

Agreement on the Cooperative Research Project between the Facultad de Ciencias, Universidad de la República, Uruguay and LaSemilla Co., Republic of Korea

Research title: Engineering branched chain amino acid metabolism for increasing drought tolerance in soybean

For the above research title, both parties agree on as follows:

1. Research goals

- Develop drought-tolerant soybean crops by modulating BCAA metabolic pathway.
- To share technological tools for introduction of gene into soybean plants and systemic evaluation of soybean performance in field conditions.
- To establish collaboration that is promising for transfer of knowledge and future projects.
- To exchange ideas and facilitate young researcher's contribution and exchange.

2. Research duration

2-1. The Project will be carried out for 1 year from the 1st day of January, 2022 to the 31st day of December, 2022.

3. Research strategy

The research is carried out to develop a drought-tolerant soybean by Facultad de Ciencias, Universidad de la República, Uruguay (collectively, "FC-UdelaR") and LaSemilla Co., Republic of Korea (collectively, "LaSemilla"). The details for their implementation are arranged by both concerned authorities, and the research plan (Appendix) is attached.

4. Research fund

4-1. Contribution by LaSemilla

4-1-1. For this project, LaSemilla will contribute a total of US\$ 30,000 for 2022 to FC-UdelaR. It is recognized that the fund in research project plan might be changed according to the results of project assessment and the contribution may vary depending upon the exchange rate between the Korean Won and the US dollars.

4-1-2. Research fund for FC-UdelaR will be remitted to the account designated by FC-UdelaR in a month after completion of research funding agreement of LaSemilla in 2022 as follows;

- The bank account number:

Exp: 240011-50007-21

- Name and address of the bank:

- Swift code (if necessary):

- Name and address of recipient:

4-1-3. FC-UdelaR should provide an annual summary report on budget spending to RDA through LaSemilla collaborators, before the end of the Korean fiscal year. Reporting time, however, could be adjusted by mutual agreement of both parties.

4-1-4. It is understood that no interest will be paid to LaSemilla on the funds received from LaSemilla, and that, upon termination of the agreement or completion of the project, any uncommitted funds will be returned to LaSemilla within three months.

5. Exchange of research scientists

5-1. LaSemilla would be able to send Korean researchers to FC-UdelaR for short or long-term research project in FC-UdelaR.

5-2. Researchers from FC-UdelaR would be able to also visit LaSemilla to conduct experiments and to discuss research progress.

5-3. Both parties will hold a meeting annually to discuss research outcomes and new research program.

5-4. FC-UdelaR should submit an annual research report on the project to LaSemilla within two months from the completion of the project. The principal investigator (PI) of FC-UdelaR would be able to visit LaSemilla to make a presentation of final results after completion of the project.

5-5. In the event that there is any outlay by FC-UdelaR, the budget availability report must be previously obtained.

6. Ownership of research outcome, levy of the technical rent

6-1. The products and results generated through this project will be jointly owned by the participating organizations LaSemilla and FC-UdelaR. Both parties should have consent before distribution of research materials and results to the third parties (or third territories outside Republic of Korea and Uruguay). For the publication of the research outcomes, both parties should state clearly that the project was implemented by both parties.

6-2. We adhere to the principle that any property right, patent and royalty derived from this cooperative project will be shared by LaSemilla and FC-UdelaR, 50% to 50%, respectively.

6-3. Both parties reserve a royalty-free right to use the new collaborative intellectual property in its own laboratories for research and development purposes.

6-4. Both parties will have exclusive right on levy of technical rent, which will be made from intellectual property and/or patent generated via this project, in their own territories,

respectively. "Levy of technical rent" means the economical profits derived from intellectual property exploitation. LaSemilla and FC-UdelaR will have a right on levy of technical rent according to the ratio decided in the Article 6-2 outside their own territories. Therefore, all exploitation that each part carries out outside its own territory (ie. outside Republic of Korea or Uruguay) will be shared between both parties in accordance to the established in the Article 6.2.

7. Cancellation

7-1. This agreement may be cancelled by mutual written consent at the request of either party. Reasons considered appropriate for cancellation of the cooperative agreement shall include:

7-1-1. Contravention of agreement including breach of contribution, etc.;

7-1-2. Failure to realize the expected results of research or incapability to complete the project;

7-1-3. Research objectives were already accomplished by other researchers;

7-1-4. Any other causes that certify continuation of this project will be worthless;

7-2. If the above condition(s) happen(s), one party notice to the other party immediately, and the agreement will be cancelled without official dissent from the notified party within 60 days.

