

## POLAPGEN

### Polish Consortium of Applied Genetics and Genomics

Coordinator: Institute of Plant Genetics, Polish Academy of Sciences  
Poznań, Poland



**Aim:** research, development and promotion of progress in the area of applied genetics and genomics, mainly for modern plant breeding

#### Members:

Danko Plant Breeders Ltd., Choryń	DANKO
Poznań Plant Breeders Ltd., Tulce	PHR
Institute of Bioorganic Chemistry PAS, Poznań	ICbB PAN
University of Agriculture, Kraków	UR Kraków
Institute of Plant Physiology PAS, Kraków	IFR PAN
Silesian University, Katowice	UŚ
Institute of Plant Genetics PAS, Poznań	IGR PAN
Adam Mickiewicz University, Poznań	UAM
Poznań University of Life Sciences, Poznań	UP Poznań
Institute of Agricultural and Forest Environment PAS, Poznań	IŚRiL PAN
Institute of Agrophysics PAS, Lublin	IA PAN
Institute of Soil Science and Plant Cultivation – National Research Institute, Puławy	IUNG-PIB



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## **Project POLAPGEN-BD**

**„Biotechnological tools for breeding cereals with increased resistance to drought”**

Project number: UDA.POIG.01.03.01-00-101/08

Beneficiary: Consortium POLAPGEN represented by Institute of Plant Genetics PAS,  
Poznań

Project coordinator: Institute of Plant Genetics PAS, Poznań

Project realized in the framework of:

**Program Innovative Economy 2007-2013 ([www.poig.gov.pl](http://www.poig.gov.pl))**

**Priority I „Research and development of modern technologies”**

**Action 1.3 „Support for R&D projects for entrepreneurs carried out by scientific entities”**

**Sub-action 1.3.1 „Development projects”**

### **POLAPGEN-BD - aim:**

The project aims at providing to the breeders the tools which are necessary to obtain cereal varieties resistant to water deficit. Markers identifying resistant genotypes, field and laboratory resistance tests and the ideotype of a resistant plant will be obtained.

- Financial support: **23.4 mln zł** (approx. 6 mln euro, 85% European Regional Development Fund, 15% Polish government)
- Period: **2010-2014**
- Number of work packages: **23 research + 1 administration**
- Number of researchers: **71**
- Number of PhD students: **22**
- Number of students: **48**
- Number of new jobs (full-time positions): **24**



