



Science For A Better Life

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



Content

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:

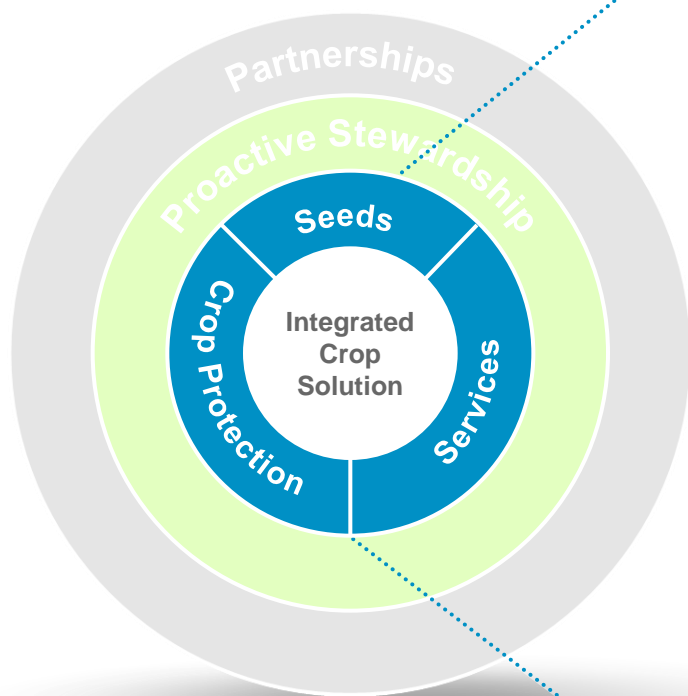
Increasing
farmer's
profitability



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



Science For A Better Life

Much More Rice, Coffee...

Collaborations to demonstrate Sustainable Intensification

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



Much More Rice, China
NATESC, Min of Agriculture



LT Foods Ltd.