7-3. If the cooperative agreement is cancelled by mutual consent, any remaining budget, except research expenses already used, shall be immediately reported and returned to LaSemilla within three months.

8. Other articles following cooperative research

8-1. Confidentiality

Both parties agree that the following types of information are considered confidential:

8-1-1. Trade secrets, new intellectual properties as well as concerning information of both parties

8-1-2. Financial, commercial, scientific or technical information that is confidential information supplied to one party by another

8-1-3. Information the disclosure of which could result in material financial loss to, or could prejudice the competitive position of both parties

8-1-4. Information the disclosure of which could interfere with agreement or other negotiations of both parties

8-2. Publication and Advertising

The results of the project shall not be published or otherwise divulged by one party without the consent of the other, of which consent shall not be unreasonably withheld. Prominent and candid acknowledgment of the involvement of the other party shall be included in all published papers, press release and commercial advertising.

8-3. Notices

All notices or other communications necessary under this agreement shall be in writing and shall be delivered to the representatives of the parties. Notices shall be delivered by person, courier, double registered mail, facsimile and internet.

8-4. Arbitration

Any disputes, questions or differences regarding the interpretation or the implementation of this agreement should be resolved through discussions between both parties (or their designees). If resolution through discussions is impossible, it shall be submitted to international arbitration.

9. Project management

For the purposes of executing this agreement, the representatives of each party will be designated by note.

There will be mutual consultation between LaSemilla and FC-UdelaR on any major issues arising from or in connection with this agreement. Cancellation of the project, modification of research strategy, alteration of budget and exchange of researchers will be decided through mutual consultation.

For UdelaR

For LaSemilla Co.

February 18, 2021

February 18, 2021

Rodrigo Arim, Rector

Ju-Kon Kim, CEO

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JuKon Kim

【Appendix】

Description of research project

I. Objectives

- 1) Engineering branched chain amino acid metabolism for increasing drought tolerance in soybean
- 2) Share technological tools for introduction of gene into soybean plants and systemic evaluation of soybean performance in field conditions.
- 3) Establish collaboration that is promising for transfer of knowledge and future projects.
- 4) Exchange ideas and facilitate young researcher's contribution and exchange.

II. Procedures

- 1) Development drought tolerant soybean
 - (1) Vector construction
 - (2) Soybean transformation using both Agrobacterium- and biolistic- method
 - (3) Plant regeneration
 - (4) Plant growth and propagation
 - (5) Plant harvest for line selection
- 2) Evaluation of drought tolerance of the transgenic soybean plants
 - (1) Plant selection and securing single copy inserted homozygotes
 - (2) Drought tolerance test in green house
 - (3) Analyzing change of metabolites
 - (4) Drought tolerance test in field

III. Research plans

- Soybean transformation and propagation
- Drought tolerance test in greenhouse
- Analyzing changes of metabolites
- Field test for agronomic phenotype and drought tolerance

IV. Research activities of LaSemilla scientists in UdelaR

- Analyzing changes of metabolites
- Field test for agronomic phenotype and drought tolerance

V. Performance of research

Performance indicators		1 st year (2021)	2 nd year (2022)	Total
Publication	SCI		1	1
	others			
Patent	application			
	registration			
poster presentation in conference	international		1	1
	domestic		1	1
New cultivar	application			
	registration			
Technology transfer				
Proposal for agricultural policy				
Proposal for agricultural practice				
Genetic resources				
Total			3	3

VI. Budget plan

1) LaSemilla Contribution

LaSemilla will contribute US\$ 30,000 for 2022 to FC-UdelaR, which will be placed in an account provided by FC-UdelaR and will be maintained separately from other funds at FC-UdelaR.

2) Expenditures

i) If LaSemilla scientists would visit FC-UdelaR, air tickets and living expenses (accommodation, meal, and insurance, etc.) for LaSemilla scientists will be provided by LaSemilla from LaSemilla project fund.

ii) If FC-UdelaR scientists would visit LaSemilla, air tickets and the living expenses (accommodation, meal and insurance, etc.) for FC-UdelaR visiting scientist will be provided by LaSemilla from LaSemilla project fund.

Contents of LaSemilla Contribution

Year	Expenditures	Amount (US\$)	Descriptions	Remarks
2021		0		
2022	Technical staff	8,400	700 x 12 mon = 8,500	
	Materials and other inputs	20,100	Materials and other inputs	
	Admin expenses	1,500	5 %	
	Total	30,000	Expenditures other than Admin expenses can be changed as needed	
Grand total		30,000		