

Collaborations in research in agriculture and food at Laval University, Québec, Canada

Jean-Paul Laforest

ICA-CEDIA
Leuven, Belgium

June 2009



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Plan

- **Introduction**
- **Organisation and financing**
- **University research**
- **Agricultural research**
- **Partnership with the private sector**
- **Conclusion**



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Introduction

Universities

- **Post-secondary education**
- **Research**
- **Services to society**
- **Formation of highly trained professionals**
- **Formation of future researchers**
- **Flexible and “free” (non-oriented) research environment**



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Organisation & Financing

- **No federal (national) Ministry of Education**
- **Education is under provincial and territorial jurisdiction (Canada has 10 provinces and 3 territories)**
- **University main budget:**
 - **Subsidies from provincial governments**
 - **Tuition fees**
 - **Others (municipal, private, etc.)**
- **Technically, the provinces finance teaching, not research**
- **However: professor salaries, infrastructures, technical and clerical personnel are part of research**

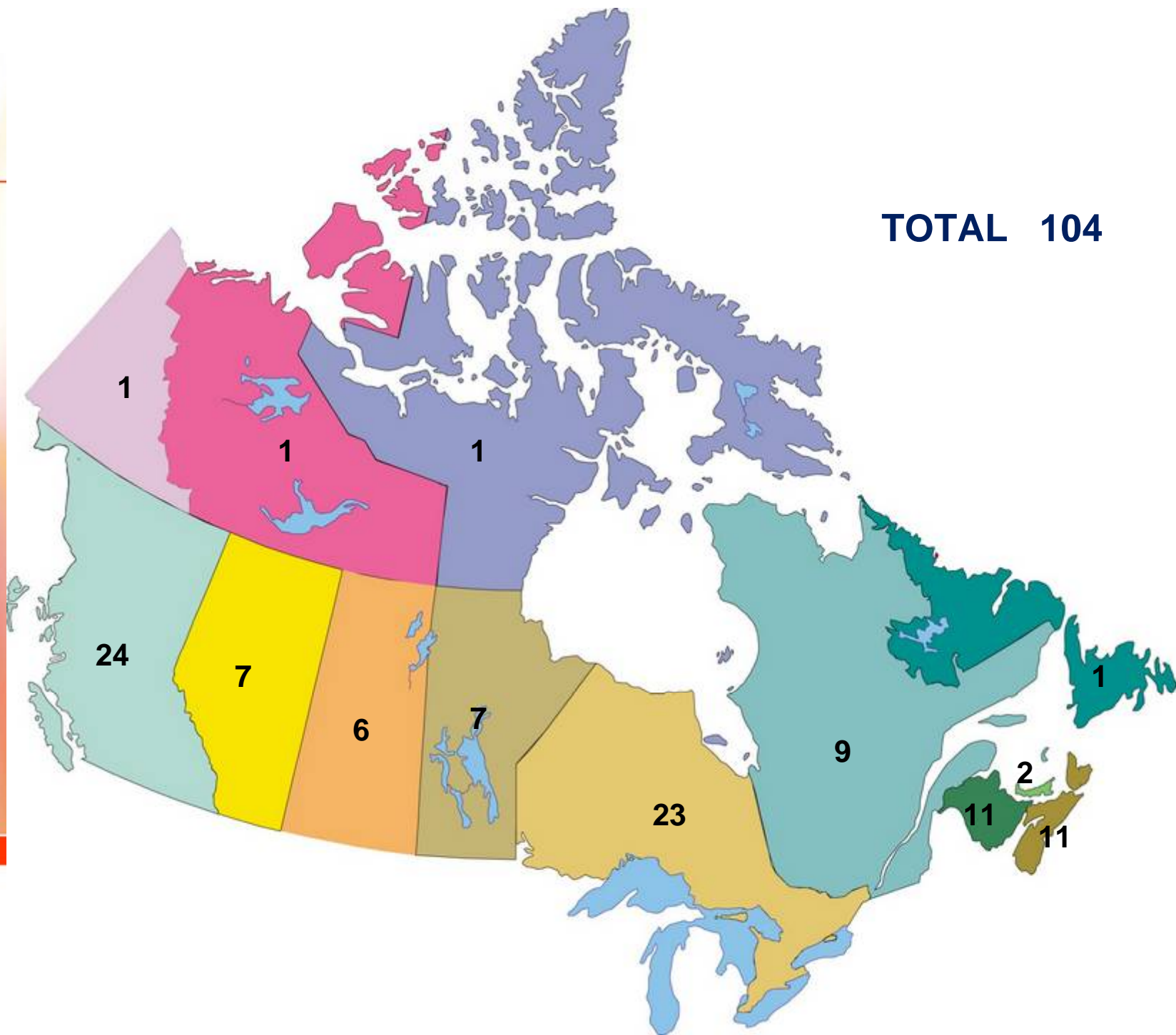


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TOTAL 104



Organisation & Financing

Canadian universities

- **Medical doctoral universities**
- **Comprehensive universities**
- **Primarily undergraduate universities**
- **Colleges**



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Organisation & Financing

- **Universities**
 - **Federal research centers (NRC, AAFC, etc.)**
 - **Provincial or provincially supported R&D organisations**
 - **Private sector**
-
- **Financing**
 - **Federal**
 - **Provincial**
 - **Private sector**

University research

- **Tri-councils (NSERC, CIHR, SSHRC)**
- **Canadian Foundation for Innovation**
- **Canadian Chairs**
- **AAFC and other ministries**
- **Provincial programs**
- **Organisations of producers, food processors, etc.**
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University research

- Researchers, individually, submit projects to existing programs
- Researchers, collectively (teams, networks, etc.), submit projects on existing programs
- Universities, individually or collectively, submit projects on existing programs
- Final granting, in most cases, is allocated according to scientific merit (quality of the project, quality of the researcher-team, pertinence, etc.)
- Could be the same or different for private funding

University research

- In 2006, among OCDE countries, Canada ranked
 - ✓ 2nd in higher education R&D : GDP
 - ✓ 6th in publications per capita
 - ✓ 14th (6th among the G-7) in business expenditures in R&D : GDP



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University research

- **Research intensive industry: small share of Canadian economy**
- **Large proportion of small and medium businesses**
- **Regulatory and market place framework policies that might not be favourable**
- **Access to funding and venture capital that tends to be invest in many small firms at early stages of development (global effort spread too thin)**

