The future of agriculture and requirements for the food industry

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Future agriculture will require an integrated production based on international quality standards along the food chain to create more value for all involved. Clear traceability with transparency and sustainability are key components for the future of a trusted production of feed and food, both for the local as well as the global markets. Effective quality control needs to be implemented at each step of the whole supply chain, from the agricultural production, including cultivar selection, crop protection with pest and residue management to food processing aspects. Training, communication and on-site guidance of growers are key to a sustainable production meeting international standards and regulations as well as the retailer’s and by that the market requirements.

Keywords: Food chain; traceability; transparency; sustainability;
Traceable China

More income for farmer, More safety & quality, Better price for Consumer
Food is the Future Oil!
Product Ready!

Market?

Money?
Growth has its Price in the world
Polluted Water
Consumers Demand

84% Concerned about food security
65% No longer trust the question food manufactory
69% Have purchased unsafe foods

Food safety incidents

Source: IBM research, IBM survey of U.S. and UK consumers
How safe is our food?
Key Findings

Origin Information

The most concerned information:

- Farm address
- Whether transgenic
- Raising/Breeding methods

The information of relative interest:

- Farm name
- Farm scale
- Farm photographs
- Soil types
- Farmer’s experience
- Breeding/Planting water
- Breeding/Planting varieties
- Yields
- Farmer’s photos
What Government Want

Food safety and quality
- Origination management
- Scene management
- Training
- Testing

Information monitoring
- TS
- DB
- Recall

Market
- Domestic
- Abroad

Prevention | Process Control | Economic
Quality Management

- Safety Basic
- Quality Trust with international STD
- Implementation of Tech and System Bring Value cost reduction
- Transparent S.C. USP
- Sustainable Attention Attractive
Today Metro Have Quality Control

--- Assessment only reflects the “picture” of situation

- Market
- 3rd party Service support SGS, ITS, TUV
- Legal/ certification
- Lab/ Sensory
- Quality
- Safety

High Price
Less Competitive
Less Margin
Less Turn Over
## Very low per capita GDP

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World GDP in 2011: 70,000 billion USD GDP, 8,500 USD per Capita
Quality Control to Quality Management is “Film”

- Sustainable
- Transparent S.C.
- Implementation of Tech and System
- Quality
- Safety

- Attention Attractive
- USP
- Bring Value cost reduction
- Trust with international STD
- Basic

Farm ➔ Market

More ...

Turnover
Market
Margin
Competitive
Better Income

Cost Reduction

More Market

Middle Man

Middle Man

Middle Man

Process

Farmer

Market

More Tax & Reputation

More Costumers

Best Price
Current Supply Chain Model

Farmer → Middle Man → Supplier → Trader → DC → Store → Customer

Star Farm Supply Chain Model

Farmer 1 → Farmer 2 → Process Supplier → Product Platform → Customer
Customer Expects From Product
- Soil
- Water
- Medicine
- Foodstuff
- GMO
- Seed
- No Childen Labor
- Sustainability

Client Expects From Store
- Price
- Service
- Communication
- Meeting point
- Make friends
- Extra service
- New products
- USP
- Traceability
- Safety
- Quality
- Taste

From Farm to Fork SF QM System

- Government Relation
- Seed Bayer Crops
- Tech Partner Kali GmbH
- Organization WB / UNIDO / WWF / GTZ
- Packaging Sealed Air
- Sustainability Less CO2
- No Childen Labor
The **most** concerned information

- Farm Name
- Farm address
- GMO or not
- Raising/Breeding methods
- Farm Scale
- Product feature
- Factory Name
- Factory address
- Key step of processing
- Logistics Method
- Logistics Temperature
- Product Test Report
- Feedstuff Test Report

- Information from SF consumer survey 2011
Star Farm Established in 2007

Leader in Food Safety and Traceability Service
Mission

Adding value to the Food Supply Chain
The Role of Star Farm

Supplier/Farmer

Retailer

Government

International STD
Global GAP
IFS

Data Base

National Market

International Market
Core Business
1. Assessment;
2. Consulting;
3. TS (Transparent & Sustainable).

