National Institute for Agricultural and Food Research and Technology (INIA)
INIA is a Public Research Organization (OPI)

- One of the seven Public Research Organisations of the State Secretariat for Research, Development and Innovation of the Ministry of Economy and Competitiveness
- Only OPI dedicated exclusively to agrifood and forestry research
- 900 staff, 64% in research activities
- The State Secretary for R&d&i is the President of INIA
INIA: responsibilities

INIA has a triple responsibility:

a) **Manage** and **execute scientific research projects** in the agricultural, food and forestry areas and promote **technology transfer**

b) **Promote cooperation** and **coordination** of agricultural and food research, specially **with the Autonomous regions**, through the Coordinating Commission of Agricultural Research

c) **Represent** our **country** in agricultural and food scientific and technological platforms in matters of **agricultural and food research** and foster national and international **cooperation**
INIA - Autonomous Regions System

INIA chairs the Coordinating Commission of Agricultural Research
# National R&D&i Plan 2008-2011

<table>
<thead>
<tr>
<th>Instrumental Action Lines</th>
<th>National Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Resources</td>
<td>HHRR Training</td>
</tr>
<tr>
<td></td>
<td>HHRR Recruiting and Hiring</td>
</tr>
<tr>
<td>R&amp;D&amp;i Projects</td>
<td>Fundamental Research Projects</td>
</tr>
<tr>
<td>Scientific and Technological Infrastructures</td>
<td>Scientific-technological Infrastructures</td>
</tr>
</tbody>
</table>

INIA is a main actor in the management of agrifood and forestry Subprograms.
## INIA expenditures budget (2008-2012)

<table>
<thead>
<tr>
<th>Year</th>
<th>Personnel (41%)</th>
<th>Current goods and services (11%)</th>
<th>Financial costs</th>
<th>Current transfers (1%)</th>
<th>Investments (11%)</th>
<th>Capital transfers (33%)</th>
<th>Financial assets</th>
<th>Financial liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>29,0</td>
<td>8,5</td>
<td>3,0</td>
<td>16,6</td>
<td>26,4</td>
<td>8,5</td>
<td>21,2</td>
<td>26,4</td>
</tr>
<tr>
<td>2009</td>
<td>33,9</td>
<td>8,8</td>
<td>2,2</td>
<td>16,6</td>
<td>26,4</td>
<td>8,8</td>
<td>21,2</td>
<td>26,4</td>
</tr>
<tr>
<td>2010</td>
<td>33,7</td>
<td>9,3</td>
<td>1,7</td>
<td>8,8</td>
<td>27,3</td>
<td>9,3</td>
<td>2,0</td>
<td>27,3</td>
</tr>
<tr>
<td>2011</td>
<td>32,2</td>
<td>9,3</td>
<td>1,7</td>
<td>8,8</td>
<td>26,6</td>
<td>9,3</td>
<td>2,0</td>
<td>26,6</td>
</tr>
<tr>
<td>2012</td>
<td>32,2</td>
<td>8,7</td>
<td>0,7</td>
<td>8,7</td>
<td>25,6</td>
<td>8,7</td>
<td>2,0</td>
<td>25,6</td>
</tr>
</tbody>
</table>

(Million Euros)
## INIA Personnel

<table>
<thead>
<tr>
<th></th>
<th>Tenured</th>
<th>Permanent support staff</th>
<th>On contract</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Research</strong></td>
<td>313</td>
<td>70</td>
<td>175</td>
<td>558</td>
</tr>
<tr>
<td><strong>Management and others</strong></td>
<td>154</td>
<td>93</td>
<td>104</td>
<td>351</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>467</td>
<td>163</td>
<td>279</td>
<td>909</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
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<th>Permanent support staff</th>
<th>On contract</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Management and support units</strong></td>
<td>3</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Secretariat General</strong></td>
<td>69</td>
<td>49</td>
<td>1</td>
<td>119</td>
</tr>
<tr>
<td><strong>SGPCP</strong></td>
<td>20</td>
<td></td>
<td>7</td>
<td>27</td>
</tr>
<tr>
<td><strong>SGIT Administration</strong></td>
<td>5</td>
<td>3</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td><strong>OTRI</strong></td>
<td>11</td>
<td></td>
<td></td>
<td>11</td>
</tr>
<tr>
<td><strong>Seeds unit</strong></td>
<td>39</td>
<td>34</td>
<td>55</td>
<td>128</td>
</tr>
<tr>
<td><strong>Plant protection products units</strong></td>
<td>7</td>
<td>7</td>
<td>12</td>
<td>26</td>
</tr>
<tr>
<td><strong>Employment workshop</strong></td>
<td></td>
<td></td>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>154</td>
<td>93</td>
<td>104</td>
<td>351</td>
</tr>
</tbody>
</table>
INIA: structure

