
- There are teething problems
- Focus on improving food safety
Healthy Functional Food

• Aiming for “gold standard” HFF registration
• Partnered with NZ’s leading nutraceutical company as a part of their push into China
• Significant project with many hurdles
• Tailoring it to fit with the current 210 registered products
• Only difference is it's from NZ - a first!
China

Work plan.....

1. More meat plants listed in China
2. Velvet regulatory pathway clarified
3. Resolve ongoing market access issues
Brief recap

- Global production reasonably static; maybe down
  - Supply and demand appears in balance
- Relatively stable consumption in Korea
  - Healthy foods up; Oriental medicine down
- This season
  - Early, strong demand
  - Velvet sold/exported quickly
  - Despite strong $\$, a slight improvement generally.
Cornu Cervi Pantotrichum
(鹿茸，Lurong)
Pilose Antler

Pilose Antler is the young unossified hairy antler of male Cervus nippon Temminck or Cervus elaphus Linnaeus (Fam. Cervidae). The former is known as “Hualurong” (sika deer pilose antler), the later known as “Malurong” (red deer pilose antler). The drug is collected in summer or autumn, processed, and dried in the shade or bake-dried.

Description Hualurong Branched, cylindrical. The antler with one side branch commonly known as “Ergang” (double branches); the main branch as “Dating” (big branch), 17-20 cm long, cut surface 4-5 cm in diameter; the side branch arising at about 1 cm from the cut surface known as “Menzhuang” (side branch), 9-15 cm long, slightly smaller than “Dating” in diameter. The outer skin reddish-brown or brown, usually lustrous, densely covered with reddish-yellow or brownish-yellow soft hairs, relatively thick at the upper end, and sparse at the lower end. A greyish-black vein at the base between the main and side branches. The skin and hairs nestled closely each other. The cut surface yellowish-

**Type Species:** Cervus **elaphus** Linnaeus, 1758.

**Synonyms:** Elaphoceros Fitzinger, 1874; **Elaphus** C. H. Smith, 1827; Eucervus Acloque, 1899; Harana Hodgson, 1838; Pseudaxis Gray, 1872; Pseudocervus Hodgson, 1841; Sika Trouessart, 1898; Sika Schlater, 1870; Siketalpus Heude, 1894; Sikaililus Heude, 1898.

**Comments:** Formerly included Rusa, Rucervus, and Przewalskium as subgenera, see Groves and Grubb (1987). Van Gelder (1977b) also included Elaphurus, Axis, Dama and Hyelaphus. Information from various sources suggests that Cervus sensu lato is polyphyletic or paraphyletic. Dendrograms derived from mitochondrial-DNA restriction-site maps suggest that Axis axis and Rucervus duvaucelii form a sister-clade to Elaphurus davidianus, Rusa unicolor and Cervus **elaphus** (Cronin, 1991), whereas genetic distances obtained from protein analysis suggested that Axis axis, Dama species and Rusa species formed a sister clade to Elaphurus davidianus, C. **elaphus**, and C. nippon (Emerson and Tate, 1993). Phylogram of Randi et al. (2001) suggests Rucervus eldi and Elaphurus davidianus form a clade whose sister-group includes Rusa and Cervus species.

**Cervus **elaphus** Linnaeus, 1758. Syst. Nat., 10th ed., 1:66.**

**Common Name:** Red Deer (see comments).

**Type Locality:** "Habitat in Europa, Asia"; identified as S Sweden by Thomas (1911a:151).

**Distribution:** N Africa in NE Algeria and Tunisia. All states of continental Europe east to S Norway, S Sweden, Ukraine and Caucasus (Armenia, Azerbaijan, Georgia, and Russia); extinct in Albania, Moldavia, and Sicily; introduced but now extinct on Lampedusa Isl and islands off Sicily; in Corsica and Sardinia only since Neolithic; not in Finland; reintroduced into Belorussia, Estonia, Kaliningrad, Latvia, and Lithuania. Near and Middle East in Turkey, N Iran, and Iraq; extinct in Israel, Jordan, Lebanon, and Syria. C Asia in Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan (extinct), Uzbekistan, N Afghanistan, N India (Kashmir Valley), N Pakistan (vagrant), east to Siberia, Mongolia, W and N China (Gansu, Inner Mongolia, Jilin, Liaoning, Manchuria, Ningxia, Shaanxi, Shanxi, Sichuan, and E Tibet including Qinghai), Korea, and Ussuri region (Russia). Canada and USA, where now restricted to western areas and reserves. Red Deer (**elaphus** division) introduced to Morocco, USA, Argentina, Chile, Australia, and New Zealand; Elk or Wapiti (**canadensis** division) introduced to Ural Mts and Volga Steppe (Russia), and New Zealand.

**Status:** CITES – Appendix I as C. e. hanglu; Appendix II as C. e. bactrianus; Appendix III (Tunisia) as C. e. barbatus. U.S. ESA – Endangered as C. e. bactrianus, C. e. barbatus, C. e. corsicanus, C. e. hanglu, C. e. macneilli, C. e. wallachi, and C. e. yarkandensis; IUCN – Endangered as C. e. yarkandensis, C. e. corsicanus and C. e. hanglu, Vulnerable as C. e. bactrianus, Lower Risk (nt) as C. e. barbatus, Data Deficient as C. e. affinis, C. e. alashanicus, C. e. macneilli, and C. e. wallachi, otherwise Lower Risk (lc).

**Synonyms:** albicus Matschie, 1907; albifrons Reichenbach, 1845; albus Desmarest, 1822; baijouvaricus Matschie, 1907: balticus Matschie, 1907; debilis Matschie, 1912; germanicus Desmarest, 1822; hippocampus Erxleben, 1777; montanus Botezat, 1903 [preoccupied].