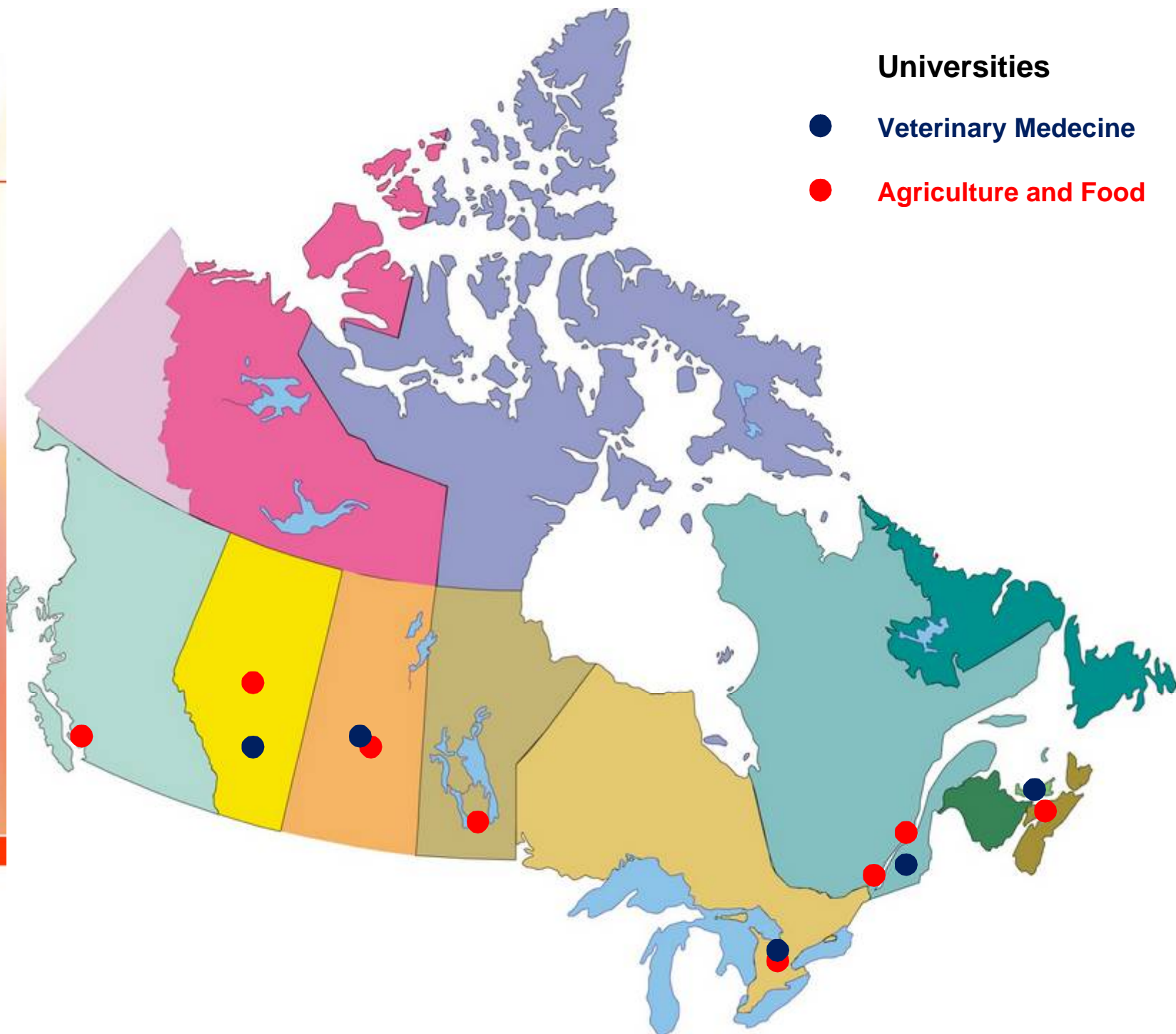
Agricultural research

- **Agriculture and Agri-Food Canada (45%)**
- **Universities (45%)**
 - **8 Faculties of Agriculture and Food**
 - **5 Faculties of Veterinary Medicine**
- **Private sector (10%)**



Universities

- Veterinary Medicine
- Agriculture and Food



Agricultural research



2005-2006

Undergraduates

7800 students

M.Sc. + Ph.D.

2300 students

Researchers

1100 professors

Federal support

57 M

Provincial support

Around 50 M (?)

Industrial support

50 M



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Agricultural research

Agriculture and Agri-food Canada (AAFC)

