Challenges of Funding Specialty Agricultural Projects in Ontario and Canada

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Challenges

- Crop Value
- Government Policy
- Succession Planning
- Industry Input
- Scientific Innovation

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Crop Area in Ontario

Major crops in 2009	Hectares
Field crops	3,400,000
Field vegetables	71,000
Fruit	25,000
Greenhouse vegetables	650
Greenhouse ornamentals	460

OMAFRA Statistics 2011

Crop Value in Ontario

Major crops in 2009	**$Million**
Soybeans, corn ,wheat	2,100
Field vegetables	530
Fruit	220
Greenhouse vegetables	530
Greenhouse ornamentals	742

OMAFRA Statistics 2011

Crop Area in Ontario

Major crops in 2009	Number
Field crops	13
Field vegetables	32
Fruit	16
Greenhouse vegetables	4
Greenhouse ornamentals	31

OMAFRA Statistics 2011

Specialty Crops

- Small acreage - 3% crop area
- High value - 50% crop value
- Many crops - 80% of crops
- Only one of a number of crops on one farm
- Few growers for each crop

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Government Policy

- Cheap food and Food security
  - Frozen strawberries
- Funding for research
- Research Priorities for Agriculture

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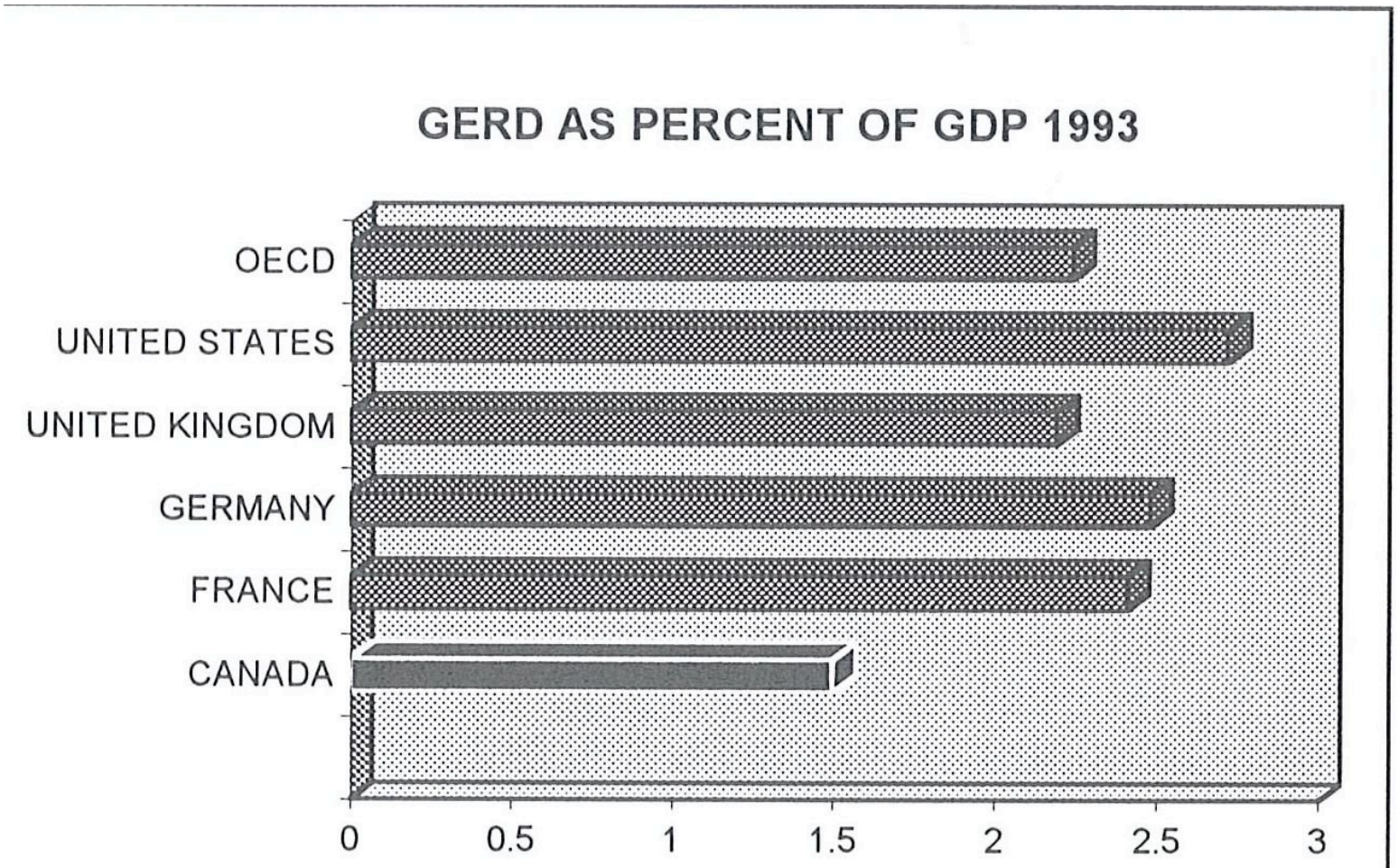
carc crac
Canadian Agri-Food Research Council
Conseil de recherches agro-alimentaires du Canada

