State of Israel
Ministry of Agriculture &
Rural Development
Chief Scientist Office

מדינת ישראל
משרד החקלאות
ופיתוח הכפר
לשכת המדען הראשי

Call for proposals

China - Israel Cooperation on Agricultural R&D

Noah Ark as a tool for novel product development

Academy – Industry

Background

The Government of the State of Israel and the Government of the People's Republic of China have agreed on the following Action Plan on China-Israel Innovation Cooperation for the years 2018-2021. The agreement says: "…It is proposed that the second meeting of the China-Israel Agricultural Cooperation Working Group will be held in China in order to formulate concrete measures, key areas and future projects and explore the possibility for the establishment of a joint research fund between **Israeli scientists and Chinese business organizations**. The fund will promote joint projects, which will improve the shelf life of agricultural products, reducing waste and food losses"….

(Signed by PM Netanyahu and Chinese VP Wang Qishan on the 24/10/18).

(https://mfa.gov.il/MFA/PressRoom/2018/Pages/PM-Netanyahu-and-Chinese-VP-Wang-Qishan-chair-Israel-China-JCIC-meeting-24-October-2018.aspx)

What is the "Noah's Ark" program model?

From the very beginning of humankind existence and due to the need to secure food supply, man used to select varieties of those plants showing better nutritional characteristics to meet evolving human necessities. The aim of the program is to encourage and intensively utilize the scientific ability of Israeli research institutes, in those fields of research bolstering the development of products having a commercial potential for China.

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The Ministry of Agriculture and Rural Development of Israel proposes to establish a Chino-Israeli Joint Research Fund, to be used as a source of funding joint research programs, to be carried out by academy and industry teams from both countries. The programs will focus on applicative research programs that their proof of concept will be demonstrated in China as agreed by the parties. The research programs will be conducted in cooperation between research teams from China and Israel with the involvement of companies from both countries.

With the intention to respond to confronting new challenges and realizing the significance of creating a dialogue and academy-industry cooperation, the Ministry of Agriculture and Rural Development of the State of Israel proposes to establish a Chino-Israeli Joint Research Fund to be used as a source of funding joint research programs, to be carried out by academy and industry. The proposed Fund named after the Biblical Story of "**Noah's Ark"** due to the idea of the pairing–mode, in this case pairing academy & industry of both countries to creating a multi-factorial improvement of agricultural production and products**.**

The researchers and industrialists from both countries will be selected upon their ability and commitment to apply, within a reasonable time span, the fruits of research into commercialized products for the benefit of both sides.

The aim of "Noah's Ark" Channel is to create research fundaments in various fields in order to invigorate applicative R&D that will contribute in the short and medium terms. We encourage innovativeness and breakthrough technologies of the kind that will contribute to science, economy and industry in our countries and worldwide. All of it should be done with the perspective to gain innovative research findings, which mediate cooperation with the industry and transform it promptly into commercialized products.

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Noah's Ark program will be launched in either of the following two routes: Noah Ark Young (hereafter: NAY) and Noah Ark Mature (hereafter: NAM).

A. Topics of collaboration for both NAY and NAM:

Agri – Inputs and Machinery

- ✓ Fruit and vegetable breeding technologies, markers assisted breeding
- ✓ Introduction of new cultivars of fruits and vegetables

During – Growth

- ✓ Agriculture IoT technologies and devices digitization of the agricultural and food production chain
- ✓ RS, GIS AI technologies
- ✓ Breeding technologies in different crops including cannabis and hemp (subjected to the approval of YAKAR regulatory committee)
- ✓ Precision agriculture technologies: precision irrigation, reduction of pesticides use, controlled plant fertigation, farming management systems

Post - Harvest

- ✓ Shelf life extended solutions, smart packing, MAP, shipment phytopathology diseases
- ✓ Nondestructive inspection tech for fruit quality and product safety

Dairy product technologies:

- ✓ Breeding management
- ✓ Digital precision management including Specific feed management.
- ✓ Technology for the milk industry, including technologies aim to improve milk safety and nutritional quality

