

Wageningen University & Research Centre

Seed Money Projects
(Xiayong Zhang, Alfons Beltman, Paul Geurts, Kees de Koning)

China : BO-27.04-002-002 Business models for dairy sector
BO-27.04-002-003 Dairy Innovation Centre

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Summary

1. Start spring 2013
 - Dairy innovation center
 - Business models for dairy sector
2. From beginning cooperation with FrieslandCampina and China Agricultural University
3. Report on observations & opportunities on October 2, 2013
4. Further activities resulted in partnership agreement between FrieslandCampina, China Agricultural University and Wageningen UR on Sino Dutch Dairy Development Centre (SDDDC) – November 15, 2013
5. Investments from FrieslandCampina of 3 m€ for 2014-2016

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Quality and safety from grass to glass from the Netherlands

Observations and opportunities in China
2 October 2013

RFC and WUR are jointly exploring two initiatives in China

Focus of this presentation

We aspire to transfer the proven Dutch Grass to Glass dairy safety and quality Triangle to China...

... In light of this we are undertaking 2 initiatives together with WUR

Study tours

- Conducted two study tours – endorsed by Topsector – to map challenges in Chinese dairy market and identify opportunities for Dutch MKB

SDDDC

- In discussion to set up a Sino-Dutch Dairy Development Centre (SDDDC) with the objective to improve Grass to Glass dairy quality and safety in China as a result of better policies and regulations AND improved capabilities

We are conducting a series of study tours to China

Main focus to date

Objectives

Main issues in sector

- Identify main attention points in the Chinese dairy supply chain (from farmer to factory) to identify opportunities and innovative models for Dutch companies in China

Expertise centre

- To design a cooperation model for a Dairy expertise centre in China (based on Dutch dairy expertise) aimed at optimizing milk production, improving safety and reducing cost price

Macro observations on the Chinese dairy market

Observations on left are driving consolidation of dairy manufacturers and farms (e.g. government is aiming to increase safe local supply via building larger vertically integrated farms)

Rapid growth	<ul style="list-style-type: none"> • China will become by far the largest dairy market in the world (with more than EUR 190bn in consumer sales in 2020) • Growth is mainly driven by growth of the middle class in urban areas
Import dependence	<ul style="list-style-type: none"> • China needs to import feed, milk and dairy ingredients to meet demand – gap expected to grow • Import opportunity driven by 1) lack of consumer trust in Chinese dairy, 2) High local milk prices, 3) scarcity of whey and 4) issues to upscale local raw milk production • High feed prices become a major challenge especially for large dairy companies around big cities
Geographic imbalance	<ul style="list-style-type: none"> • Most milk is produced far from consumers in the north
Safety issues	<ul style="list-style-type: none"> • Food safety has become predominant issue for China's dairy sector (e.g. Melamine scandal in 2008), triggering new regulatory activities
Tightening regulation	<ul style="list-style-type: none"> • Inability to feed people safely is a key concern of Chinese government and drives significant changes to regulatory environment especially for IFT

Farm consolidation and investments in state of the art facilities have not yet solved safety and cost issues

Household farms are disappearing



Dairy village farms (200-300 cows) are growing, however growth of large scale farming seems to stagnate



1) Currently 77% of milk comes from dairy farms with less than 20 cows

Our assessment of the 3 main priorities of the Chinese dairy industry going forward

Ensure food safety throughout dairy chain

Secure dairy supply

Increase focus on environment

- Create awareness that collaboration is required to increase food safety standards
- Set up food safety system that encompasses the full dairy chain
- Put in place an independent safety inspection and support institute (ideally as a result of industry initiative)
- Secure supply of raw milk by increasing production of current facilities (by increasing number and sharing of productive cows)
- Improve feed supply security and feed quality
- Strengthen value based management
 - Utilize existing overcapacity in farms and processing industry
 - Shift focus from yield maximization per cow towards optimization of total return per farm (including production and financial targets)
 - Identify other cost improvement potential (e.g. in feed supply chain, logistics chain) and value based management
- Close nutrient cycle to reduce environmental burden, improve quality of local feed and potentially become less dependent on foreign feed sources
- Utilize manure nutrients (fertilizers) in other food production systems

Key enablers to ensure success on the above priorities include

- Strengthening of capabilities of farm laborers and management – develop craftsmanship
- Increasing collaboration levels of the industry

Observations from our study tours (1/2) focus on primary production

Farm management lacking integral approach leading to food safety risks and poor economics

- No integrated management approach as a result of responsibility resulting to limited feedback loops (e.g. person responsible for feeding, not responsible for milking (no link between them))
- (Successful) focus on high yield per cow, leading to animal health issues and short lifespan but more limited focus on other targets (e.g. total return to owner)
- Limited (comparable) administration of performance and key indicators (on cow or herd level)
- Limited collaboration between farmers (e.g. on best practices)
- General hygiene, cleanliness and housekeeping levels low
- Hardware, SOPs and relevant knowledge available, but craftsmanship and solid implementation lacking
- Farm management facing different challenges
 - New generation of dairy entrepreneurs, lacking history and knowledge about industry
 - Many farms lacking entrepreneurial spirit. (e.g. dairy company owned farms)