**INNOWACYJNA  
GOSPODARKA**  
NARODOWA STRATEGIA SPÓJNOŚCI



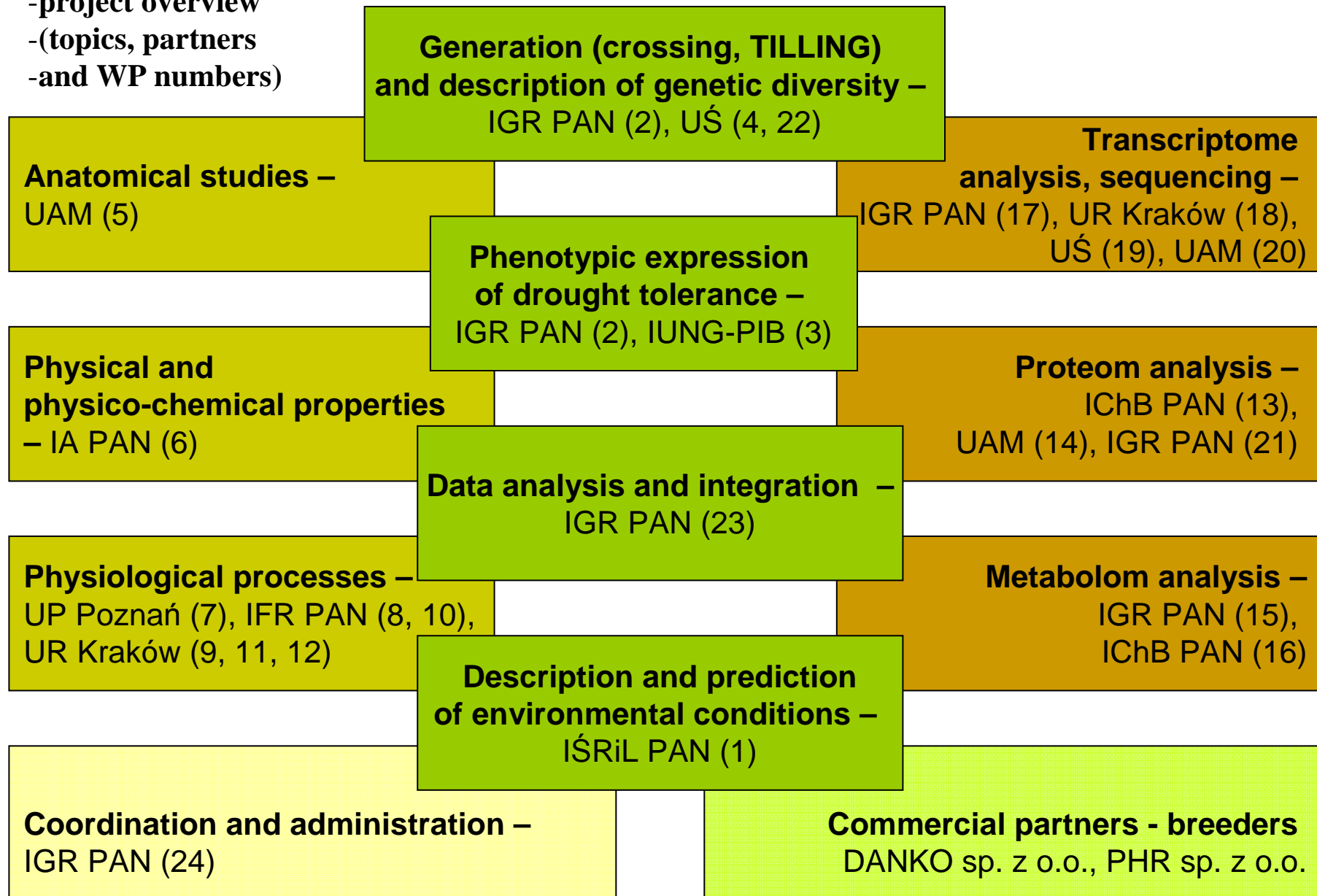
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Work package number / head	Partner performing research	Support (in Polish złoty)	Total support for partner
1. prof. dr hab. Andrzej Kędziora	Institute of Agricultural and Forest Environment PAS, Poznań	992 241	992 241
2. dr Anetta Kuczyńska 15. doc. dr hab. Piotr Kachlicki 17. prof. dr hab. Jan Sadowski 21. prof. dr hab. Tadeusz Rorat 23. doc. dr hab. Paweł Krajewski	Institute of Plant Genetics, Polish Academy of Sciences, Poznań	2 339 653 734 804 878 602 1 489 270 900 823	6 343 152
3. doc. dr hab. Alicja Pecio	Institute of Soil Science and Plant Cultivation – National Research Institute, Puławy	1 008 338	1 008 338
4. dr Justyna Guzy-Wróbelska 19. dr Agnieszka Janiak 22. prof. dr hab. Iwona Szarejko	Silesian University, Katowice	1 195 491 1 111 352 1 517 580	3 824 423
5. dr Tomasz Wyka 17. prof. dr hab. Jan Sadowski 20. prof. dr hab. Zofia Szwejkowska-Kulińska	Adam Mickiewicz University, Poznań	211 545 1 724 491 2 370 055	4 306 291
6. prof. dr hab. Grzegorz Józefaciuk	Institute of Agrophysics PAS, Lublin	956 225	956 225
7. dr hab. Hanna Bandurska	Poznań University of Life Sciences, Poznań	338 710	338 710
8. prof. dr hab. Maria Filek 10. prof. dr hab. Jolanta Biesaga-Kościelniak	Institute of Plant Physiology PAS, Kraków	257 238 266 090	523 328
9. prof. dr hab. Janusz Kościelniak 11. dr inż. Renata Bączek-Kwinta 12. prof. dr hab. Janusz Kościelniak 18. prof. dr hab. Marcin Rapacz	University of Agriculture, Kraków	238 279 294 069 307 675 861 717	1 701 740
13. prof. dr hab. Maciej Stobiecki, prof. dr hab. Przemysław Wojtaszek	Institute of Bioorganic Chemistry PAS, Poznań / Adam Mickiewicz University, Poznań	1 505 145 878 635	2 383 780
24. Administration	Institute of Plant Genetics PAS, Poznań	1 038 883	1 038 883
		<b>Total</b>	<b>23 416 911</b>

## **POLAPGEN-BD**

-project overview  
-(topics, partners  
-and WP numbers)





- Barley as a model – plant material:

Maresi, Lubuski, Georgia – European varieties  
 Cam/B1/CI, M.Dingo/D.Alla, Harmal – of Syrian origin  
 Morex, Sebastian – reference varieties

- Populations of SSD lines from the crosses:

Maresi × Cam/B1/C1,  
 Lubuski × Cam/B1/C1,  
 Lubuski × M.Dingo/D.Alla,  
 Georgia × Harmal

- Association panel of barley varieties registered in Poland

- Molecular maps and QTL mapping:

- SSR markers from the map ‘Lina’/*H. spontaneum* (Ramsay *et al.* 2000)
- SSR markers from integrated maps of barley (Marcel *et al.* 2007, Varshney *et al.* 2007)
- amplification products visualised in automatic sequencer LI-COR and genome analyser Applied Biosystem
- Joinmap 3.0 (Van Ooijen i Voorrips, 2001)
- MapQTL® 5.0 (Van Ooijen, 2004), other software

**A group of 150 polymorphic SSR markers will be identified to make „skeleton” maps  
 in four populations, then supplemented by additional markers.**