INIA
Director

SGPCP
Deputy General Directorate for Prospective and Program Coordination

SGIT
Deputy General Directorate for Research and Technology

SG
Secretariat General
INIA
Director

SGPCP
Deputy General Directorate for Prospective and Program Coordination

SGIT
Deputy General Directorate for Research and Technology

SG
Secretariat General

- Human Resources
- Legal
- Administration
- Financial
- IT
INIA Director

SGPCP
Deputy General Directorate for Prospective and Program Coordination

SGIT
Deputy General Directorate for Research and Technology

SG
Secretariat General

• Calls for projects
• International relations
• Planning and prospective
National R&D&i Plan calls for projects

The **SGPCP** is responsible for:

- National Subprogram for Agriculture & Food Resources and Technologies (**RTA** projects).
- National Subprogram for the Conservation of Genetic Resources (**RF**, **RZ** and **RM** projects).
- Complementary actions
- Human resources training
- Human resources training and recruiting
- Scientific and technological infrastructures
National R&D&i Plan projects managed by INIA (2008-2011)

(Million Euros)

- INIA-CCAA PhD Subpr.
- RTA
- RG
- Infrastructures
- Other proj. and compl. actions
- Other actions (*)

(*) Other actions:
  - Technology transfer
  - Other research actions
  - INIA Strategic Plan
  - Teruel
Funded RTA Projects (2004-2011)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nº of funded projects / yr</td>
<td>136</td>
<td>120</td>
</tr>
<tr>
<td>Average financing per project (€ X 1,000)</td>
<td>72</td>
<td>90</td>
</tr>
</tbody>
</table>
Funded RF, RZ & RM Projects (2004-2011)

- Nº of funded projects / yr
  - 2004-2007: 52
  - 2008-2011: 46

- Average financing per project (€ X 1,000)
  - 2004-2007: 48
  - 2008-2011: 45
INIA International Relations

Through the **SGPCP**, INIA represents Spanish agricultural research at a range of international bodies and platforms:

- **SCAR** (Standing Committee for Agricultural Research)
  - **SCAR-CWG**s: biomass, fisheries, MGO’s, IPM, AKIS.
- **EURAGRI** (European Agricultural Research Initiative).
- **EIARD** (European Initiative for Agricultural Research for Development).
- **ECART** (European Consortium for Agricultural Research in the Tropics).
- **ERANETS**: ERA-ARD, ARIMNET, EUPHRESCO, EMIDA, RURAGRI, WOODWISDOM, ANHIWA, CORE-ORGANIC and SUSFOOD.
- **OCDE, FAO, CGIAR, FONTAGRO**.
- **FACCE-JC**: Sustainable Food Security under Climate Change
- **7PM**: KBBE expert, European Projects Office (Euroscience)
- **INIA-Latin America** System.
Latin America INIA System

A permanent forum for cooperation, training and information exchange among the national agricultural research organizations of Spain, Portugal and Latin American countries.

Constitution act held in Lima (Peru), March 2003

Areas of activity of the consortium:
  • Institutional support to strengthen agrifood research
  • Strategic projects
  • Training: doctoral programs and short stays
INIA
Director

SGPCP
Deputy General
Directorate for Prospective
and Program Coordination

SGIT
Deputy General
Directorate for Research
and Technology

SG
Secretariat General

• Execution of R&D&i projects
• Technology transfer
INIA and agrifood and forestry research in Spain

- **Plant production and protection**  
  Improved productivity and quality. Conservation of plant genetic resources

- **Animal health and production**  
  Improved productivity and quality through breeding and improved health. Has a P3+ facility

- **Forestry**  
  Sustainable forest management, conservation of genetic resources, biomass production, forests as sinks of greenhouse gases and fire prevention and remediation

- **Food safety and quality**  
  Improved microbiological food safety and nutritional quality of milk, meat and plant food products. Development of processes and products

- **Environment**  
  Environmental footprint of agriculture, identification and analysis, minimization, waste management and restoration
SGIT budget for R&D&i activities (2008-2011)

(Million Euros)

2008 2009 2010 2011

15.0 16.3 22.5 20.8

International financing

National de R&D&i Plan (RTA, RG)

National R&D&i Plan (AGL, etc.)

