Moroccan Cooperative Agricultural Research Program

Project Final Report

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San Diego State University Foundation
San Diego, California 92128-1900

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PROJECT ACCOMPLISHMENTS

THE MOROCCAN COOPERATIVE AGRICULTURE RESEARCH PROJECT
Grant Number HNE-0158-G-00-2075-00

"The project offers unique benefits for Moroccan and Israeli regional cooperation as well as benefits to the development of the Moroccan agribusiness sector. The project has demonstrated proven technical successes." Response to USAID Mid-Term Evaluation April 1995

Overview

The Moroccan Cooperative Agriculture Research Project was funded by the Agency for International Development Bureau for the Near East through the Middle East Regional Cooperation Programs. Begun July 1, 1992, the Moroccan project was accomplished by participants from the Kingdom of Morocco; the State of Israel and the United States. It was designed to meet a number of national development priorities identified by the governments of Morocco and Israel.

The Morocco project initiated, expanded and strengthened cooperative exchanges among its participants who collaboratively addressed topics of common interest. Placing an equal emphasis upon research and development and cooperation, the project contributed to the improvement of Morocco's agricultural sector through the introduction of new technology, training, and demonstration. In Israel, research was conducted on a number of topics closely linked to activities in Morocco, such as the development of hybrid tomato cultivars and new open-field ornamentals. Collaborative work conducted in both countries included the commercial production of truffles and the domestication of the Argan Tree (Argania spinosa), as an oil crop.

Especially significant is the fact that the project introduced a new partner with Israel and the United States in the Middle East Regional Cooperation Programs. An additional aspect involved the integration of private sector interests in Morocco, which have contributed substantial funding to the project from their own sources.

Efforts were made to link these private sector participants with their colleagues in Israel and in Egypt. In addition to the strong cooperative research and exchanges, one of the key aspects for the success of the project was the contact with, and support of, senior government officials in Morocco and Israel.

Cooperative exchanges among program participants were conducted at all levels and strengthened the potential for normalization of activities between Morocco and Israel. These activities involved regularly scheduled multi-national Steering Committee meetings that provided crucial scientific and technical direction for the project, Technical Committee meetings where participants from the three countries worked as a team to review research and development results and progress, and formulate plans for ongoing research. Joint reports generally resulted from such meetings. One-to-one visitations among participants also provided exchanges of plans, methods and ideas, as well as a platform for informal discussions to solve problems in specific project topics.

Additional mechanisms for cooperation included active efforts to exchange new technologies and plant varieties developed through the project. This was particularly evident in project topics to develop new hybrid tomato cultivars and new open-field ornamental crops, as well as in the collaborative work on truffles and the Argan Tree. The Morocco project also initiated the exchange of farmers and technicians through its training component, which strengthened cooperative activities, as well as peaceful ties between Morocco and Israel.

One important and very visible element of the program was the residence of an Israeli technical advisor at the research site in Morocco. The technical advisor interacted with Moroccan scientists, technicians, and the private sector, as well as with Moroccan government officials and foreign visitors to the research site.

An especially visible factor for the project was its outreach programs where Moroccan farmers, agriculturists, exporters, scientists, faculty, and students were able to interact with Israeli, Moroccan, and U.S. participants.

Through the efforts of participants in Morocco, Israel and the United States, the Morocco Cooperative Agriculture Research Project expanded the technical and productive base of Morocco's agricultural sector. The results of its cooperative activities positively impacted farmers, agriculturists, exporters, scientists, and scholars in both Morocco and Israel—demonstrating the benefits that peaceful collaboration may bring.

Accomplishments

Specific examples of the impact and successes of the Morocco Program are:

COLLABORATION AND COOPERATION

"The promotion of peaceful and collaborative relationships at various levels is a major, in not the major, accomplishment of this project. This was done under very difficult circumstances..." USAID External Final Evaluation, August 1997

- Cooperation occurred at the very highest levels. For example, formal diplomatic relations between Morocco and Israel did not exist at the beginning of the program, however Moroccan Government and Israeli Government officials, along with U.S. Government officials, were involved and instrumental in the planning and conceptualization of the program. At least 22 senior officials were involved in these activities. In November 1996, meetings with Dr. Hanan Abderrahman, Governor of Agadir and Director of Water and Forestry, were held with the country coordinators in Rabat. Dr. Hanan encouraged continued collaboration with Israeli counterparts in the field of aforestation and sand dune stabilization.

