



**STATE OF ISRAEL**



**Israel's Agency for  
International  
Development Cooperation  
Ministry of Foreign Affairs**



**CINADCO - Centre for  
International Agricultural  
Development Cooperation,  
Ministry of Agriculture and  
Rural Development**



**ARO – Agriculture Research  
Organization, Ministry of  
Agriculture and Rural  
Development**

**MASHAV - Israel's Agency for International  
Development Cooperation**

**with**

**CINADCO - Centre for International Agricultural  
Development Cooperation, Ministry of Agriculture & Rural  
Development and the ARO – Agriculture Research  
Organization, Ministry of Agriculture & Rural Development**

**invite professionals**

**to participate in the**

**International Course:**

## **Mitigation of Abiotic Factors in Arid and Semi-Arid Environments**

**October 22<sup>nd</sup> – November 10<sup>th</sup>, 2017**



## About the Course

### Background

Arid and semi-arid regions are growing world-wide due to climate change, drought, and improper or inappropriate agricultural techniques. Traditionally such areas produce low yields and poor quality food. However, to sustain existing human populations, food production must become more intense. Israel is unique in the world in that her deserts are receding instead of expanding. In fact, the U.N. Development Program called Israel “one of the driest, but agriculturally most successful, countries of the world”. The quantity and quality of food production in arid areas can be improved through the application of modern technologies and know-how being developed in Israel. The type of plant cultivar, soil, fertilization, irrigation practice greatly affect yield. Agriculture using modern technology, and executed properly under arid and semi-arid conditions, enables farmers to control or optimize many variables to create a more favorable environment for enhanced food production and hence food security.

### Aims

To enrich the participants with a basic understanding of the latest advances in agriculture in arid and semi-arid environments including: effects of abiotic environmental conditions, principles soil physical and chemical composition; water availability and quality; heat/cold, solar irradiance; and the interactions among these factors. In an agricultural ecosystem, humans can manipulate many aspects to mitigate adverse abiotic stressor.

### Main Subjects

The main subjects include: The effects of abiotic stress-causing factors (temperature, humidity, drought, water quality, and solar irradiance) on vegetable production, soil and nutrient requirements for vegetables, orchard crops.

The course will consist of three major components: 1. Frontal lectures from experts in each field. 2. Practical laboratory experience with one of the lecturers. 3. Professional tours and visits to relevant sites.

Each participant will be asked to prepare 5-minute PowerPoint presentation reviewing an aspect of agriculture in his/her country, the problems that they are facing and the means of solving this problem that they learned in this course. Each group of participants in the practical laboratory experience will prepare poster on background, data collected and analyzed, and ramifications of their experiment.

At the end of the course students will attend the International Conference on Drylands, Deserts and Desertification. Here they will meet people from SCOs, NGOs and international development aid agencies from around the world. Students will participate in one of the optional tours, further learning about abiotic factors.

## Application

### Application Requirements

This course is designed for professionals from governmental institutions, universities and research institutes, private companies and non-governmental organizations involved in agricultural research and/or extension programs. Candidates should hold an academic degree in related disciplines with at least a three- year professional work experience. A full command of English is required.

### Application forms

Application forms and other information may be obtained at the nearest Israeli mission and at Israel's Foreign Ministry's website: <http://mashav.mfa.gov.il/MFA/mashav/Courses/Pages/default.aspx>, or at Volcani website at <http://www.agri.gov.il/en/departments/118.aspx>

Completed application forms, including the medical form, should be sent to the relevant Israeli mission in the respective country and to CINADCO's R&D Department in Israel [sigalp@moag.gov.il](mailto:sigalp@moag.gov.il), by or before **August 22<sup>nd</sup>**, 2017.

## General Information

### Arrival and Departure

|                 |                           |
|-----------------|---------------------------|
| Arrival date:   | October 22 <sup>nd</sup>  |
| Opening date:   | October 23 <sup>rd</sup>  |
| Closing date:   | November 9 <sup>nd</sup>  |
| Departure date: | November 10 <sup>th</sup> |

Participants must arrive at the training center on the arrival date, and leave on the departure date. Early arrivals/late departures if required, must be arranged by the participants themselves, directly with the hotel/center, and must be paid for by the participant him/herself.

