Growing Yields, Commerce and Capacity in the Developing World

Richard Dickmann
Head of New Business Development
Bayer CropScience Australia

Crawford Fund Parliamentary Conference,
August 11, 2015  Canberra. Australia
Content

Bayer CropScience Introduction
Food Challenges and Sustainability
Meeting the Product Challenges
• Much More…Partnerships.

Driving Grower Returns – Food Chain Partnerships
• India
• China

Building Capacity
• Youth Ag Summit

Summary
At Bayer CropScience, we serve agriculture

Full year sales: €9,494m
>120 countries
23,100 employees
4,000 in R&D
7,400 agronomists
R&D €5 bn 2011-16

As of February 28, 2013
Bayer CropScience Introduction

**Food Supply Challenges and Sustainability**

Meeting the Product Challenges

- Much More…Partnerships.

Driving Grower Returns – Food Chain Partnerships

- India
- China

Building Capacity

- Youth Ag Summit

Summary
Challenges in agriculture to secure Food Security (and Food Quality)

Challenges from interacting drivers will increase the need for Innovation and Sustainability in Agriculture in order to secure affordable and healthy food for all.
Our commitment to Sustainable Agriculture

We are committed to Sustainable Agriculture as the best approach to overcome the global challenges in agriculture to ensure food security and quality.

Sustainable Agriculture means to us:

- Increasing farmer’s profitability
- Environmental responsibility
- Economic growth
- Social responsibility
- Improving people’s quality of life
- Preserving the environment
Integrated Crop Solutions are the core of our offer

Providing Integrated Crop Solutions for protecting crop yield & quality

Seeds
- Oilseeds (Canola, Oilseed rape, Soybean)
- Cotton, Rice, Wheat, Vegetables

Chemical & Biological Crop Protection
- Herbicides
- Fungicides
- Insecticides
- Seed Treatment products
- Biologics

Services
- Sharing know-how
- Optimizing yield & quality
- Improving farm management
Proactive Stewardship and Partnerships are crucial for Sustainable Agriculture

The Integrated Crop Solutions are backed by Proactive Stewardship to ensure:

- Product integrity
- Human protection and
- Environmental preservation

Their value is delivered through Partnerships to enhance the quality of life of farmers, communities & society:

- Public-Private Partnerships
- Private-Private Partnerships along the food value chain
Collaborations to demonstrate Sustainable Intensification

Much More Rice, Coffee…
Much More (better quality, profitable) Rice - Collaborations to boost output & sustainability

Hybrid Rice Leadership

Much More Rice, China
NATESC, Min of Agriculture

Much More Rice, Vietnam
Can Tho Univ. Cuu Long RRI

Basmati Rice Collab. India
LT Food Limited

Better Rice Initiative, Philippines ++
GIZ, Yara, GFP

PISAgro Initiative, Indonesia
Multiple stakeholders

Agri-preneur Training
IFC, World Bank

Bayer CropScience
Bayer CropScience Introduction
Food Challenges and Sustainability
Meeting the Product Challenges
• Much More…Partnerships.

Driving Grower Returns – Food Chain Partnerships
• India
• China

Building Capacity
• Youth Ag Summit

Summary
Serving the interconnected needs of the food value chain

- Proactive approach to meet increasing demand for **sustainably produced food**
- Connecting the partners across the value chain and facilitating mutually beneficial business relationships for all involved – **creating win-win situations**
- More than 240 business initiatives in about 30 countries and 40 crops worldwide – **proven concept since 2007**
Our approach in India: The 5 P Process Business Model

Our contribution to Sustainable Agriculture in India (2014):
- **Training** of > 100,000 growers working on > 76,000 ha of vegetables and other crops
- **Partnering** with > 33 food chain industry leaders
- Promoting the **safe use** of crop protection products along with **IPM practices**
- Improving the **Productivity, Quality and Returns** for the farmers
Food Chain Partnership in Hot Pepper (Red Chilli)