AT, OT

Other externally financed projects

CAM

MGRAMA

Other public financ. (*)

Contracts and agreements

Private financing

(*) Includes E Plan, specially in 2010 y 2011
SGIT projects 2011
(Funded by INIA)

TOTAL: 93 projects

RTA Program projects: 57
Genetic Resources: 17
Technology transfer activities: 7
Technology activities: 12
SGIT projects 2011
(Not funded by INIA)

TOTAL: 120 projects

EU programmes: 24
Other international programmes: 5
Fundamental Research Programmes (AGL): 29
Other national programmes: 49
Regional projects and other projects: 13

(Nº of projects)

TOTAL: 120 projects
SGIT contracts and agreements (2008-2011)

(Nº of contracts and agreements)

- 2008: 63 New, 178 Active
- 2009: 50 New, 172 Active
- 2010: 66 New, 190 Active
- 2011: 53 New, 178 Active
SGIT scientific output (2008-2011)

- **2008**
  - Scientific articles: 254
  - Books and chapters: 32
  - Extension articles: 32
  - PhD theses: 2
  - Patents: 2

- **2009**
  - Scientific articles: 271
  - Books and chapters: 22
  - Extension articles: 96
  - PhD theses: 18
  - Patents: 6

- **2010**
  - Scientific articles: 344
  - Books and chapters: 39
  - Extension articles: 116
  - PhD theses: 39
  - Patents: 6

- **2011**
  - Scientific articles: 320
  - Books and chapters: 60
  - Extension articles: 42
  - PhD theses: 23
  - Patents: 6
Forest Research Centre

• Silviculture and forest systems management
  – Silviculture
  – Forest remote sensing
  – Forest fires

• Forestry products
  – Forestry chemistry
  – Cellulose and paper
  – Wood and cork

• Forest ecology and genetics
  – Population genetics and evolution
  – Genomics and ecophysiology
  – Applied forest ecology
  – Climate change and damage to forests
Animal Health Research Centre

- Immunoprofilaxis of vector transmitted viral diseases
- Applied animal health immunology
- Control strategies for swine viruses
- Molecular and cellular biology of prions
- Emerging and transboundary diseases
- Epidemiology and environmental health
Plant Genetic Resources Centre

• Collection, conservation, characterisation, evaluation and utilisation of plant genetic resources for food and agriculture (PGRFA)
• Contribute to national coordination of these activities, maintaining a collection of safety duplicates of all seed propagated varieties in the Network of Collections of the National Plan. Maintain and publish in INIA’s web page the National Repository of Plant Genetic Resources
• As an institution of the Ministry of Economy and Competitiveness and advisor to the Ministry of Agriculture, Food and Environment, represent official Spanish conservation activities in international platforms
Biotechnology Department

- Biotechnology of plant viruses
- Cell division and growth. Response to abiotic stimuli
- Biology of plant development. Biotechnological implications
- Genetic, molecular and biotechnological analysis of plants of agricultural interest
- Molecular and cellular biotechnology and biology
- Biotechnology of animal viruses
- Swine immunology
- Genomics and vaccination of fish
Environment Department

- Agronomy
- Depuration and agricultural use of manure and urban waste
- Endocrine disruption and toxicology of contaminants
- Ecotoxicology and environmental risk assessment
- Environmental chemistry
Animal Breeding Department

• Application of new genomics and statistical tools in order to:
  - Increase the precision of selection and genetic progress
  - Determine the genetic base of characters difficult to improve with traditional methods
  - Conserve genetic resources in animal populations

• Advice and transfer of results of research to the agriculture and aquaculture sectors
Plant Protection Department

- Agriforest entomology
- Weed control
- Plant pathology
- Plant viruses
Animal Reproduction Department

Research groups:
• Conservation of zoogenetic resources
• Physiology and technologies of reproduction in small ruminants
• Molecular embryology, stem cells and transgenesis
• Assisted reproduction and preimplantational embryology in bovine
• Physiology and reproductive biotechnology in swine

Singular facilities:
• Germplasm bank, embryos and somatic cells
• Animal housing facility and experiment farm

Scientific output (annual average)
• 46 JCR publications
• 15 active competitive projects
• 3 PhD theses
Food Technology Department

- Food microbiological safety
- Technology of meat and dairy products
- Carcass and meat quality
- Biochemistry and safety of plant foods
Food Quality Centre


• Research lines
  - Functional composition of foodstuffs: lectins, trypsin and chymotrypsin inhibitors, polyphenols, flavonoids, isoflavones, terpenes, phytosterols, β-glucans
  - Chemical-analytical studies of bioactive compounds
  - In vitro biological effects of bioactive compounds in different cellular models
  - Evaluation of microbial activity
  - Proteomic study of foodstuffs
  - Oxidation parameters of foodstuffs
  - Food microbiology
  - Quality control and microbiological safety
  - Organoleptic characterization of foods
Technical Directorate for the Evaluation of Plant Varieties and Plant Protection Products

Plant varieties
- Technical variety testing
- Agronomic value tests
- Disease resistance tests
- Quality control of commercial plant material
- Cooperation with national and international organizations
- Official international approval (ISTA and CPVO)

Plant protection products
- Evaluation for setting Maximum Residue Limits of active substances (Regulation 396/2005)
- Scientific studies on the chemical behavior of plant protection products in the environment and ecological indicators of their use
National Institute for Agricultural and Food Research and Technology (INIA)