### Location and Accommodation

**MASHAV** awards a limited number of scholarships. The scholarship covers the cost of the training program including lectures and field visits, full board accommodation in double rooms (two participants per room), health insurance (see below) and transfers to and from the airport. Airfares and daily allowance are not included in the scholarship.

### Health Services

Medical insurance covers medical services and hospitalization in case of emergency. It does not cover the treatment of chronic or serious diseases, specific medications taken by the participant on a regular basis, dental care and eyeglasses. Health authorities recommend that visitors to Israel make sure they have been inoculated against tetanus in the last ten years. Subject to the full binding policy conditions. Participants are responsible for all other expenses.

The course will be held at **the Volcani Agricultural Complex**, situated **10 km east of Tel Aviv, Israel**. Participants will be accommodated at **City Prima Hotel** in double rooms (two participants per room).

## About MASHAV

MASHAV – Israel's Agency for International Development Cooperation is dedicated to providing developing countries with the best of Israel's experience in development and planning. As a member of the family of nations, The State of Israel is committed to fulfilling its responsibility to contribute to the fight against poverty and to the global efforts to achieve sustainable development. MASHAV, representing Israel and its people, focuses its efforts on capacity building, sharing relevant expertise accumulated during Israel's own development experience to empower governments, communities and individuals to improve their own lives.

MASHAV's approach is to ensure social, economic and environmental sustainable development, and is taking active part in the international community's process of shaping the Post-2015 Agenda, to define the new set of the global Sustainable Development Goals (SDGs).

MASHAV's activities focus primarily on areas in which Israel has a competitive advantage, including agriculture and rural development; water resources management; entrepreneurship and innovation; community development; medicine and public health, empowerment of women and education. Professional programs are based on a "train the trainers" approach to institutional and human capacity building, and are conducted both in Israel and abroad. Project development is supported by the seconding of short and long-term experts, as well as on-site interventions. Since its establishment, MASHAV has promoted the centrality of human resource enrichment and institutional capacity building in the development process – an approach which has attained global consensus.

<http://mashav.mfa.gov.il>

[MASHAV Facebook](#)

## About CINADCO

The Center for International Agricultural Development Cooperation (CINADCO) is a part of the Israel Ministry of Agriculture and Rural Development. Since 1958, CINADCO has been in charge of the International Agricultural program conducted by MASHAV in Israel and abroad.

CINADCO's activities consist of: International and country "tailor-made" courses in Israel, on-the-spot courses, long- and short-term projects and advisory missions. Israeli experts have also been sent to different locations around the world to conduct projects and to share their expertise in various aspects of agricultural production, extension and project planning. [For more information about the course](#)

[CINADCO Facebook](#)

For further information, please contact:

CINADCO

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## About ARO

The Agricultural Research Organization (ARO) is the research arm of the Ministry of Agriculture and Rural Development and is responsible for most of the agricultural research conducted in Israel. The scientists of the ARO collaborate with the regional R&D Stations and with the Agricultural Extension Service of the Ministry of Agriculture. Research at the ARO aims to improve existing agricultural production systems and introduce new products, processes and equipment on which Israel's future agricultural efforts will be based. ARO website: [click here](#)

## About Gilat

Researchers at the Gilat Research Center, which is on the edge of the Negev Desert, work to develop new and progressive technologies which will enable the flourishing of agriculture under these arid conditions. Gilat researchers work to meet the challenges of the changing desert environment by engaging with farmers to understand their needs. Irrigating the desert must be accurate and economical. Lack of water will cause a reduction in crop yield; however, overwatering may cause excessive salinity of the soil and other types of damage. For this reason, scientists are devoting much effort in studying and defining the optimal amount of water for each crop, when to irrigate with different types of water – e.g. saline, brackish, desalinated – and how to achieve the best irrigation results. Fertilization impacts the quality and quantity of the crop, especially in poor desert soils. Precise fertilization allows greater yields and can significantly improve harvest quality. Thanks to the regimes developed by Gilat scientists, proper fertilization of each crop can save resources and prevent pollution of the environment. However, we must constantly invest in agricultural research so that we can ensure ongoing food supply today and for years to come.