Enhancement
1. Supplier Identification;
2. Middle man elimination;
3. Productivity
   3.1 farmer with technique
   3.2 processor with flow optimization;

Multiplicator
1. Farmer Cooperation;
2. Product Platform;
3. Supplier Association;
4. Sales agency & investment agency

SF Service Model

Target Customer
Farmer/Supplier
Retailer
Government

Box 1
Core Business
1. Assessment;
2. Consulting;
3. TS (Transparent & Sustainable).

Box 2
Enhancement
1. Supplier Identification;
2. Middle man elimination;
3. Productivity
   3.1 farmer with technique
   3.2 processor with flow optimization;

Box 3
Multiplicator
1. Farmer Cooperation;
2. Product Platform;
3. Supplier Association;
4. Sales agency & investment agency
Cooperate framework with the ‘triangle’

- Supplier
- Retailer
- Logistic

- Markets
- Margin
- Quick information

- Customer
- Turnover
- Margin
- Safety & quality supplier

- Markets
- Margin
SF Service Model

Core Business

BOX1  
Quality and Safety Driven

BOX2  
Margin and Turnover Driven

BOX3  
National and International Top Market Driven

Enhancement

Multiplicator

- Quality and Safety Driven
- Margin and Turnover Driven
- National and International Top Market Driven
Horeca
Hotel, Restaurant, Canteen

Retailer

Trader

Platform

Suppliers

2 hrs

Supplier Association

Suppliers

Farmer Cooperative

Farmers
Name: Anhui Tianxin Modern Agricultural Ltd., Co.

Business Scope:

- Farm base
- Process & storage
- Logistic & sales

Note: Other suppliers will participate in Product Platform step by step.
How to build up trust?

- Trust
- Quality
- Safety
- Innovation
- K now-how
- Creativity
- Transparency
- Sustainability
- Commitment

Brand

Image

Confidence

reflects ATTENTION
Attractive

creates VALUE

Brings MARKET
TRAINING
The whole Supply Chain

Transparency And Sustainability Builds Trust For the Consumers
International Standard for Whole Supply Chain

GLOBAL G.A.P.

Plant  Harvest  Processing  Processing  Logistic  Supermarket  Table

international featured standards
IFS
Food

international featured standards
IFS
Broker

international featured standards
IFS
Logistics

international featured standards
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<td>Slovakia</td>
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</tbody>
</table>
Supply Chain Information Management by DB
Barcode Composition

Star Farm Traceability System

Harvesting Date
Supplier Code
Product Code
Farm Code
Tent Code
Factory Code
SFTS Mobile Version includes:

5 main systems: IOS, Android, WM, Symbian, WP7

More than 60 Smart Mobile Phones:

IPhone, HTC, Nokia, Moto, Samsung, Sony Ericsson, ASUS, Acer, LG....
Multiple and convenient access to Traceability Information

Mobile, Store terminal, Computer
Traceability Information

**Farmer:** Yu Huiqiang

**Field Name:** Jinagxi WangPing

**Field Add:** LongGang Village, HeZhi Town, AnYuan County, GanZhou City, JiangXi Province

**Farm Coordinates:** 24°54'18.28"N 115°13'6.57"E

---

Food traceability means the ability to trace and follow a food, feed, food-producing animal or substance intended to be, or expected to be incorporated into a food or feed, through all stages of production, processing and distribution.
Detailed Product Information

Processing Chart:

- **2011-04-20**: Fruit (41 days)
- **2012-01-10**: Mature
- **2012-01-12**: Packaging (2 days)
- **2011-03-10**: Flower
- **2012-01-12**: Sale (0 days)
### Detailed Product Information

<table>
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<tr>
<th>Origin Info:</th>
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<tr>
<td><strong>Farmer:</strong></td>
<td>Yu Huiqiang</td>
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<tr>
<td><strong>Field Name:</strong></td>
<td>JinagXi WangPing</td>
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<tr>
<td><strong>Field Add:</strong></td>
<td>LongGang Village, HeZhi Town</td>
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<tr>
<td><strong>Experience:</strong></td>
<td>6Year</td>
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<td><strong>Farm Code:</strong></td>
<td>001</td>
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<td><strong>Soil Type:</strong></td>
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<td><strong>Arable Area:</strong></td>
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<td><strong>Cultivation method:</strong></td>
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![Orange Trees](image1.jpg)

![Man in Field](image2.jpg)
Logistics, Processing and Certifications

**Processing:**
- Factory Name: GanZhou WangPing Fruit Industry Co. Ltd
- Factory Addr: HaZhi Town, AnYuan County, GanZhou City, JiangXi Province
- Output: 10000T

**Logistics:**
- Logistics Ways: Truck
- Logistics Temperature: Normal temperature
- Logistics Route: Canzhou - Shanghai DC - Metro Store
Logistics, Processing and Certifications

Packaging test report  Product test report  Soil test report  Irrigation water test report

Customer Feedback
If you have any advice or question, please don't hesitate to contact us. E-mail: Info@starfarm.com.cn
All traceability information come from suppliers.