- Government scientists from Morocco collaborated with Israeli scientists beginning in 1989 in designing the actual technical program and participated in its activities since its beginning. More than 50 scientists participated, collaborated, or were involved in the project. Since its beginning, the project launched 17 specific research projects. Of these, eight were adaptive research activities, seven were cooperative research projects and two were collaborative in nature.

- Institutional representatives, scientists, technicians, and administrators from the three participating countries met regularly to discuss the progress of the program, plan its ongoing activities, and produce progress reports. Sharing knowledge and the exchange of seeds and cultivars were regular activities throughout the project. Four multi-national Steering Committee meetings, five multi-national Technical Committee meetings, and eight country coordinator meetings were held over the life of the project. Furthermore, scientists from Ben Gurion University and Hassan II Institute collaborated on a joint proposal, "Salt Grass for Reclamation of Saline Soils". This project was funded through USAID/CDR program.

- Individual scientists also developed professional relationships as a result of their work in the project. Dr. Aameur (Morocco) and Dr. Nerd (Israel), collaborators on Argan research sponsored by the Morocco project, submitted proposals to AID, UNESCO and GTZ, a German Institute, for additional funding. Although their proposals did not get funded, their efforts were a direct result of professional relationships fostered through the Morocco program.

- More than 50 one-to-one visitations occurred among project participants. In addition, up to 50 agriculturists per year were trained at both project sites: Azemour and Agadir.

TECHNOLOGY TRANSFER

"The project has contributed to the improvement of the agricultural sector in Morocco....Significant transfer of technology from Israel to Morocco has taken place."

USAID External Final Evaluation, August 1997

- In Morocco, the project farm served as a center for demonstration and extension for area farmers, growers, and agriculturists in general. New cultivars and seeds were available for farmers and new techniques were on display and demonstrated. One example of this technology transfer from the Morocco Project to the region's farmers is the Multinational Horticulture Seminar in April 1996. Co-sponsored by the Morocco Project, this seminar brought project scientists from Morocco, Israel, and the United States together with their colleagues from Hassan II Institute, to present new horticultural production technologies developed through the project to an audience composed of farmers, agriculturists, exporters, scientists and students. More than 300 people attended the seminar.

- Another example of technology transfer from the Morocco Project was the grafting campaign. In response to farmers' demands, Amaris Nurseries initiated a project involving the grafting of commercial varieties of tomatoes and melons onto tolerant rootstocks. This method produces plants tolerant to soil borne diseases while reducing the need for chemical treatments of the soil.

BENEFICIARIES

"Maghreb Agriculture is open for visitations and training and is involved in helping others to develop their own nurseries."

USAID External Final Evaluation, August 1997

- Beneficiaries of the Morocco Project included individual farmers (small, medium, and large); agri-businesses and export companies; and the Government of Morocco. Benefits included technology transferred, improved production, expanded business opportunities, new innovations, and improved political relationships. It is estimated that the numbers of farmers directly impacted by the project are more than 1,560. The number of private firms, associations, export groups, packing stations, and seed distributors contacted were 160. The overall number of persons in the agricultural sector reached through Amaris publications and through the information published in "Le Monde Agricole", the largest agricultural journal published in Morocco, were 49,000 to 70,000 (circulation estimates for the journal).

- In applying the results of the project, Moroccan farmers in the Azemour and Agadir regions utilized transplants developed in the project. Clients included small, medium, and large farming complexes. For example, between August and September 1995 farmers in the Azemour region purchased more than two million vegetable plants developed by project participants and sold through the project farm. During the same period, farmers in the Agadir region purchased more than 1.6 million plants developed through the project. Farmers who utilized products developed through the Morocco Project generally reported increased profits, which was a direct benefit from the peaceful cooperation among Moroccan, Israeli and U.S. program participants.