**Key Partners**
- Bayer Solutions
  - Development of spray packages to optimize usage of CPPs in controlling diseases & pests
  - Imparting trainings on pest and disease identification, their management and safe use.
  - Implementation of good agricultural practices at the farms
  - Supply of PP kits to the project farmers
- **Benefits**
  - Growers:
    - Availability of genuine & quality CP products
    - Premium / incentive for producing export required produce
    - 10% increase in productivity and 27% increase in income
  - **Food Chain Partners:**
    - High-quality, residue-compliant chilies from the desired source
    - Compliance with the MRLs, meeting the customer’s sustainability requirement
    - About 10,000 ha with 8,188 farmers were covered during 2014

**Key Challenges**
- Optimization of PPP usage to meet the export requirement
- Countering pseudo Bio products in Chilli
- Greater fluctuations in demand & commodity prices
- Thrips management is becoming difficult

**Benefits**
- Growers:
  - Availability of genuine & quality CP products
  - Premium / incentive for producing export required produce
  - 10% increase in productivity and 27% increase in income
- **Food Chain Partners:**
  - High-quality, residue-compliant chilies from the desired source
  - Compliance with the MRLs, meeting the customer’s sustainability requirement
  - About 10,000 ha with 8,188 farmers were covered during 2014
Food Chain Partnership in Gherkins

Key Partners
- Bayer Solutions
  - Trainings for the growers on pest management and safe use of crop protection
  - Field monitoring and audits through field experts
  - Traceability through Bayer “Passport”
  - Continuous evolvement and improvement of the spray packages.

Benefits
Growers:
- Effective crop management and reduced risk
- 8 – 12% increase in productivity and income

Food Chain Partners:
- Procurement of quality gherkins as per requirement
- Product efficiency and required PPP as per their import tolerances
- Efficient supply chain management

Results:
- 26,700 farmers on 7,160 ha linked to global markets.

Key Challenges
- Small holder farmers with small landholdings.
- To Manage export requirements of destination country
- Label claims on Gherkins
- Labor intensive crops
- Fruit fly and Gummy stem blight are becoming menace.
- Complete dependency on the export markets.
India FC Alliances - 2014

Established projects with 33 key partners in all 3 segment.

Retailers
- 5
- METRO
- Walmart
- Reliance Fresh
- Sahaj e-village
- fresh

Processors
- 8
- Hindustan Unilever Limited
- Pepsico
- Jain Irrigation Systems Ltd.
- Ken
- Vista
- McCain
- AVT
- Safal

Exporters
- 20
- Kay bee
- The Global Green Company
- Jay Agro-Export
- Kohinoor Foods Limited
- JAY
- KRBL Limited
- Neo foods
- Unicorn
- Synthite
- Shree
- Jayanti
- Sevenstar
- Indo Spanish
- Bavanai Agri
- LT Foods Ltd.

Bayer CropScience
China
Food Chain examples
Our approach in China to meet new 2015 MoA policy and increasing Food Chain requirements

2020 Targets
- **Sustainable Agriculture**, considering natural resources & environment
- Achieve **Best-Management-Practices (BMP)** for agrochemicals
- Roll-out **Integrated Pest Management (IPM)**, considering non-chemicals
- Cap the application of **agrochemicals** to current level: “Zero Growth”

Key Actions
- Set-up demo & pilot zones for **Sustainable Farming**
- Develop the **capabilities** of **Extension Services**
- **Improve Safe Use**: Education, Training and Stewardship
- **Promote** the adoption of modern, **application technology**
- **Improve professional use** of modern spray applicators
- Develop & promote **Integrated Pest Management**
- **Increase subsidies** for low-tox & low-residue CP pilots
Food Chain Partnership in Apple

**Key Partners**

- Bayer Solutions
  - Spray Program with registered PPP in controlling diseases & pests
  - Introduction of BMP (Best-Management-Practice) by internal as well as external experts for Pest & disease and orchard management
  - Stewardship program for safe use of PPP with training as well as supplying PPE (Personal Protective Equipment) for growers

