



Research evaluation

FINAL RESUME ON THE RESEARCH UNIT:

UMR Genetic Improvement and Adaptation of
Plants (AGAP)

UNDER THE SUPERVISION OF THE FOLLOWING INSTITUTIONS AND RESEARCH BODIES:

Montpellier Supagro

Centre de Coopération Internationale en
Recherche Agronomique pour le
Développement - CIRAD

Institut National de la Recherche pour
l'Agriculture, l'Alimentation et l'Environnement
- INRAE

EVALUATION CAMPAIGN 2019-2020
GROUP A



In the name of Hcéres¹:

Nelly Dupin, Acting
President

In the name of the experts committee²:

Riccardo Velasco, Chairman of
the committee

Under the decree No.2014-1365 dated 14 November 2014,

¹ The president of Hcéres "countersigns the evaluation reports set up by the experts committees and signed by their chairman." (Article 8, paragraph 5);

² The evaluation reports "are signed by the chairman of the experts committee". (Article 11, paragraph 2).

This report is the sole result of the unit's evaluation by the expert committee, the composition of which is specified below. The assessments contained herein are the expression of an independent and collegial reviewing by the committee.

Tables in this document were filled with data submitted by the supervising body on behalf the unit.

UNIT PRESENTATION

Unit name:	UMR Genetic Improvement and Adaptation of Plants
Unit acronym:	AGAP
Current label and N°:	UMR 108/1134
ID RNSR:	201119637B
Application type:	Restructuration
Head of the unit (2019-2020):	Mr Patrice THIS
Project leader (2021-2025):	Ms Claire BILLOT
Number of teams and/or themes:	4

EXPERTS COMMITTEE MEMBERS

Chair:	Mr Riccardo VELASCO, CREA, Italie
Experts:	Ms Nadia BERTIN, INRAE, Avignon (representative of CSS INRAE) Ms Sylvie DINANT, INRAE, Versailles Mr Richard HARRISON, NIAB, United-Kingdom Mr Johann JOETS, INRAE, Gif-sur-Yvette Ms Véronique LEFEBVRE, INRAE, Montfavet Mr Pedro PUIGDOMENECH ROSELI, CRAG, Spain Mr Pascal TOUZET, Université de Lille, Villeneuve d'Ascq (representative of CNU)

HCÉRES REPRESENTATIVE

Mr Serge DELROT

REPRESENTATIVES OF SUPERVISING BODIES

Mr Thierry LEFRANÇOIS, CIRAD
Ms Isabelle LITRICO-CHIARELLI, INRAE
Mr Jean-Louis NOYER, CIRAD
Ms Marie-Stéphane TIXIER, Montpellier Supagro

INTRODUCTION

HISTORY AND GEOGRAPHICAL LOCATION OF THE UNIT

The very large research unit – or TGU as “Très Grande Unité” - AGAP (Genetic Improvement and Adaptation of Mediterranean and Tropical Plants/Amélioration Génétique et Adaptation des Plantes) is a joint research unit between Montpellier Supagro, CIRAD and INRA that was created in 2011.

AGAP aimed at becoming a major actor in research and training in the use of agro-biodiversity for genetic improvement and plant adaptation in the context of rapid global changes. The ambition was to combine research in plant physiology, ecophysiology, genetics, genomics and breeding and to offer up-to-date training for the breeders of tomorrow. AGAP's mission was also to co-construct breeding programs with partners in the South and the North, in response to their requests and adapted to the socio-cultural context for greater acceptability of the final products.

The main localization of AGAP, which presently gathers 300 permanent staff and 130 non-permanent staff is in Montpellier, on Lavalette campus, in three CIRAD buildings and the new ARCAD building, and on La Gaillarde campus. Part of the staff is also localized in Corsica and in three French overseas departments (Guadeloupe, Martinique and Guiana). In addition, in June 2019, 2 scientists are based in La Réunion department and New Caledonia special collectivity at partner's sites, and 18 scientists are outposted in West Africa (Senegal, Mali, Burkina Faso), Cameroon, Madagascar, Vanuatu, SE Asia (Philippines) and in Latin America (Brazil, Colombia, Costa-Rica).