Basmati Rice Collab. India
LT Food Limited

Hybrid Rice Leadership



MARS

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



giz



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



Agri-preneur Training
IFC, World Bank



PISAgro

PISAgro Initiative, Indonesia
Multiple stakeholders



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

Serving the interconnected needs of the food value chain



food chain partnership

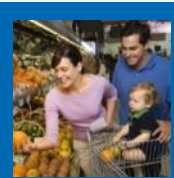


Growers

Traders

Processors

Retailers



Consumers

- 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**

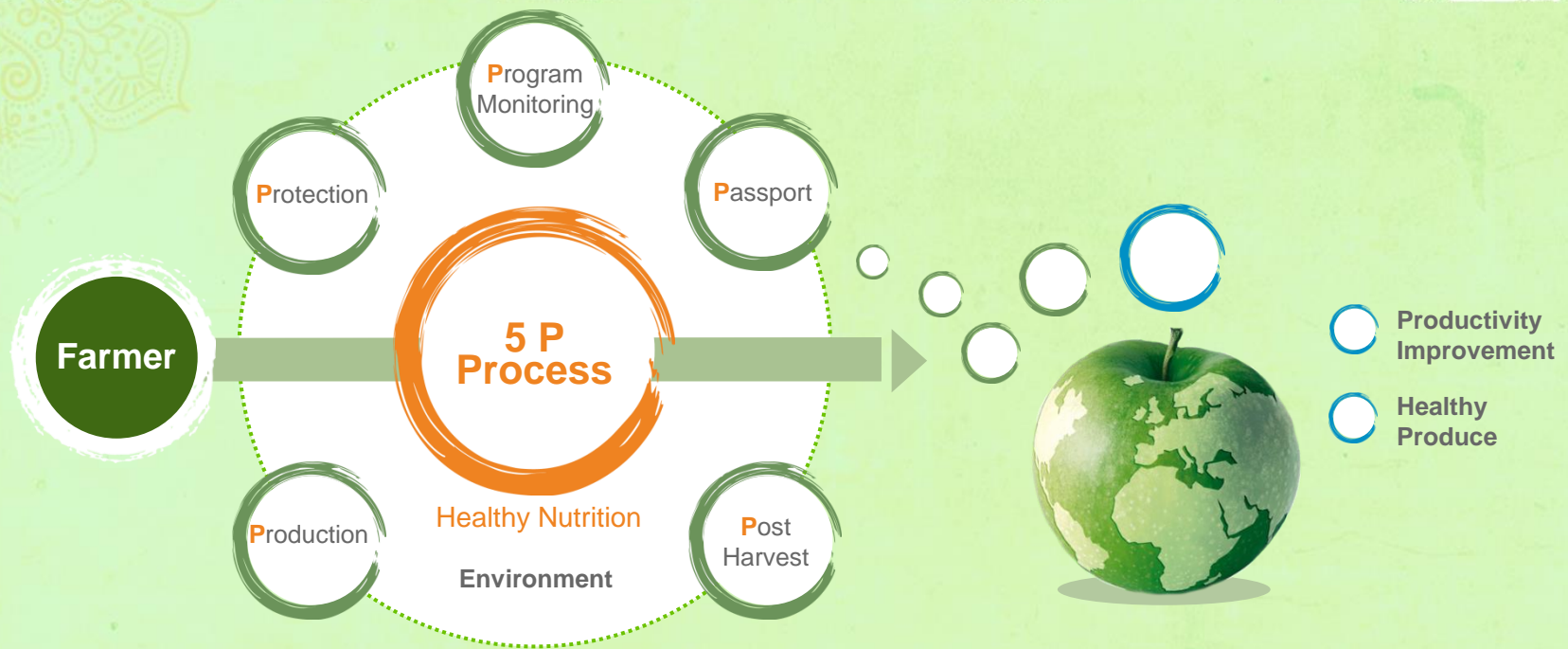


Science For A Better Life

India

A Food Chain Passport to the Market

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



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

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 chillies from the desired source
- Compliance with the MRLs, meeting the customer's sustainability requirement

Food Chain Partners:

About **10,000 ha** with **8,188** farmers were covered during 2014



Food Chain Partnership in Gherkins

Key Partners



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.



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.

India FC Alliances - 2014

Retailers 5



METRO
Cash & Carry India

Walmart
Save money. Live better.

Reliancefresh

Sahaj e-village

fresh @

Processors 8



Hindustan Unilever Limited

PEPSICO

JAIN
Jain Irrigation Systems Ltd.

Ken

VISTA


McCain

AVT
AVT McCORMICK
INGREDIENTS PVT. LTD.

Safal

Mc

Exporters 20



kay bee
The Taste of Freshness

The Global Green Company

Bharati Associates

JAY AGRO-EXPORT

Kohinoor FOODS LIMITED

KRBL Limited

Neo foods Unicorn

SHREE CONSULTANTS

Synthite

Jayanti
Right Quality, on Time

LT FOODS LTD.
(Formerly known as LT Overseas Ltd.)

Sevenstar

HEENA SPICES

Indo Spanish

SHREE CONSULTANTS

EXPORTS

Indy Global

HUGO REITZEL
GREATNESS IN SAVINGS

Bavanai Agri

Established projects with **33 key partners** in all 3 segment.



Science For A Better Life

China Food Chain examples



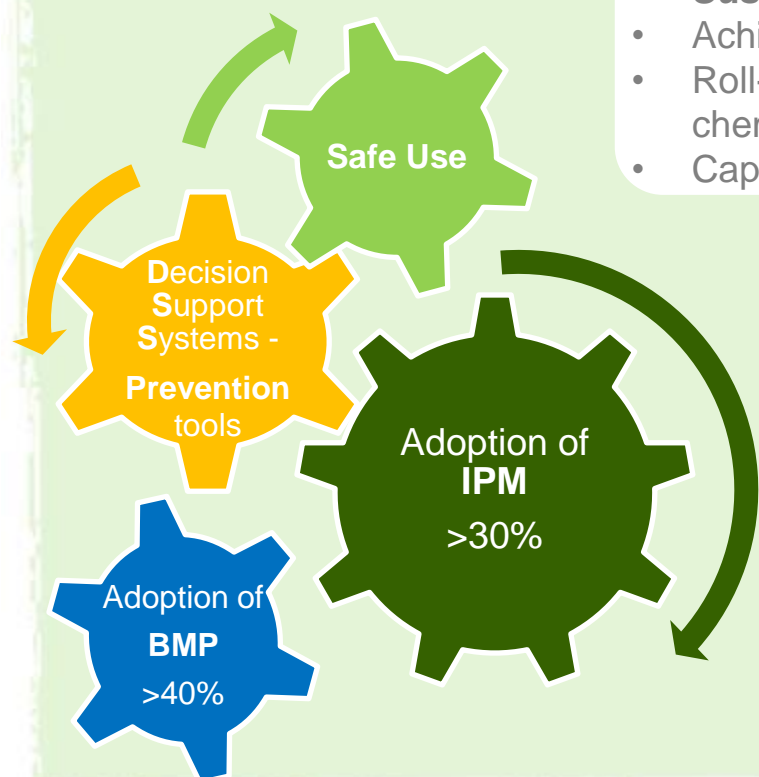
Our approach in China to meet new 2015 MoA policy and increasing Food Chain requirements

