

Research Farm and Satellite Sites

ICARDA operates four experimental station sites in Syria and Lebanon.

The principal station, Tel Hadya and a smaller, dryer site, Breda, are located in Northern Syria and Terbol and Kfardane in the Bekaa valley in Lebanon (Table...). These four sites represent a variety of agroclimatic conditions, typical of those found in the WANA region.

Table: ICARDA Sites in Syria and Lebanon

Sites	Coordinate		Approximate Elevation m	Area ha	Long term average Precipitation mm
	Latitude	Longitude			
Syria					
Tel Hadya	36.01 °N	36.56 °E	284	948	335 (27 seasons)
Breda	35.56 °N	37.10° E	300	93	266 (21 seasons)
Lebanon					
Terbol	33.49 °N	35.59 °E	890	23	539 (25 seasons)
Kfardane	34.01 °N	36.03 °E	1080	21.5	461 (11 seasons)

Tel Hadya Station

ICARDA's principal station, Tel Hadya, is used for all field-related research work, incl. the observation of newly imported seeds in a secluded area.

Of the total area of 948 ha about 730 ha are cultivated at present. The area for unrestricted experimentation with good soil quality, levelled surface, no stone or water logging problem is about 400 ha.

The reduction in intensity, which was brought about over the last decade, permitted ICARDA to achieve generally a minimum of one year cover crop use before having experiments on any field.

Infrastructure

The station is equipped with an underground water supply system in the areas mostly used by the breeders. This includes the isolation area. An extension of the supply line into the SE of the farm is required because of its recent conversion into a permanent area for international nurseries, which is about 30 ha at present.

The areas reserved to rainfed work and cropping are the north of the B-block as well as the C-block, with the exception of the isolation area.

Land Use

Breeding activities count for the largest use of research work in the station. Their typical rotation will be a sequence in two senses, crops and use. Cereal breeders follow legumes or

spice crops, legume breeders follow cereals. The previous use shall be a homogeneous cover crop.

Weed Problems occurring in the station, as well as outside, are to include wild relatives of mandate crops, e.g. *Hordeum vulgare* ssp. *spontaneum*.

Parasitic weeds have come into the focus of chemical control over the last few years, with *Orobanche* ssp. being well controllable in lentils and forage legumes, bur also in chickpea and *Cuscuta* ssp. well controllable in all of these crops.

The composition of herbicides applied on legumes has to be reduced from presently five (!) to four or three. The present sequence:

Pre-emergence: broadleave control

Post emergence: broadleave (late emerging)

“ “ Cuscuta control

“ “ grass control

“ “ Orobanche control

Isolation area (Incoming seeds)

The isolation area comprises about 27 ha, to host all seeds imported and grown first time in Syria.

International Nurseries (Outgoing seeds)

On the other end, the international nurseries, for export from ICARDA, have been consolidated in 2005 into one field each, cereals and legumes, for easier monitoring and documentation.

Biological control systems

The first established and functioning control system for any pest in Tel Hadya station is the use of birds to control rodents. Small owls, nesting in end-pieces of drainage pipes, e.g. under road crossings, and various falcons (kestrels) are the predators. These birds of pray are attracted by a number of perches in the fields and on the perimeter fence. In addition, about 25 nesting boxes for kestrels are established.

The second system, favoring predators of Sunn pest, has been started in 2004/05 season. It consists of a row of trees planted at field's borders. The bark of these trees, when about 10 years or older, shall host the Sunn pest predators. The project is limited to the boarder between fields and rangeland, as no trees are tolerated as borders of research areas.

Breda Station

The use of Breda is mainly to complement breeding for drought tolerance in barley, bread and durum wheat, as well as lentils and forage legumes. Irrigation is not available inside the station.

Rotations are usually two-course rotations.

Lebanon

Terbol Station

Terbol Station is presently used by LARI (Lebanese Agricultural Research Institute) and ICARDA.

ICARDA holds the main office (for both Lebanese stations) and uses about 25 ha, or half of the total station area. Like the two stations in Syria, Terbol and Kfardane are only 30 km apart, but represent different environments. While Terbol (890m) has an average of 540 mm precipitation, it is cooler in summer and warmer in winter than Kfardane (1080m) at 460 mm precipitation. Therefore, Terbol is used as testing site on yield and yellow rust on wheat and barley and yield/adaptability evaluation on food legumes in winter.

In summer it is used for testing on leaf and stem rust on cereal and generation advancement on food legumes. The summer multiplication requires artificial lighting to extend the day length to about 16 hours, from early growth and beyond flowering.

There is also some forage and spice crop work carried out in Terbol.

Kfardane is used for testing in winter only and does not have irrigation facilities.