AGRI-FOOD RESEARCH AND TECHNOLOGY TRANSFER: RENEWING THE NATIONAL STRATEGY

I. Executive Summary
II. Think Piece
III. Country Comparisons

SEPTEMBER 1996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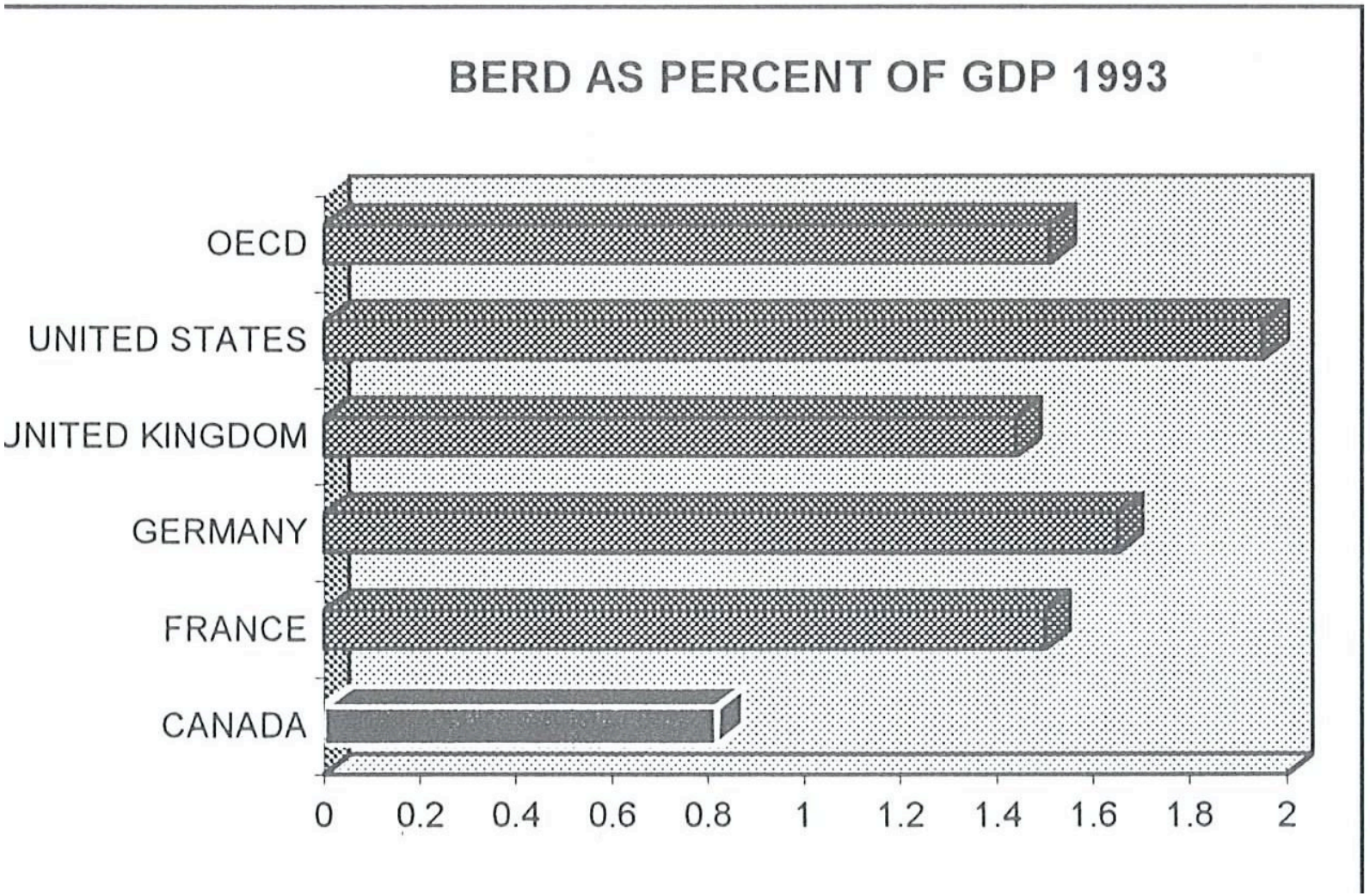
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Research Funding