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



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**



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



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

Food Chain Partners:

About **800 ha** with **500** growers were covered during 2014-2015 season



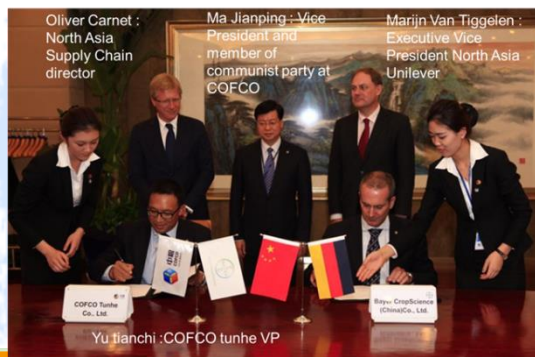
Food Chain Partnership in Tomato

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



Processors



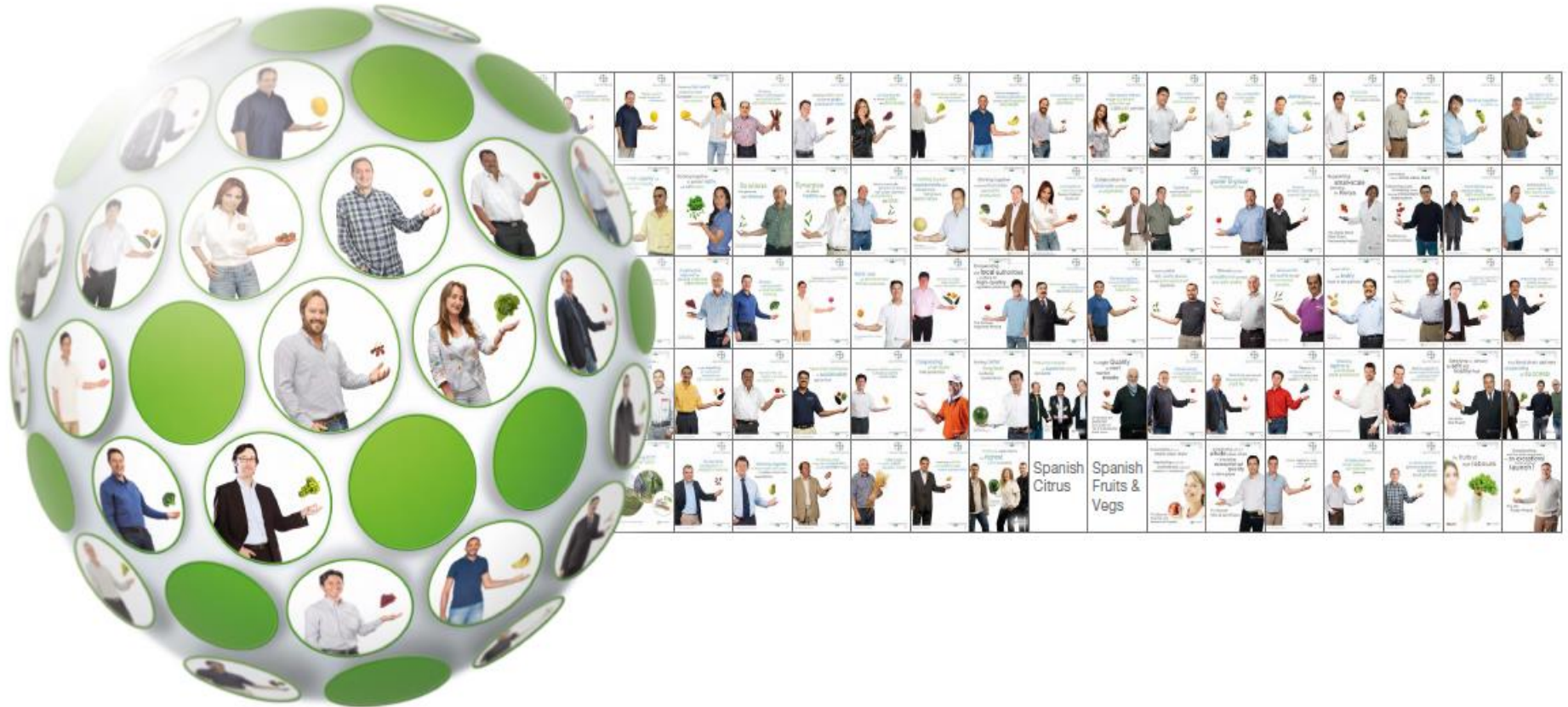
Im/export Grower



Established contacts with **35 key players in China** in all 3 segment.