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Microorganisms and Fermentation:

- ✓ Microbiome based technology for internal or external use in humans, animals or plants
- ✓ Microorganisms for biological control and plant protection
- ✓ Microorganisms for food technology and in the food industry
- ✓ Fermentation of microorganisms and plant cells for health and wellness or for the food industry

Health foods and heathy components

- ✓ Use of plants or microorganisms or derived compounds for food supplements, food additives or as substitutes for chemical drugs
- ✓ Substitution of unhealthy compounds by substitutes

B. Principles of the proposed program

As mentioned before, the "Noah's Arks" Channels will enable research and implementation of technologies and agricultural knowledge having an economical values for the Chinese agricultural industries both for the domestic and the international markets.

Noah Ark Mature

1. NAM will focus **only** on "Mature" know-how, (developed and licensed in the last 5-10 years) by Israeli research institutes, (certified to submit research proposals to the Chief Scientists), to an Israeli business partner that is committed to implement the said technology in China. To avoid doubt, the licensing can also be as part of this proposal, as long as the licensing agreement will be signed within 90 days from the approval of the project.

2. NAM projects will be performed by a Research Team. The Team will be composed of an Israeli PI, a scientist from a research institute and an Israeli business partner that the said technology, to be developed and implemented in China, was licensed to this business partner by the research institute (hereafter: Research Team).
3. The Research Team will be responsible for the demonstration and preforming a proof of concept of the said technology, in China, together with the Chinese business partner.
4. The Chinese business partner will support and provide the necessary needs for the establishment of the proof of concept of the Israeli invention/technology/cultivar to be implemented in China in collaboration with the Israeli Research Team.
5. The Chinese business partner will decide, in collaboration with the Israeli Research Team, whether to bring into the program a Chinese academic partner and, in such a case, the Chinese business partner will be responsible to financially support all their activities.
6. In NAK, the Israeli Ministry of Agriculture will provide the Israeli Team the funding to perform the R&D needed for the fine tuning and the research adaptation of the said technology or know-how to China. Projects will be supported for up to 3 years. The Chief scientist will allocate up to 300K - 450K shekels, per year, per project. The total funding of the project will be up to 900,000 Shekels for up to 3 years.

Letter of intention: A letter of intention, signed by both the Israeli and Chinese business partners should be attached to the research proposals stating the following:

1. The interest of the Chinese Company to further develop and implement the Israeli said technology together with the Israeli Research Team in China.
2. The Chinese company will be responsible to cover all research costs in China and the cost of a Chinese academic partner, if added to the project.
3. Both companies will follow and act according to the IP guidelines set in the Israeli (local) call for Noah Ark as published for 2019.

(See: /docs/calls/%202019חדשנות%20נוח%20-%20תיבת%20ניצן%20קורא%20קול.pdf
and https://agriscience.co.il/docs/calls/לדוגמא%20ניצן%20הסכם.pdf)

Noah Ark Young

1. NAY will focus on research topics that a period of 3 years of research is still needed by the Research Team before such research achievements can be commercialized and implemented. However, these potential "young" technologies are already of interest to an Israeli business partner, which will, following the research period, implement the research results in China together with a Chines business partner.
2. NAY research projects will be performed by a Research Team. The Team will be composed of an Israeli PI coming from a research institute and an Israeli business partner (hereafter: Research Team).

2.1 The relations between the Israeli academic partner and the Israeli business partner will follow the regulation and guidelines of the "domestic" Noah Ark Call 2019. To avoid doubt, a licensing agreement should be signed within 90 days from the approval of the project between the Israeli academic and business partners as in the "domestic" Noah Ark regulation.

3. The Research Team will be responsible to achieve the necessary results that will allow, in 2-3 years from the beginning of the project, to start the implementation of the said technology, in China, together with the Chinese business partner.
4. The Chinese business partner will support and provide the necessary needs in China for the establishment of the proof of concept of the Israeli invention/technology/cultivar to be implemented in China in collaboration with the Israeli Research Team.
5. The Chinese business partner will decide, in collaboration with the Israeli Research Team, whether to bring into the program a Chinese research partner and, in such a case, the Chinese business partner will be responsible to financially support their activities.

