Production Systems Plants

March 18, 2015
Research that makes a contribution to agriculture in Ontario

“How can I enhance my farm productivity and profitability?” (economic stability, and new challenges/opportunities)
“How can I adapt to societal or external pressures and variables? “

Priorities:
- Plant protection
- Production Efficiency
- Environmental Ecosystem impact
- Product Diversification
- Product Quality
- Genetic Technologies
Production Systems - Plants

1. **Plant protection**
   - IPM (integrated pest management)
   - Invasive species, emerging pests
   - Diagnostics

2. **Production Efficiency**
   - Improved technologies
   - Climate and demand driven efficiency
   - Harvest aids
   - Fertilizer efficiency

3. **Environmental Ecosystem Impact**
   - Water, soil and air quality
   - Plant impact on environmental health
   - Improve agricultural impact on natural pollinators

4. **Product Diversification**
   - New Crops and supporting production systems
   - Market research on products / packaging for new markets

5. **Product Quality**
   - Improved agronomy and production processes
   - Identify or improve quality traits

6. **Genetic Technologies**
   - Resistance to disease and pests
   - Evaluation of new cultivars/varieties
OMAFRA’s Research Focus

• Supporting research for ready receptors in policy, programs or the marketplace

• $10M annually in project funding, and another $50M supporting faculty, scientific/technical staff, and research station staffing, operation and maintenance

• 1.2 M per year for Plant Production Systems

• Funding delivered through the OMAFRA/UofG Partnership, and open competitive research programs (e.g. New Directions/Food Safety)
OMAFRA Research Advisory Network

**Priority Setting**

- **ARIO**
  - **Expert Panels** (every 5 years)

**Theme Advisory Groups**

Deliverable: Updated Priorities and Emerging Issues Document (updated annually)

**Theme Research Analyst**

**Stakeholder Engagement**

- Commodity or Theme-Based Meetings
- Informal Input
- Stakeholder Documents

**Implementation**

- Strategic priorities set by expert panels guide overall research program development
- Theme Advisory Groups reviews stakeholder input, monitors progress, & advises on priorities for annual calls for proposals
Developing and updating research priorities for PPS:

• **Horticulture**: OF&VGA and other horticulture commodity organizations-coordinated by VRIC

• **Field Crops**: Grain Farmers of Ontario, Ontario Bean Growers, Ontario Forage Council and Ontario Canola Growers
Proposal review

- Call for Letters of Intent: Fall of each year
  - High priority items
- Call for Full Proposals: winter each year
- **Review committee:**
  - Chaired by Research Program Director
  - Includes: OMAFRA, Industry, U of G and AAFC representatives
  - 2015 committee meets in a few weeks
Summary of the projects as plant commodity groups and research priorities

- Tier 1 – Operating funds
- Tier II – Research station access and technicians
- New Directions (OMAFRA)
Plant Production Systems

Number of Projects Funded

47 Projects
$19,849,325

58 Projects
$6,267,512

Total $26,116,837
Research according to each priority – Tier I & II

- Product Diversification, $3,720,715, 15
- Genetic Technologies, $5,224,071, 15
- Product Quality Improvement, $924,185, 7
- Plant Protection, $6,293,499, 36
- Environmental Ecosystem Impact, $3,120,024, 7
- Production Efficiency, $5,183,002, 25
- Confidential
Research according to each priority – Tier I

- Product Quality Improvement, $434,000, 4
- Plant Protection, $2,903,079, 24
- Genetic Technologies, $865,500, 7
- Production Efficiency, $867,269, 10
- Environmental Ecosystem Impact, $77,714, 3
- Product Diversification, $1,119,950, 10
Research according to each priority – Tier II

- Product Quality Improvement, $490,185, 3
- Plant Protection, $3,390,420, 12
- Genetic Technologies, $4,358,571, 8
- Production Efficiency, $4,315,733, 15
- Environmental Ecosystem Impact, $3,120,024, 4
- Product Diversification, $2,600,765, 5
Commodity groupings Tier I & II

Total Hort:
~$10 million
51 projects

Edible Horticulture,
$6,768,697, 39

Non-Edible Horticulture,
$3,250,284, 12

Field Crops,
$14,524,229, 54

Confidential

Confidential
Commodity Groupings Tier I

Edible Horticulture, $2,455,697, 24
Non-Edible Horticulture, $623,900, 5
Field Crops, $3,187,915, 29