<p>Food safety remains area of potential risk</p> <ul style="list-style-type: none"> Industry wide, integrated food safety framework lacking Still many small (family) farms exist which cannot invest in food safety expertise Limited recording of relevant data, such as medicine usage General lack of safety awareness (feedstock, workers, milking) 	<p>Poor farm economics as result of high costs</p> <ul style="list-style-type: none"> Value based management often lacking and limited insights in financial administration Limited focus on profit <ul style="list-style-type: none"> Poor costs transparency and subsequent impact on decisions making No revenue maximization on non-milk income 	<p>Low labor productivity and capabilities</p> <ul style="list-style-type: none"> Inefficient usage of labor leading to inhibitions for integral farm management Low labor productivity (8-10 FTE / 100 cows) Poorly educated staff and management <ul style="list-style-type: none"> Farm management education or farm schooling system seems lacking Limited collaboration between farmers No GAP awareness 	<p>Raw milk quality subordinate to quantity</p> <ul style="list-style-type: none"> Focus on milk content (fat/protein) lower priority to yield per cow (and number of cows per farm), but no issue given focus on fresh milk Limited quality differentiation given industry focus on fresh milk consumption
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Observations from our study tours (2/2) focus on primary production

Raw milk production value chain

<p>Approach to breeding and young stock handling often seems opportunistic</p> <ul style="list-style-type: none"> No national breeding program Breeding aimed at yield improvement No value based management of young stock High numbers of young stock under varying conditions 	<p>High dependence on expensive import feed</p> <ul style="list-style-type: none"> Very high dependence on expensive import feed Feed is often poorly stored Local food of low nutritional value Weak feed management (ration) and inspection 	<p>Milking aimed at high yield with good facilities</p> <ul style="list-style-type: none"> Milking 3 times per day aimed at high yield per cow Often state of the art milking facilities but poor maintenance Slack in labor capacity Parlours not efficiently designed 	<p>No sustainable solution for manure issues</p> <ul style="list-style-type: none"> No closed nutrient cycle Manure not allowed as organic fertilizer Current manure handling leading to environmental pollution Limited facilities to handle, process and store manure 	<p>No feed rationing for dry cows</p> <ul style="list-style-type: none"> Limited awareness for importance of transition management Typically no feed rationing with dry cows Different observations on seasonality
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Varying animal health conditions impacting production and costs

- High usage of medication in many cases with poor record keeping
- Most observed diseases include
 - In high production farms: diseases related to high milk yield such as ketosis, acidification, mastitis
 - In low production farms: claw issues, diarrhea, mastitis
- Outbreak of Foot and Mouth disease significantly impacting 2013 and 2014 production
- Often good facilities but poor hygiene

Identified opportunities for Dutch companies

<p>Export opportunities for dairy products</p> <ul style="list-style-type: none"> Export opportunities remain especially in consumer products / ingredients of baby milk powder, UHT and potentially elderly nutrition and cheese 	<p>Building capabilities and delivering expertise</p> <ul style="list-style-type: none"> Provide training and/or deliver consulting services on specific topics including <ul style="list-style-type: none"> Farming basics (e.g. breeding, animal care, animal health, feeding, milking) Farm management (e.g. usage of MIS, value based management) Chain management Safety systems and awareness Develop manure management solutions (Link with agriculture to close nutrient cycle) Set up dairy expertise centre to demonstrate Dutch dairy capabilities 	<p>Relevant Dutch companies</p> <ul style="list-style-type: none"> FrieslandCampina Vecozuivel Hyproca/ausnutria ... WUR/Dairy Campus FrieslandCampina Dutch Dairy Centre network The Fryslan AOC Van Hal Larenstein Flynth GD Deventer Dairy training Centre Qlip De Heus CRV ... VanDrie Group ...
<p>Selected business building opportunities</p>	<p>Providing hardware to upscale farms</p> <ul style="list-style-type: none"> Set up veal chain Only on specific value adding topics (e.g. manure treatment, irrigation) 	<ul style="list-style-type: none"> Lely Trioliet JOZ Paques ...

Partnership Agreement

- Nov 15, 2013 – signing ceremony in Beijing on Sino Dutch Dairy Development Centre by FrieslandCampina, China Agricultural University and Wageningen UR



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Partnership Agreement SDDDC Objectives

- Perform high profile 项目项目 projects on current Chinese dairy production, such as safety, quality, efficiency and sustainability issues, communicate to and seek support from relevant Ministries;
- Support a 中国 国家 H (shuānhē fāngfǎ) in China where safety and quality systems and value based management can be put into practice;
- Organize a series of 中国 国家 H (shuānhē fāngfǎ) (field trips) for different stakeholders to showcase best practices in the Netherlands;
- 项目项目 项目项目 facilitate faculty exchange and set up training courses;
- Organize other activities to involve and 项目项目 项目项目 (e.g. via seminars, websites, leaflets, "farmer to farmer exchange", articles etc.).

Sino Dutch Dairy Development Centre activities

Parties involved will have different contributions for each of the initiatives

Country	Role	Key	Other parties
Netherlands	Provide access to government and other stakeholders, coordinate resources and infrastructure	Provide capacity of dairy expertise and science research	Cooperation, funding and training
Wageningen University	Lead the operation of the centre	Provide access to research and science expertise	Provide research funding, provide expertise on education, training and infrastructure
China	Provide access to government and other stakeholders, coordinate resources and infrastructure	Provide capacity of dairy expertise and science research	Cooperation, funding and training
China Dairy	Lead the operation of the centre	Provide access to research and science expertise	Provide research funding, provide expertise on education, training and infrastructure
China Dairy	Lead the operation of the centre	Provide access to research and science expertise	Provide research funding, provide expertise on education, training and infrastructure
Talent cultivation	Agree and manage training courses	Provide expertise in dairy science	Provide expertise in dairy science
Business	Determine the business plan and financial aspects	Provide expertise in dairy science	Provide expertise in dairy science

Further activities & conclusions

- Governance structure is rolled out
 - (Supervisory Board, Steering Committee, Director)
- At the moment 'white paper' to start with
- To find budget from Chinese side for Centre
- Connections with Dutch companies
- SMP China Dairy fitted with ambitions FrieslandCampina
- Connection WageningenUR & China Agricultural University
- SDDDC is already launched!