- **Canadian Agri-Science Clusters**
- **Developing Innovative Agri-Products**
- **Growing Canadian Agri-Innovations Program**
 - **Industry leadership – set the goals, find the partners**
 - **Applied science and implementation of applied science**
 - **Build links between industry-universities-AAFC research centers**



Partnership with the private sector



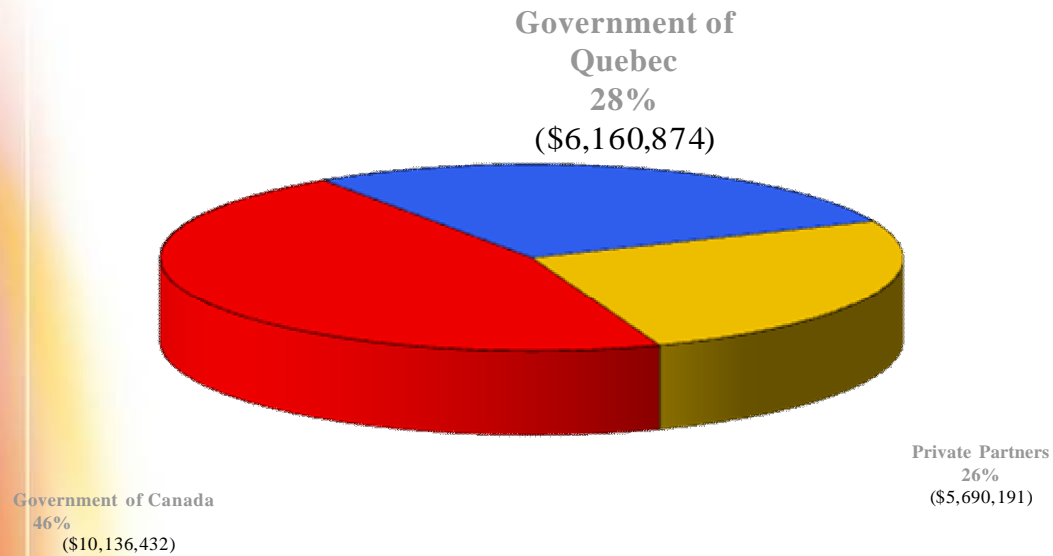
- **Laval University ;**
 - ✓ **TOTAL = 230 M \$**
 - ✓ **Private contribution = 73 M \$**
- **Faculty of Medecine (FM)**
- **Faculty of sciences and engineering (FSG)**
- **Faculty of agriculture and food (FSAA)**
- **Faculty of forestry and geomatics (FFG)**