Total Hort: $~ 3.08 million
29 projects
Commodity Groupings Tier II

- **Field Crops**: $11,336,314 (25 projects)
- **Total Horticulture**: $6.9 million (22 projects)
  - **Edible Horticulture**: $4,313,000 (15 projects)
  - **Non-Edible Horticulture**: $2,626,384 (7 projects)
Grain* Projects by Priority

*Corn, Soybeans, Cereals
Canola Projects by Priority

![Bar Chart]

- **Plant Protection**: 2 Tier I, 2 Tier II
- **Production Efficiency**: 1 Tier II

Legend:
- Tier I
- Tier II
Bean Projects by Priority

- **Plant Protection**: 2 Tier I, 1 Tier II
- **Product Diversification**: 1 Tier I
- **Genetic Technologies**: 2 Tier I, 1 Tier II
Forage Projects by Priority

Production Efficiency

- Tier I: 2
- Tier II: 1
Vegetable* Projects by Priority

*Includes Greenhouse
Fruit Projects by Priority

*Includes Tree Nuts
Floriculture Projects by Priority

- **Plant Protection**: 1 Tier I, 1 Tier II
- **Production Efficiency**: 1 Tier I, 1 Tier II
Nursery/Landscape by Priority

- Plant Protection: Tier I = 1, Tier II = 3
- Environmental Ecosystem Impact: Tier I = 2, Tier II = 2
- Product Diversification: Tier I = 2
- Genetic Technologies: Tier I = 1, Tier II = 1
Other Crops* Priority

*Miscanthus, Perennial Grass and Russian Dandelion
The New Directions Program

Very specific research priorities each year.

2013-14: Climate change, Rural Policy, Antimicrobial resistance

2012-13: Bioeconomy, Local Food, Rural Policy, Water Management

2011-2012: Niche markets, Water Management, Agri-Food Value Chains
New Directions

- Genetic Technologies, $61,999, 1
- Product Quality Improvement, $395,995, 2
- Plant Protection, $422,250, 3
- Production Efficiency, $348,501, 2
- Environmental Ecosystem Impact, $309,450, 2
- Product Diversification, $1,067,572, 6
• Wide range of priorities and projects
• High level of matching funds (over 1:1)
• Many, many research collaborators
• Close cooperation with OMAFRA, AAFC, other researchers within Canada and the U.S.
Conclusions

• Many Plant Production Systems projects are shared with other themes, or reflected in other themes, such as Environment and Emergency Management.

• Thus, there is more research on plants than is reflected here
Questions?
Theme Advisory Groups (TAGs)

- Meeting frequency may vary – likely annually or semi-annually
- Membership:
  - Permanent members:
    - Director Champion – OMAFRA (TAG Lead)
    - Research Program Director – U of G
    - Theme Research Analysts (RPC and KTT) – OMAFRA
    - Federal representative (e.g. AAFC)
  - Non-permanent/invited members:
    - OMAFRA technical, policy and program area staff
    - External stakeholders as determined by the Director Champion. Members may include:
      - Academics
      - External stakeholders (industry, business, NGO’s)
      - Representatives from other governments/agencies
Theme Advisory Groups

• The Theme Advisory Group (TAG) is not a stakeholder group, but is a key group of individuals that collectively has sufficient breadth and depth of knowledge and experience to be able to analyze and evaluate stakeholder and other input and advise on the direction for research in the theme area.

• TAGs encourage a synergistic and collaborative approach to manage OMAFRA-funded research and to achieve the strategic priorities identified for the seven research themes.

• As it relates to research program development under the OMAFRA-U of G Agreement, the TAG will work within the governance structure and processes outlined in that Agreement.

• TAGs may help to assess progress in research but do not assume OMAFRA’s or UofG’s responsibilities under the partnership agreement.

• TAG Deliverable: Annual Updated Priorities and Emerging Issues document.
New Directions

- Genetic Technologies, $176,999, 17%, 2
- Product Quality Improvement, 0, 0%
- Product Diversification, $520,124, 33%, 4
- Environmental Ecosystem Impact, 0, 0%
- Plant Protection, $737,590, 42%, 5
- Production Efficiency, $198,600, 8%, 1