- Another example of the successful application of Morocco Project results comes from IKAMEL, a local agricultural company in the Agadir region. In fall 1995, IKAMEL purchased 301,448 vegetable transplants from the project nurseries. In a letter to the nurseries in December 1995, Mr. Iraqi Mohamed wrote, *"The results obtained...with respect to germination levels was excellent and the quality of live plants was outstanding. We encourage all farmers...to utilize the services... of Amaris Nursery.*

Management

Management of the project by SDSU Foundation involved support from project staff and senior management. Monthly meetings were held in San Diego by senior management and project staff. Programmatic concerns as well as fiscal management involved travel by project staff and also senior management. The SDSU Foundation provided separate funding for the travel of additional Foundation staff when needed. The Hansen Institute for World Peace also contributed significant funding to support a second meeting of the Technical Committee during the first fiscal year of the program in order to launch the project and provide the needed technical support during this beginning phase.

Effectiveness management of the program was expressly noted in the USAID external final evaluation in August 1997 - *"It is the impression of this review team that the oversight and management role of SDSUF has been critical to the successes that have been achieved in this project."*

Sustainability

It is expected that the Morocco Project Amaris Nursery activities will be sustainable in the future. Already, the production, marketing, and sales efforts demonstrated the development of a nursery business that is both successful, growing, and significantly benefits the agricultural sector in Morocco by providing quality transplants and new varieties of plants. Also, the nurseries continue to produce ornamental plants for the Government of Morocco to support Morocco's efforts to reforest the desert areas and stabilize the sand dunes.

End

LESSONS LEARNED FROM THE MOROCCAN COOPERATIVE AGRICULTURAL RESEARCH PROGRAM

GENERAL LESSONS RELEVANT TO THE MOROCCAN PROGRAM

- The program must be of top priority to governments of participating countries;
- The program must have the patronage of influential political figures in each country;
- The program should be long-term to allow full execution of the research programs, appropriate transfer of technologies, training of professional staff, marketing, and the beginning of application of research and technology transfer results;
- The program should be designed to benefit the largest possible number of people. At the same time it should have maximum relevance to the benefactors so that results will be readily adopted;
- The program topics must be of maximum relevance to the benefactors so that results will be readily adopted;
- Cooperation between country coordinators is crucial for the success of the program. The coordinators should contact each other on a weekly basis and meet 4-5 times a year;
- The participating scientists should be of a high caliber and with a strong inclination towards applied research, and they should be dedicated to peace;
- The budget for the program should be reasonably large in order to:
    a) Allow the creation of an integrated project;
    b) Allow the participation of the largest possible number of scientists;
    c) Reduce overhead costs;
    d) Produce substantial results.
- The overall objective and topics of research should be identical for both cooperating countries. However, the particular research topics should be designed to solve problems specific to the given country. Wherever possible collaborative research should be encouraged. However, when applied

research with an immediate impact is the main concern, then collaborative research may be less appropriate;

- The involvement of US institutions is critical at this stage of the peace process:

  a) The umbrella of a trilateral program (rather than a bilateral program with Israel and an Arab country) is much more acceptable to governments, institutions, and individuals in Arab countries;
  b) The U.S. institutions and scientists act as moderators and facilitators, and as a body they are able to facilitate the resolution of conflicts;
  c) The U.S. institutions maximize the visibility of the program internationally and nationally;
  d) Their involvement assures that the objectives and goals of the program as devised by the U.S. government and the U.S. Agency for International Development are being met;
  e) The U.S. institutions handle the fiscal and technical management in a professional manner;
  f) Their involvement assists in the purchase and shipping of U.S. equipment and facilitates the training of scientific and technical personnel in U.S. institutions;
  g) The U.S. institutions conduct internal annual review and evaluations.