- **FM > FSAA > FSG > FFG**

- **FSAA → first at Laval, first in Canada, for the proportion of research financed by the private sector**

Agricultural research

Total FSAA: \$21,987,497



Partnership with the private sector

- **Chairs (private-public, private)**
- **Research grants (governmental programs with matching funds)**
- **Research contracts (problems with IP and overheads)**

Indirect support to research, from the private sector:

- **2008-2009: 197 students receiving 241,000 \$ in scholarships at FSAA**



Partnership with the private sector

Causes of success

- **Strong links already established (alumni)**
- **Professors involved in extension activities**
- **Granting programs that stimulate collaboration public-private**
- **Financial incentives**



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Partnership with the private sector

Financial incentives

- **Not automatic (request that has to be approved)**
- **Not all expenses are acceptable and incentives differ according to the types of expenses**
- **More advantageous for small enterprises**
- **Can cover up to 50% of research expenses**



Partnership with the private sector

“Policy on building relations with our partners”

- **Faculties divided on the subject**
- **Situation needs to be clarified**
- **Allow the university community to reflect upon the subject**

- **Great lines of the policy**
 - ✓ **Partnerships are acceptable and we should be open to opportunities**
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Conclusion

- **Partnership between universities and the private sector is suitable for both parties and for the society in general**
- **In Canada, the government has been putting in place in the last few years many different types of incentive to promote research partnership between the private sector and universities**
- **Laval University and the FSAA have been very successful with that type of research partnership because we believe in it, promote it within our institution and take full advantage of all the opportunities**