Management team

Current contract: Patrice THIS, Director; Emmanuel GUIDERDONI, Deputy Director

Next contract: Claire BILLOT, Director; Evelyne COSTES, Joëlle RONFORT, Manuel RUIZ, Gilles TROUCHE, Deputy Directors

HCÉRES NOMENCLATURE

SVE1 Agronomie, Biologie végétale, Écologie, Environnement, Évolution

SVE1-1 Biologie cellulaire et biologie du développement végétal

SVE1-2 Évolution, écologie, biologie des populations

SVE1-3 Biotecnologies, sciences environnementales, biologie synthétique, agronomie)

SVE2 Biologie cellulaire, imagerie, biologie moléculaire, biochimie, génomique, biologie systémique, développement, biologie structurale

SVE2-1 Biologie moléculaire et structurale, biochimie

SVE2-2 Génétique, génomique, bioinformatique, biologie systémique

SVE2-3 Biologie cellulaire, biologie du développement animal

THEMATICS

The research of AGAP deals with various aspects of plant diversity and adaptation that are organized in three thematic fields. Thematic field 1, called diversities and genomes, addresses issues related to genome structure, domestication, environments, societies, with the aim to understand the biological basis of agro-diversity. Thematic field 2 investigates the development and adaptation of plants and populations in order to understand the mechanisms and the genetic components controlling the development of phenotypes. Thematic field 3, called Integrative approaches for varietal innovation is more transversal and is oriented towards genetic improvement. It aims to understand the genetic basis of the qualitative and quantitative traits involved in plant adaptation, to define ideotypes and to optimize innovative material creation schemes. This multidisciplinary research is conducted on a very wide range of crops and fruit species and is made possible through many experimental sites and facilities located in various parts of Africa, Asia, South America, that add to the main site located in Montpellier.

UNIT WORKFORCE

AGAP			
	Active staff	Number 06/30/2019	Number 01/01/2021
	Full professors and similar positions	5	4
	Assistant professors and similar positions	4	4
	Full time research directors (Directeurs de recherche) and similar positions	0	0
	Full time research associates (Chargés de recherche) and similar positions	0	0
	Other scientists ("Conservateurs, cadres scientifiques des EPIC, fondations, industries, etc.")	170	171
	High school teachers	0	0
	Supporting personnel (ITAs, BIATSSs and others, notably of EPICs)	125	122
	Permanent staff	304	301
	Non-permanent professors and associate professors, including emeritus	0	
	Non-permanent full time scientists, including emeritus, post-docs (except PhD students)	19	
	PhD Students	71	
	Non-permanent supporting personnel	42	
	Non-permanent staff	132	
	Total	436	301

GLOBAL ASSESSMENT OF THE UNIT

The global assessment of the unit is positive, close to very good overall. The unit is actually large and this causes a Gaussian distribution of quality and quantity of results. It has a worldwide recognition in several cases, like genomics of tropical crops but also grapevine and other fruits (apple) or cereals (rice) as well as horticultural species. The unit exhibits active relationships with breeding industries and active outreach activities especially towards the Southern Countries. The unit also communicates through a wide range of media. Fundraising capacity is very good, although heterogeneous among thematic fields. In the meantime, there are too wide interest (many crops, low focus) and some overlapping of activities between groups, which may be improved by joining skills and energies, probably concentrating more on defining model species. In part these efforts are already done and are improving, in comparison to the previous structure, so that probably will be mostly solved by next evaluation. The amount of publications, far to be fully exploited, is not bad, with peaks of excellence and some poor extremes. Stimulating people is maybe not easy, probably the aging is not helping on this but the introduction of the University of Montpellier in the governing body is going in this direction. Increasing of PhD students in the campus may be efficient in refreshing ideas and stimulating environment. Also, travelling students and hosting more post-docs and visiting scientists will increase networking and collaborations, between groups (less biased "old static relationships") and with other research institutions. Technical supports need to be more involved into the projects and goals, sharing the feeling to be part of a great unit, which has all the potentialities.

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