- The joint Technical Committee is the professional body, which plans the technical and scientific activities, supervises their execution, and provides technical assistance;

- The joint Steering Committee should include personalities with influence at the highest political levels in each country. It determines guidelines for the Technical Committee and the country coordinators, oversees the expenditure of the program's budget, and is responsible for the appropriate execution of the technical and the cooperative activities;

  Through their influence at the highest governmental levels the members of the joint Steering Committee facilitate the execution of the cooperative activities. In addition, they both initiate and approve changes and deviations from the original work-plan and recommend those changes to the USAID project manager.

- The role of an Israeli Technical advisor is important in programs involving significant technology transfer from Israel. However, the Israeli Technical Advisor must never assume managerial responsibilities;

- Due to the volatile political situation in the Middle East and the fact that the region is undergoing a peace process, there should be maximum flexibility in designing the implementation programs.

SPECIFIC LESSONS RELEVANT TO THE MOROCCAN PROGRAM

In Morocco the program was carried out with the private sector and in a country which does not have official diplomatic relations with Israel. Specific lessons learned there are:

- To assure and encourage the cooperation of the private sector partner, many of the introduced technologies should be the property of the Moroccan partner;
- The commercial interest of the private sector should be used to publicize the program in the country. Thus seminars, workshops, exhibitions, field days, etc., should be designed to simultaneously promote sales and publicize the program;
- The program must be flexible in order to respond to changes in market demands and technical capabilities;
- The spread of new technologies and ideas should be carried out through the involvement of producers and suppliers;
- Creative ways should be devised to involve the public sector (research institutions, extension service, etc.) in the program. However, the participation of the public sector is less reliable than in countries which have full diplomatic relations with Israel;
- Nurseries are an effective tool for know-how and technology transfer.

SHALOM MAGAZINE ARTICLE ON THE MOROCCAN PROGRAM ACCOMPLISHMENTS

The following article, "Nurturing Nurseries Good Will in Seeds," appeared in the 1997, Number 3 issue of *Shalom Magazine*, published by the Centre for International Cooperation of the Ministry of Foreign Affairs, State of Israel. The article, written by Daniella Ashkenazy, discusses the many lessons learned, technical accomplishments and benefits realized by Israel and Morocco through the Morocco Project.

by Daniella Ashkenazy

About 50 kilometers south of Casablanca in Azemour - an established vegetable-growing area - a joint project between the United States, Morocco and Israel, called the AMARIS Nursery and Demonstration Farm, is nurturing not only robust seedlings but also good will and strong economic ties between Israelis and Moroccans. The project, officially called the Moroccan Cooperative Agricultural Development Project, is the first trilateral agricultural project to be established between Israel, the USA and Morocco - the second Moslem country to do so after Egypt.

The first, a demonstration farm and collaborative research in Egypt (see "Seeds of Peace," *Shalom* Magazine 1993-2 and "Agricultural Cooperation Between Israel and Egypt" in 1996-2), was the outgrowth of cooperation between San Diego State University Foundation (SDSUF) in California, Ben-Gurion University of the Negev, Israel, and the Egyptian government. Collaboration in Morocco has been nurtured by the private sector: The program was established under the joint auspices of the SDSUF-based Fred J. Hansen Institute for World Peace and Driss Lahlou, Moroccan businessman and agriculturalists, owner of "Maghreb Agriculture," and Ben-Gurion University of the Negev in Beersheba.

The state-of-the-art nursery, established in August 1993 on Lahlou's 40-hectare farm in Azemour, is supported by $5 million of seed money from USAID-MERC (United States Agency for International Development-Middle East Regional Cooperation) Program funded by the United States Agency for International Development. Funding was targeted to fuel cooperation between Arabs and Israelis.

The project is administered by the San Diego State University Foundation, and USA scientists from the University of California at Davis assist the program with valuable advise. However, Israelis provide most of the technical assistance to run the project - the on-site experts, the agrotechnological infrastructure, and other agricultural inputs such as seed and agrochemicals.