**Key Challenges**

- Residue of PPP usage for domestic and export requirement
- Efficient Orchard management for quality production
- Use of off-label PPP and lack of safety control

**Benefits**

**Growers:**
- **Yield increase** by adopting Best-Management-Practice
- **Free from Residue issue**/ no concerns
- **Stable income** by being Preferred by buyer as trusted supplier

**Food Chain Partners:**
- Compliance with the MRLs, no food safety issue
- Better

**About 800 ha with 500 growers were covered during 2014-2015 season**
Food Chain Partnership in Tomato

Key Partners

Key Challenges

- Selection of tomato variety suitable for Unilever from China
- Crop Protection Solution for BroomRape (Weed) in tomato field
- Integrated Crop Protection Solution

Bayer Solutions

- Technical supports for CPP as well as Seed variety
- Supply of PPE (Personal Protective Equipment)

Benefits

Growers:
- Better seed variety to meet Unilever’s need (Biscosity & Brix & Soluble contents)
- Yield increase

Food Chain Partners:
- Compliance with the MRLs, meeting the customer’s sustainability requirement And quality requirement

Food Chain Partners:
- About 3 ha trial with 3 processors are on-going during 2015
- Expect to expend 500ha with 500 growers in 2017 season
Current Value Chain Key alliances for Value chain in China

Retailers
- METRO
- Carrefour
- Vanguard
- Park's Shop
- Walmart

Processors
- McCain
- Pepsico
- ConAgra Foods
- Unilever

Im/export Grower
- Ailang
- Univeg
- Golden Wing Mau

Established contacts with 35 key players in China in all 3 segments.
10 years of experience in 40 crops and 30 countries!
Content

Bayer CropScience Introduction
Food Challenges and Sustainability
Meeting the Product Challenges
  • Much More…Partnerships.
Driving Grower Returns – Food Chain Partnerships
  • India
  • China

Building Capacity
  • Youth Ag Summit
Summary
Bayer Agriculture Education Program
An holistic and global approach for next generation outreach

1. A day at a farm
   Encourage young people to think about sustainable agriculture and food supply

2. Baylab plants student labs
   Experience science for a better life in practice

3. Youth Ag-Summit
   Growing the next generation of future thought leaders in agriculture

4. Connect Global Youth Ag Networks
   Create a global community to help young leaders connect and grow themselves

5. Agricultural Science Scholarships
   Breeding the next generation of agricultural scientists

Holistic approach
Encourage young people to think more about sustainable agriculture & food supply and to highlight the vital role of science in this context

Microsite for Youth Ag activities and a suite of virtual tools
Global Youth Ag Summit
Canberra, 24-28 August 2015

Partner: Future Farmers Network Australia (FFN),

Location: Canberra, Australia

Date: 24–28 August 2015

Theme: ‘Feeding a Hungry Planet’

Sub-themes:
Sustainability, Innovation, Leadership

Selection: 1500 word essay on how to balance efficiency and sustainability to feed our world? 2000 essays received.

Participants: 100 delegates, 18-25 y.o. 39 mentors, 33 countries

- **Objectives:** Provide a global platform to inspire young leaders to take action on global food security.
- **Method:** Workshops, field visits and discussions on sustainability, innovation and leadership
- **Outcomes:**
  - Personal goals tracked via Youth Ag Network.
  - Canberra Youth Ag Declaration: Presented to UN CFS in Oct.
  - Empower young leaders

Supporters: The Borlaug Foundation, The Crawford Fund, Fertiliser Australia, Organics Australia, School for Life, Youth Food Mov’t John Deere Australia.
Growing Yields, Commerce and Capacity in the Developing World

• Bayer CropScience is committed to the concept of sustainability and sustainable intensification to address global food security issues.

• Bayer is committed to a partnership approach to add value, both for our direct customers, and their customers.

• Our “Much More”, “Food Chain Partnership” and Youth Ag Education program are designed to make a real contribution to different pillars of Agricultural sustainability, with particular benefit in the Developing World.