

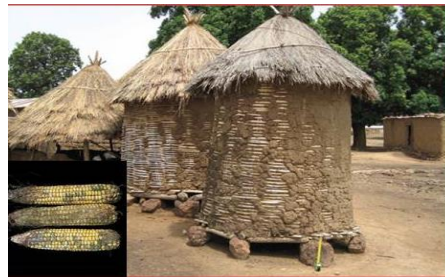


International Course on:

# Food Security & Grain Storage – Technologies and Management

In cooperation with the Institute of Postharvest and Food Sciences

December 1<sup>st</sup> -13<sup>th</sup>, 2019



## About the Course

### Background

Grains are still the main source of nutrition for both humans and domestic animals, especially in developing countries. The on-going effects of the food crisis are caused in part by very high losses of grain during storage, which in turn has resulted in the starvation of 925 million people worldwide (FAO), including people who suffer from malnutrition.

Under sub-optimal storage conditions, post-harvest grain and dry food losses caused by biotic factors (mainly insects and molds) range from 10%-40%. In addition, harmful mycotoxins may develop that can cause severe damage to human and animal health. These biotic factors can also cause malnutrition by reducing the nutritive value of the stored products. Post-harvest damage includes not only loss of the crop itself, but also damage to the environment, a lack of return on the resources and labor needed to produce the crop and a decrease in the livelihood of individuals involved in the production process.

“Stored product insect pest control” is based mainly on the use of highly effective chemicals (fumigants and protectants). Mold control is also based on the use of chemicals. However, increased health, environmental and social concerns, and the consequent demand for pesticide-free food, have led to the development of non-chemical and integrated strategies for stored pest and mold management. Israeli scientists are involved in the development of new methods, technologies, and compounds for efficient and safe storage management and the non-chemical control of harmful biotic factors in stored grain. Successful implementation of these new methods has reduced post-harvest grain losses in Israel to as low as 0.1- 0.5%.

The **Food Security & Grain Storage Course** will significantly increase the awareness and knowledge of the participants regarding aspects of food security and grain storage, with an emphasis on methods that can replace the use of dangerous chemicals (e.g. methyl bromide). Participants will be exposed to the latest developments, methods, and technologies for control of molds and insect pests in stored grains. The knowledge acquired will assist course participants in the implementation of methods that can substitute for the use of dangerous chemicals in their respective countries.

It is envisaged that the participants will serve as a core for a reservoir of specialists in issues related to food security and grain storage. During their time together, delegates with responsibilities in food security and grain storage issues will be able to create a basis for developing expertise in their respective countries, as well as a communication network with authorities and experts from other participating countries.

### **Aims**

To understand the ecosystem of stored grain and dry food, and the influence of biotic and abiotic factors on stored products and their interaction during storage. To learn grain storage technologies, with an emphasis on phasing out the use of dangerous chemicals, meeting international requirements for food quality and safe environment. To share and transmit the knowledge gained in Israel, and to create a network of grain storage specialists which will serve as a base for further cooperation between countries.

### **Main Subjects**

General properties of bulk grain. Ecosystems of stored grain and dry food. Effect of biological and environmental factors on stored products. Insect pests in stored grain. Efficient technologies for stored grain management in large and small farmer scale. Methyl bromide alternatives. Non-chemical, eco-friendly, control of grain insect pests. Molds and mycotoxins. Use of grain in the food industry.

### **Application**

#### **Application Requirements**

This course is designed for professionals from both academia and extension services who are involved in grain storage and food security projects under the aegis of national or international organizations, institutions, universities, research institutes, municipalities and/or the private sector.

Good command of English (speaking and reading) is essential.

According to demand, we can facilitate a separate activity in Russian; when applying to the course, please mention your language preference.

### **Application forms**

Application forms may be obtained at CINADCO's website or at the link attached: [Click Here](#) and at the Agricultural Research Organization (Volcani Institute) website at: [Click Here](#)

Applications must be submitted to [sigalp@moag.gov.il](mailto:sigalp@moag.gov.il) on or before September 22nd, 2019.

### **General Information**

#### **Arrival and Departure**

Arrival date:	December 1st
Opening date:	December 2nd
Closing date:	December 12th
Departure date:	December 13th

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**

The course will be held at the Volcani Agricultural Complex, Ministry of Agriculture, situated 10 km east of Tel Aviv, Israel. Participants will be accommodated at the BY14 Hotel, Tel Aviv in double rooms (two participants per room).

#### **Fees**

Tuition fee: \$2673

Tuition fee covers lectures, field visits, full board accommodation in double rooms (two participants per room), transport from and to the airport, tourist sites, social activities, health insurance (see below) and registration fee. Further instructions for money transfer will be given after the initial registration and when a minimum number of participants is reached.

The fee does not cover airfare or a daily allowance.

### **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.

### **About CINADCO**

CINADCO, the Center for International Agricultural Development Cooperation is a unit within Israel's Ministry of Agriculture and Rural Development. Our goal is to enhance agricultural development and rural economic growth in developing countries through human capacity building by transfer of expertise and technologies.

CINADCO is involved in formulating, implementing and conducting international agricultural and rural development cooperation programs. We collaborate in developing bilateral and multilateral cooperation programs with governmental ministries and institutions, the international aid community and donor countries.

Our activities include: Agricultural training courses, workshops and study visits held in Israel, on-the-spot courses and workshops conducted overseas, planning agricultural and rural development demonstration projects aiming at technology transfer and capacity building, and consultancy missions supporting agricultural development projects.

### **About ARO**

The Agricultural Research Organization (ARO) of the Ministry of Agriculture and Rural Development is the largest agricultural research institute in Israel, and is considered a world-leading facility. Its main functions are to assist Israeli farmers in maintaining high quality production for local and export markets, to conduct research and development in promising new agricultural fields and food sciences, and to plan, organize and implement agricultural research in Israel.

ARO website: [click here](#)

**For further information, please contact the R&D  
International Agricultural Training Program:**



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