Professor Dov Pasternak, Chairman of the Technical Committee of AMARIS and Head of the Institute for Agricultural Applied Biology at Ben-Gurion University of the Negev, explains the main thrust of the project: A commercial-scale nursery was established based on advanced methods of propagation popular in Israel - transplants. Millions of seeds are sown in special growth media in individualized trays with automated equipment, and germinated and nurtured to optimal size under computer-controlled hothouse conditions.

Nissim Sroussi, the on-site Israeli technical advisor in Morocco, noted the advantages: "This method ensures 100% acclimatization by preventing shock in transplanting - an advance which is translated into uniform development, maximum yield and export-quality fruit."

"I have been the only Israeli on-site. The farm is run by Moroccan staff - the nursery manager and a group of permanent and seasonal workers. I believe the nursery has made a real revolution here. Farmers had been used to sowing directly on the field or preparing a seedbed and transplanting naked seedlings to fields. With this method of transplants they see that every single plant takes root and gives outstanding results."

The nursery supplies 4.5 million seedlings a year to local farmers, and a second nursery in Agadir provides several million more. At times the staff has found it difficult to keep up with demand from large farmers in Azemour and smaller farmers in Agadir.

The nursery also demonstrates other advanced agrotechnologies - such as utilization of dwarfing hormones that allow farmers to extend the life of conventional seedbeds by artificially reducing the growth rate of sprouts. Also, the AMARIS nursery is testing in experimental plots the feasibility of growing a host of export product - including asparagus as an early spring crop - with saline water, as in Israel.

In April of 1996, over 300 farmers, large-scale agriculturalists, exporters scientists and students attended a Horticulture Seminar held at the Hassan II Institute for Agronomy and Veterinary Medicine in Agadir, organized by Maghreb Agriculture and sponsored by the project. The seminar, one of the highlights of the five-year project now approaching its end, focused on new marketing opportunities, nursery production, alternative products and post-harvest biology and their corresponding technologies. "Driss Lahlou insisted that the 'Israeli connection' of the seminar be made public, in an interview in one of Morocco's newspapers," revealed Sroussi.

"During this last year of the project we worked in two new areas," he added:

* A forest tree nursery - "Following a request from the Moroccan Forestry Authority we produced, in the nurseries in Azemour and Agadir close to 1.5 million eucalyptus, acacia and casuarina (forest trees very common in Morocco) saplings. We also brought from Israel some 15 different species, unknown in Morocco, which we believe may be better suited to the region than the ones in use today. Our Moroccan counterparts are expected to experiment with this species and possibly utilize them in the future.

* "We trained a team and provided a framework for transplanted vegetable seedlings (mainly tomatoes and melons) - this system is utilized to bypass the problems of soil diseases which are difficult and expensive to eradicate, even with the help of strong and dangerous chemicals, the use of some of which is already forbidden in the US and Europe. This new system allows seeding without previously disinfecting the soil (with methyl bromide, an extremely dangerous poison that pollutes the air and hurts the ozone layer). This way we save a lot of money and safeguard the environment at the same time.

"In the last year we produced more than 1 million melon seedlings and about 2 million tomatoes seedlings with this new technique developed in Israel and improved in Morocco."

Much of the agrotechnology introduced and new areas under cultivation are destined to enhance and intensify Moroccan's trend toward export-oriented agriculture - ultimately competing with Israeli agricultural exports on European markets. Is there an irony here?

Professor Pasternak emphasized that Israel plays a significant role in improving fruit and vegetable production. Yet, transfer of agrotechnology from other developed countries such as Holland, Spain and France is underway independent of Israeli involvement. "If our neighbours don't get the know-how from us, they would get it from someone else," he said. Moreover, Pasternak stressed the reciprocal nature of cooperation. "Israel has much to gain in the bargain," he noted. Beyond building neighbourly relations through know-how, the Israeli presence nurtures lucrative markets for Israeli agricultural inputs - from hybrid seeds and fertilizers to plastic sheeting and irrigation systems.

Nissim Sroussi agreed: "In the past two years, for instance, Israeli hybrid tomato seeds have captured 85% of the local market. Israeli melons are popular, as well. And interest is evident in other areas - including irrigation equipment and poultry inputs - from chicks to coops.