Search Another Code  Back to top
The Combination of Technology and Management in the Entire Food Supply Chain to Achieve Added Value

Value Added Project

Crop Protective Provider:
1. Farm base assessment;
2. Plant protective technology;
3. Product test;
4. Cost and quantity;

System Provider:
1. Good Agriculture Practice;
2. Risk assessment;
3. Food safety control;
4. Traceable;

Package Provider:
1. Material;
2. Shelf life;
3. USP

Project Target:
1. Cost Down, More Value
2. Traceable, More Safety
3. Knowledge, technology, system work

Field
Seed Provider:
1. NON GMO statement;
2. Seed selection;
3. Field Management and plant technology;

Supply chain
Fertilizer Provider:
1. Soil assessment;
2. Fertilizer usage;
3. Yield estimation;

Market
Driver of Project:
1. Customer needs;
2. Customer panel;
3. PR/Media;

www.starfarm.com.pk
Project Product

Tomato  Eggplant  Pepper  Cucumber
Layout of Star Farm project in Jiaxing

Local practice zone

No. 12 No. 11 No. 10 No. 9

Local practice

Star Farm project zone

No. 8 No. 7 No. 6 No. 5 No. 4 No. 3 No. 2 No. 1

Local practice

Road

8 m

7.8 m

3 m

56.5 m

1.5 m

Whitefly proof net

Whitefly proof net
Seeding and transplanting

Star Farm
Technique System

www.starfarm.com.pk
Star Farm
Technique System

Interim performance on April 6, 2011

Local practice | Solution
Local practice | Solution
Field situation on May 16, 2011
Yield assessment for tomato

Kg / greenhouse, 464.1 sqm

Marketable yield

Unmarketable yield

New solution 1
New solution 2
Local
New solution 1
New solution 2
Local

06-08-11
28-07-11
20-07-11
13-07-11
05-07-11
02-07-11
29-06-11
25-06-11
21-06-11
19-06-11
17-06-11
Packaging
**Assessment:** To *reduce the risk of food safety* by supporting supplier continuous improvement.

**Training:** To improve the quality level to achieve *international standard*, reduce cost, *middle man*, and *more margin*,....

**35 Product platforms:** To establish platform around Metro stores in 35 cites with Metro stores. *Better price and Fresh product.*

**TS:** To establish Traceability system / Transparent Sustainable system to improve product quality, *get control by DB.*
3.2 Benefits To USP is the TS
Technique System

Food Quality and safety

DB Agriculture Foogle

Product Platform & Middle man Elimination

Turn over Margin

Brand Building

24hrs Information

The world

Consumer
Government
Retailer

Retailer Government
Consumer Supplier

Retailer Government
Consumer

Consumer Supplier
Farmer

Farmer Supplier

Trust

Profit for farmer
<table>
<thead>
<tr>
<th>Benefits</th>
<th>To farmers</th>
<th>To suppliers</th>
<th>To market</th>
<th>To customers</th>
<th>To government</th>
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<td>Pesticide, fertilizer</td>
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<td>Better Income</td>
<td>Cost Reduction</td>
<td>More Costumers</td>
<td>Transparency, Safety,</td>
<td>More Tax &amp; Reputation</td>
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<td>More Market</td>
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<td>Quality &amp; Best Price</td>
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</tbody>
</table>
Build Trust for consumer

- Food Quality
- Transparent & sustainable
- Customer satisfaction & confidence
- Enterprise image
- Competitiveness & sales
- Margin and Turn Over
Customers of tomorrow want to know the name of the Cow when they are drinking milk.
Make Everything Clear
Create Trust to customer

Star Farm
Transparency & Sustainability