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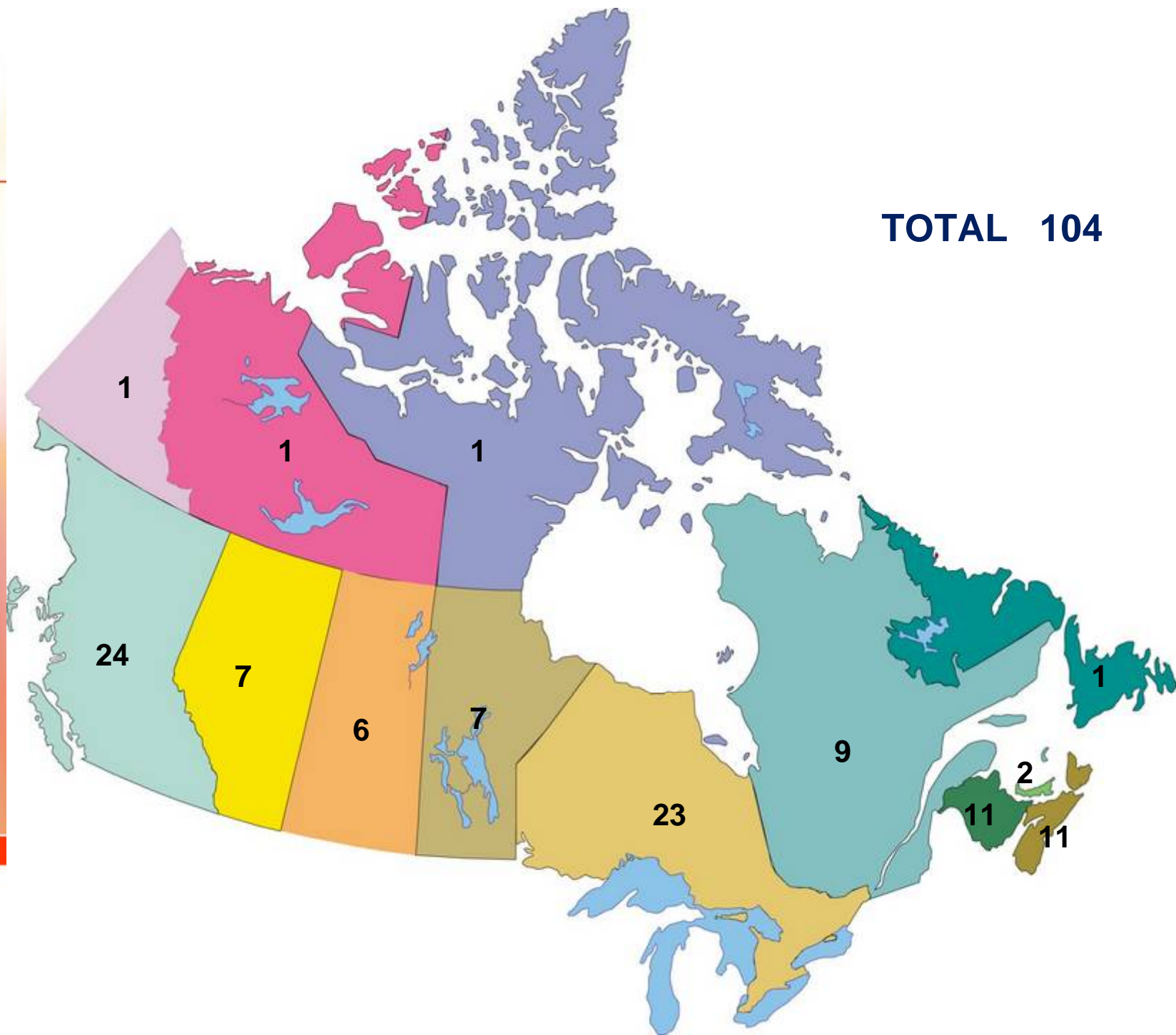