When people hear I'm from Israel, they see me as a one-stop informant about every aspect of Israeli agriculture. Interest is very high," added Sroussi.

Sroussi commented that some of the boons are unexpected. Israelis were surprised to discover that asparagus would thrive in an environment of high salinity. "Trial shipments were very well received in Canada. Opening up the Canadian market to Moroccan asparagus can open an new market for Israeli asparagus as well - a market of which Israelis simply have not been aware," admitted Sroussi.

Israel benefits in other ways as well - particularly in collaborative research. While Israelis are introducing superior varieties of hybrid vegetables and new ornamentals, within the foreseeable future, two native Moroccan plants may blossom in Israel, as well - the fruit of cooperation between Israeli and Moroccan universities and agricultural research centres. The first is the Argan tree (*Argania spinosa)* - a wild species native of southern Morocco whose seeds are harvested to obtain a high-quality oil used as a condiment for food and in cosmetics.

"The tree - similar in size to the olive tree - is being domesticated in collaborative research between Israeli and Moroccan academicians," revealed Pasternak. The population of Argan trees in Morocco has been shrinking due to overexploitation, therefore efforts are underway to find ways to grow the tree commercially, he explained. Israelis hope to introduce the Argan tree, which is tolerant to drought, into the Negev.

The second project holds the promise of being a boon for both farmers and consumers: Truffles - a special kind of mushroom - grow underground on the roots of certain higher species - all of them forest trees like oak. Not only are they slow-growing; truffles must be rooted up - literally and figuratively with specially-trained dogs or pigs. Thus, they fetch premium prices.

"Fortunately, a truffle native to Morocco, *Terfezia leonis,* grows on a different host - an annual plant," disclosed Pasternak. Israeli and Moroccan academicians are collaborating on commercializing the growth of truffles. The Moroccan team is engaged in identifying host plants and select productive genotypes, while their Israeli colleagues concentrate on understanding the relationship between fungus and host.

The US-Israel-Morocco tie has also promoted work on developing a new branch of agriculture for both Israeli and Moroccan: the prospect of growing North American-style raspberries in an arid climate. Normally, the raspberry

needs a period of chilling to flower. But, there are trials underway in Morocco to introduce a variety that grows in Southern California that does not need extensive chilling. This high-profit crop, though labor-intensive, may also be suitable to Israel as well.

Today, five years after the inauguration of the project, Nissim Sroussi is optimistic. "As we expected, new nurseries have emerged and are competing with ours. One nursery was established last year some 2 kilometres from the one in Azemour and is already producing close to 2 million seedlings a year. A second one in being established at present in Bizazout Kanitra about 60 km north of the capital Rabat. The Kanitra region is well known as the third biggest agricultural area in Morocco after Azemour and Agadir.

"Our involvement in the project in Morocco is coming to an end, and I returned to Israel and according to plan the Moroccans are expected to continue operating the farms independently. In case they need assistance they will call us, and from time to time we will visit. The two nurseries have been a growth medium not only for good will but also for excellent business contacts and a good name for Israeli agricultural inputs in a new, potentially lucrative market. The project has been a catalyst for good things for both Morocco and Israel," concluded Sroussi. ❑

BENEFICIARIES

Attached are lists of specific clients, organizations, groups, agribusiness's and cooperatives that have been impacted by the Morocco project through the marketing, extension and demonstration efforts of Amaris Nurseries. The list was provided by Maghreb Agriculture. Included are the following:

- Individual growers 35
- Producer organizations and societies represented at the April 1996 seminar (300 individuals attended) 53
- Cooperatives and horticultural producers 75
- Distributors and seed retailers and suppliers 43
- Grower groups and individual farmers 175
- Circulation of *Le Monde Agricole* in which Maghreb
- Agriculture published information about the seminar and new transplant technologies being introduced at
- Amaris Nurseries - estimated circulation .....49,000 -70,000

We are pleased that the beneficiaries of this project are so widespread throughout Morocco. The information and technology generated by the Morocco project activities are being disseminated to farmers, agribusiness's, cooperatives, grower groups and export companies throughout Morocco. In other words, the project has direct benefit to individuals and groups as well as the agricultural sector as a whole through the collaborative efforts of our Moroccan and Israeli partners. The attached lists illustrate the scope of beneficiaries of this collaborative program.

