



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, the Volcani  
Center, Ministry of Agriculture  
and Rural Development

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

**with**

CINADCO - Centre for International Agricultural  
Development Cooperation and the ARO – the Volcani  
Center, Ministry of Agriculture & Rural Development

invite professionals

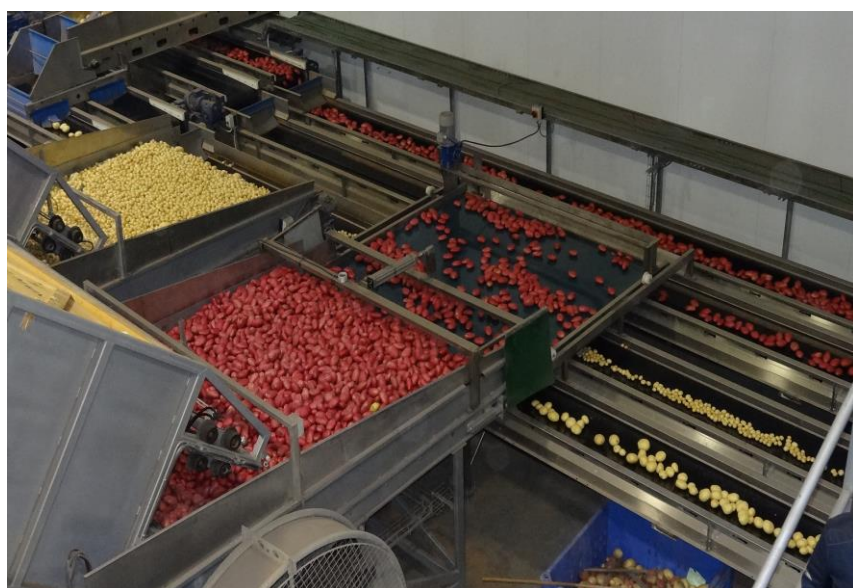
to participate in the

**International Course:**

# **Postharvest Physiology, Pathology and Handling of Fresh Commodities**

**In cooperation with the Institute of Postharvest and Food  
Sciences**

**January 28<sup>th</sup> – February 16<sup>th</sup>, 2018**



## About the Course

### Background

Despite the remarkable progress made in increasing food production worldwide, approximately half of the population in the developing countries does not have access to adequate food supplies; thus the food security problem is worsening.

There are many reasons for this, one of which is food losses occurring throughout the supply chain from production, post-harvest, processing and marketing.

In its recent report “Global food losses and food waste”, the FAO suggests that roughly one-third of food production for human consumption is lost or wasted globally, which amounts of about 1.3 billion tons per year.

Evidence suggests that these losses tend to be highest in those countries where the need for food is greatest. Pre-harvest conditions and events in the fields such as cultivar, soil type, fertilization and irrigation practices, weather conditions, pest control programs etc. have a significant influence on achievement of the best potential postharvest quality and shelf life of fresh fruits and vegetables.

Plants or plant parts continue to function metabolically after harvest and are subjected to physiological and pathological deterioration and loss. “Loss” means any change in the quality of the food that prevents it from being consumed by people. Postharvest loss in fresh fruits and vegetables is estimated at 5-25% in developed countries and 20-50% in developing countries.

Causes of this loss are varied with microbiological, mechanical and physiological factors being the main cause in perishable crops. Other causes are in-adequate harvesting, packaging, handling skills and refrigerated storage, as well as inadequate transportation.

Storage and shelf life are defined as the period from harvest to consumption, while a food product remains safe and wholesome. There is a wide range of postharvest technologies that can be adopted to reduce losses throughout the process from field to fork. Both quantitative and qualitative food losses of extremely variable magnitude occur at all stages in the post-harvest system from harvesting, through handling, storage, processing and marketing to final delivery to the consumer.

Appropriate storage can minimize moisture loss, slow down respiration rate and inhibit development of decay-causing pathogens. Wilting, re-growth, ripening, senescence and decay can be postponed. Temperature is the most important determination of fresh produce deterioration rate. An important supplement to temperature and relative humidity management is the use of controlled atmosphere (CA) or modified atmosphere (MA) and other technologies.

Postharvest loss results not only in the loss of the actual crop, but also have an impact on the environment, resources, labor needed to produce the crop and livelihood of individuals involved in the production process. The implementation of appropriate storage and postharvest techniques will add value to the produce and will increase the farmer’s income.

### Aims

To understand the Physiological, pathological & environmental factors involved in the deterioration of fresh agricultural produce. To learn postharvest technologies and best practices associated with the postharvest handling of fresh fruits and vegetables, to assist in the delay of senescence, reduce loss and maintain the best possible quality of the produce. To initiate research, teaching and transfer knowledge to extension workers and farmers.

### Main Subjects

Physiological and pathological factors affecting storage and shelf life; Cause and site of loss; Standardization and inspection of fresh produce; Quality factors and analysis; Prolonging shelf life; Post-harvest technologies.

# Application

## Application Requirements

This course is designed for research and extension workers, quality control personnel in the produce industry, and business, government or academic professionals interested in current advances in the postharvest technology of fruits, vegetables & horticultural crops.

It is particularly of interest to technical professionals responsible for quality assurance, research and extension activities related to fresh produce quality, safety and marketability under the aegis of national or international organizations, institutions, universities, research institutes, civil society and the private sector. Course participants must have a relevant academic degree and at least three (3) years of practical work experience in related fields. A very good command of the English language is essential.

## Application forms

Application forms and other information may be obtained at the nearest Israeli mission or at MASHAV's website: [click here](#).

Completed application forms, including the medical form, should be sent to the relevant Israeli mission in the respective country by or before [November 19<sup>th</sup>, 2017](#).

## General Information

### Arrival and Departure

Arrival date:	January 28 <sup>th</sup>
Opening date:	January 29 <sup>th</sup>
Closing date:	February 15 <sup>th</sup>
Departure date:	February 16 <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 Center**, situated **10 km east of Tel Aviv, Israel**. Participants will be accommodated at **City Prima Hotel, in Tel Aviv**, 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), the Volcani Center, 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](#)