10 years of experience in 40 crops and 30 countries!



food chain partnership





Content

Bayer CropScience Introduction

Food Challenges and Sustainability

Meeting the Product Challenges

- Much More...Partnerships.

Driving Grower Returns – Food Chain Partnerships

- India
- China

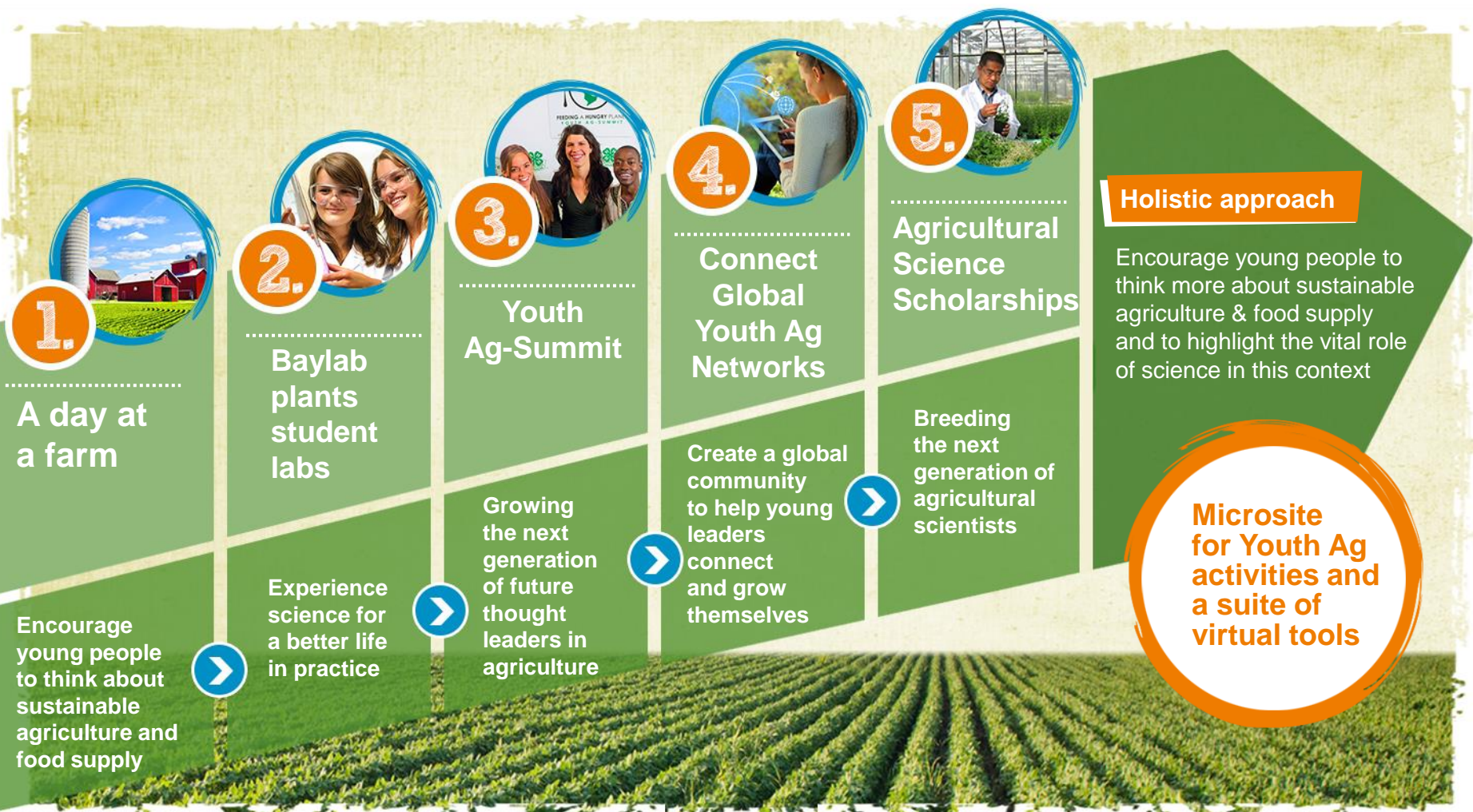
Building Capacity

- Youth Ag Summit

Summary

Bayer Agriculture Education Program

An holistic and global approach for next generation outreach



Global Youth Ag Summit

Canberra, 24-28 August 2015



Tackle issues, share visions,
start a movement



Future Farmers
Network

FEEDING A HUNGRY PLANET YOUTH AG-SUMMIT

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**

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 benfite fin the Developing World.





**THANK
YOU!**