- Emphasise more basic research
  - NSERC, 2010 – agriculture no longer a research priority
- Reduced base funding for field agricultural research
- Grants + matching funding for agricultural research
- Improved tax credits for research

Grants

- Federal
  - Industrial Research Assistance Program
  - NSERC
  - AAFC – Grow Forward -DIAP and Clusters
- Provincial
  - OMAFRA – New directions
  - OMAFRA / Univ. of Guelph - Tier 1
  - Ontario Centres of Excellence

Grants

- Short-term funding
  - 1-3 years
- Research projects – longer term
  - Perennial crops
    - Hazelnuts - full crop after 7 years
    - American Chestnut – breeding cycle 10 years

Tax credits

- Federal
  - Scientific Research and Experimental Development Tax Credit
- Provincial
  - Ontario Innovation Tax Credit
  - Ontario Business-Research Institute Tax Credit
  - Ontario Research and Development Tax Credit
- Tax deduction
- Tax credit flow-though for non-profit organizations

Small and medium-sized non-manufacturers 2009 public, private or foreign-owned

	R&D Expenditures	**Expenditures at eligible Ontario research institutes**
Gross expenditure	$100.00	$100.00
After-tax cost of $100 expenditure	$46.07	$35.83

Research and Development in Ontario ,2009

Government Policy

- Cheap food and Food security
  - Frozen strawberries
- Funding for research
- Research Priorities for Agriculture

Research Priorities

	AAFC	OMFRA
Human Health	X	X
Food quality and safety	X	X
Food security/emergency management	X	X
Production systems	**X**	**X**
Environmental sustainability	X	X
Understanding bioresources	X	
New opportunities from bioresources	X	X
Agriculture and Rural Policy		X

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Succession Planning

- Number of researchers for specialty crops declining
- Move to industry supported researchers

Number of researchers for specialty crops in Ontario

- U of Guelph
  - 1997 – 27 horticulture faculty
  - 2011 – 15 horticulture faculty
- VRIC
  - 1997 – 0
  - 2011 – 3 researchers

Strawberry and Raspberry Breeders in Canada in 2011

- BC - Chaim Kempler, AAFC
- ON - Adam Dale, Univ. of Guelph
- PQ - Sharokh Khanizadeh, AAFC
- NS - Andrew Jamieson, AAFC

Strawberry and Raspberry Breeders in Canada in 2016

- BC -
- ON -
- PQ -
- NS -

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Industry Input

- Low profit margins
- Industry groups often small
- Many disorganized
- Research expectations
  - Can be poorly defined
- Research Funding
  - Can be poorly understood

Industry Input

- Cost of research program
  - Researcher $70-150K
  - Technician $30-60K
  - Post-doc c.$50K
  - Graduate student $21-28K
  - Operating $20-40K or more
  - Overhead 25-40%
- Total $250-350K per year

Industry Input

- ‘A small Canadian Controlled Private Corporation (CCPC) can, for a $100,000 up front initial investment, generate $250,000 annually in Research Dollars in Perpetuity.’

  A.Dale and E.Currie 2010

Industry Input

- Cost break-down
  - Grants 50%
  - Tax credits 32%
  - Industry capital 18%
- $1M of research would require $182K of private support annually.

Industry Input

- At accepted interest rates, grower organizations would need to hold $1-2 million to give the required funding
- Ask their members to fund $182K as a check - off each year.

Industry Input

- An alternative funding model
  - which invests in the capital markets
  - requires only an initial investment
  - can generate high returns each year

Industry Input

- Challenge
  - Organize small industry groups
  - Educate
    - research priorities
    - Research funding

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Scientific Innovation

- Collaboration
  - You can encourage cooperation, you cannot demand it
- Scientist meets scientists/industry personnel
  - Informally
  - Meetings
    - Regional, National, International

Scientific Innovation

- Challenges
  - Travel to meet co-operators
    - Many granting agencies discourage or forbid travel
  - Reorganise workloads
    - Make time to meet
  - Reorganise workplace
    - Encourage casual contact
  - Funding for initial concept research
    - ‘MacIntosh’ apple strawberry / Blue Trillium

Challenges for Specialty Agriculture

- Crop value
  - Small acreage, high value crops
- Grants: overcome short-term funding for longer-term projects
- Navigate the research priorities
  - Funding for initial concepts
- Maintain research community over the generations

Challenges for Specialty Agriculture

- Encourage private investment
  - research priorities
  - Fund from investments
- Encourage people to meet
  - Granting agencies to provide support