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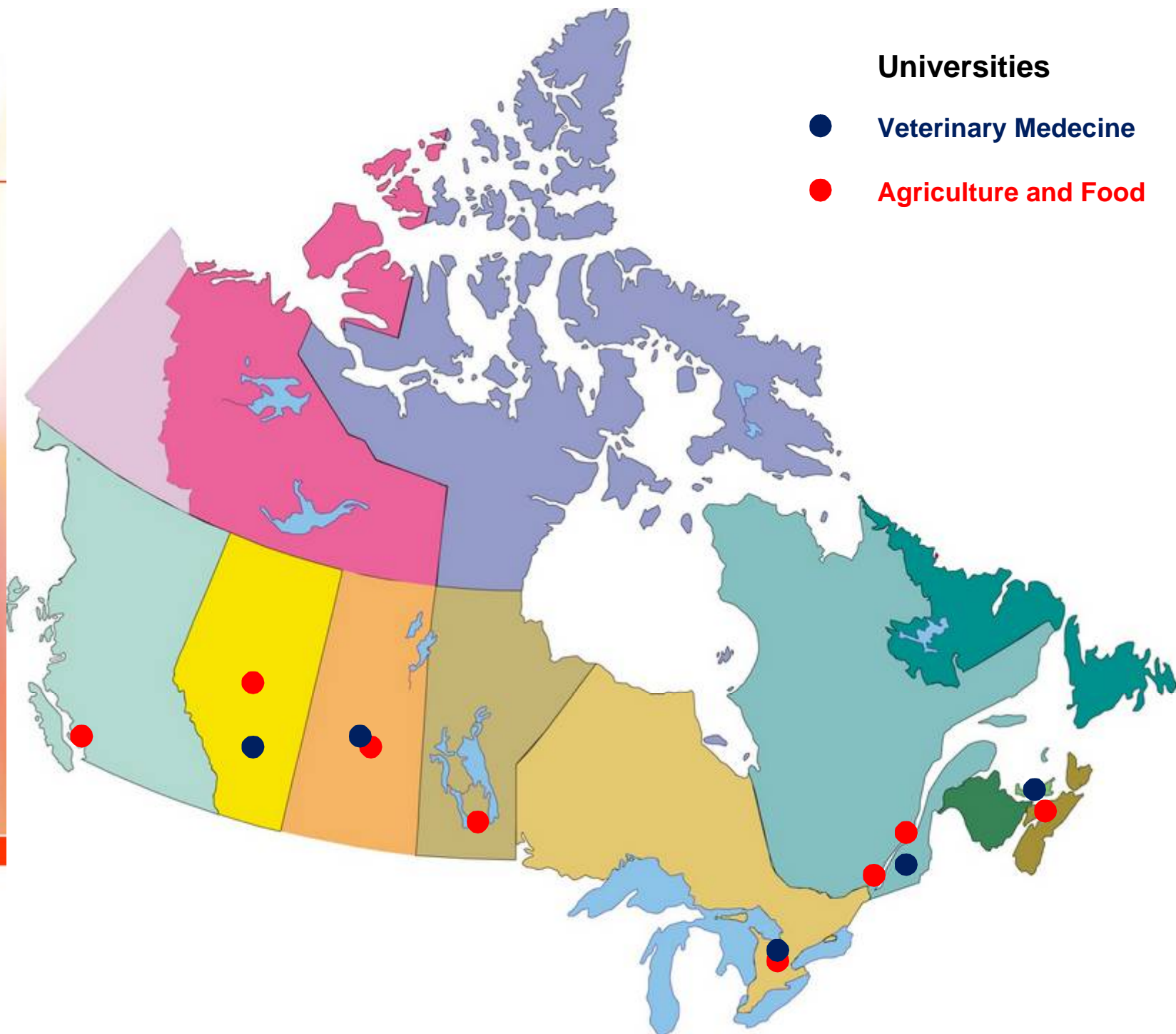
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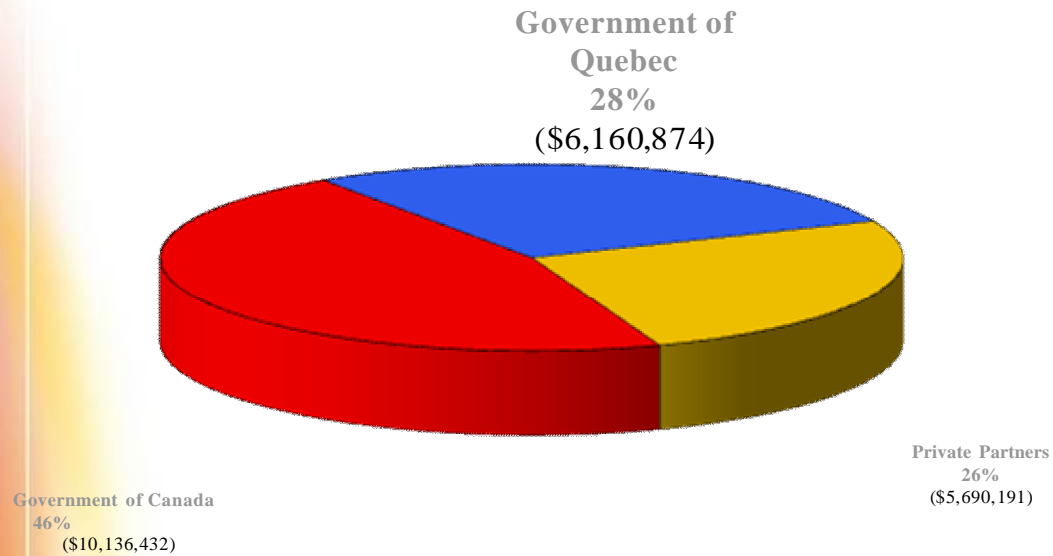
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