6. In NAY, the Israeli Ministry of Agriculture will fund R&D needed for the research and development of a said technology or know-how to be implemented in the future in China together with the Israeli business partner according to the following table:

Yearly sum (in Shekels)	Israeli business partner	Chief Scientists	
300,000	60,000	240,000	Research year 1
300,000	80,000	220,000	Research year 2
300,000	100,000	200,000	Research year 3
900,000	240,000	660,000	Total budget

Letter of intention: A letter of intention, signed by the Israeli business partner, (with or without, see below) a Chinese business partners, should be attached to the research proposals stating the following:

1. The interest of the Chinese Company to further develop and implement the Israeli said technology together with the Israeli Research Team in China.
2. The Chinese company will be responsible to cover all research costs in China and the cost of a Chinese research team, if added to the project.
3. Both companies will follow the IP guidelines set in the Israeli call for Noah Ark, as published for 2019.

Please note: As the technologies in NAY are still under development, we will accept a letter signed **only** by an Israeli business partner. In such a case, the Israeli business partner will be committed to recruit a Chinese business partner to the program, within **one year** from the beginning of the research. In case no Chinese partner can be recruited, the Chief Scientist will terminate the research and only expenses done till this moment will be covered.

C. Eligibility

1. In Israel, the Principal Investigator must be affiliated with an academic institution; all criteria described in the Call for Proposals 2020 of the Chief Scientist are valid to this call including all regulation and requirements regarding scientific and financial reports.

   In China, applicants may be Chinese business partners interested in working together with the Israeli Research Team in order to implement a said invention/technology/cultivar in China. As mentioned before, the Chinese business partner has the right to recruit and financially support public universities, public research institutes, and other entities that can be classified as research and knowledge dissemination organizations to support the implementation in China, all in collaboration with the Israeli Research Team.

D. Submission and research proposals

The proposal must be prepared and carried out jointly by the Israeli Research Team and the Chinese business partner (if available) and should be submitted in English to The Ministry of Agriculture (MOAG) according to the enclosed time table via the Chief Scientist site: https://agriscience.co.il/

Israeli PIs should submit proposals in English using the "Application for Research Grant" forms found at: https://agriscience.co.il/

E. Proposal Review

Proposals are evaluated, with or without external reviewers, by an evaluation committee. MOAG will decide which and how many projects will be funded and in what amounts based on the results of the evaluation process and ranking and in view of budget requirements (up to 300K Shekels per year, for 3 years or up to 450,000 Shekels for 2 years).

The evaluation process will be conducted on the basis of the following criteria:

1. Conformity with the program research topics defined above; 25%
2. Significance (quantitative whenever relevant) of the problem being addressed, and the potential impact of the proposed approach on solving it. Proposals should address these issues explicitly and provide as much evidence as possible; 25%
3. Feasibility of the successful implementation in China; 25%
4. Practical implementation of expected research results worldwide; 25%

F. Reports

a) Financial Reports:

Financial reports will be submitted to MOAG, respectively, by the institution of The Israeli Principal Investigator, as specified in MOAG guidelines.

b) Scientific Reports:

Israeli Principal Investigator will submit a full final report to MOAG, according to MOAG guidelines, the report will be written in English.

All procedures and activities under this call or the projects approved hereunder, are subject to MAOG guidelines and instructions as appears in the call for proposals MOAG 2020.

Time table:

Proposals will be written in English on the format attached to this call. Cover pages for the proposal wil be written in Hebrew

Call published: April 11, 2019

Clarification, administrative questions and inquiries: April 18, 2019 till 3 PM

Chief Scientists responses: May 2, till 3 PM

Submission of proposals by Research Teams to their Research Authorities: July 18, 2019 till 3 PM

Submission of proposals at the Chief Scientist site: July 25, 2019, till 3 PM.

Arrival of a hard copy to the Chief Scientist office: August 1, 2019 till 3 PM