LIST OF PRODUCERS CONTACTED BY THE MARKETING DIVISION OF AMARIS MAGHREB AGRICULTURE

STATION	RESPONSIBLE	REGION	TELEPHONE
Aktir	Barat Lahoucine	Biougra	815255
Tijani	Moutiga Med	Biougra	818244
Sous Fleur	Meziani	Massa	240287
Kabbage Massa	Belghiti	Massa	
Marisprim	Tazi	Massa	242178
Agrito	Khaji	Biougra	318037
Cherdoud	Cherdoud	Biougra	243037
Gdira	Gdira	Biougra	243721
Boussetta	Boussetta. B	Biougra	818051
Frutesma	Carmilo Rodrigues	Ait Milk	818161
Grina	Lahrichi Med	Ait Milk	845534
Moussaid	Moussaid Omar	Biougra	818606
Archane	Archane Med	Biougra	818392
Maroub	Maroub AbdelKader	Biougra	818074
Ifoulki	Oumelouk Med	Biougra	
Jakadir	Zaghdoud	Khmiss Ait Amira	818115
Genti	Genti Med	Biougra	241968
Nectar Prim	Galka J.C.	Route Ait Baha	818144
Boustane	Faris Amine	Massa	845237
Maraissa	Pierrich Puech	Massa	
Amanouz	Amanouz	Biougra	821925
Assa	Baguich	Biougra	818315
Boussebat	Boussebat	Biougra	240344
Bairouk	Bairouk	Biougra	818161
Kamal	Elherd Ahmed	Khmiss Ait Amira	
Nya	Nya Med	Khmiss Ait Amira	241129
Dounia	Elberhichi Atmane	Khmiss Ait Amira	222723
Miftah	Miftah M'Barek	Biougra	818501
Tomasouss	Moumile Abdellatif	Massa	220517
Armona	Jaquemart Etienne	Biougra	846662
Coprimag	Defrioui Med	Biougra	818488
Consimtix	Sidalal	Massa	825514
Elbouj	Bansalah	Douar Taddart	242388
Douna	Galindo Buitragoh	R.Sebt Ait Milk	818420
Korvran	P. Laargeesn	Douar Ait Mimoun	224978

end

LIST OF ORGANIZATIONS AND SOCIETIES INVITED TO THE APRIL 15, 1996 SEMINAR ORGANIZED BY THE MOROCCO PROJECT

ORGANIZATION	ADDRESS	TELEPHONE	FAX PHONE
Ormvasm	Mr le Directeur de l'ORMVASM, Agadir		
DPA	Mr le Directeur de la DPA, Agadir		
Eauz et Forets	Mr le Directeur des Eaux et Forets, Agadir		
Inspection Regional D' Agric	Mr. l'Inspecteur Regional de l' Agric, Agadir		
INRA	Mr le Directeur de l'INRA, Ait-Melloul		
ant Acr	Mr le Directeur de la lutte Anti-Acridiene		
Chb Agric	Mr le President de la Chambra d'Agriculture Adadir		
P.V.	Mr. le Directeur de la P.V. Ait Melloul		
Apefel	APEFEL (Mr. Mouisset) Ait-Melloul, Agadir	08-243454	08-243456
Aspem	ASPEM (President Mr. ahmed Mansour Najjai) 52, Rue d' Azilal	02-301510/02-303456	02-300612
Ampex-Fleurs	Association des Producteurs Exportateurs des Fleurs 145, Bd. Zerktouni, Casablanca	02-252696	02-364041
Cooperative Mabrouka	Quartier Industriel-zone, Agadir	02-833207	02-834676
Chambre d'Agriculture-Aga	Chambre d'Agriculture, Agadir	08-842679/08-844101	
Chambre d'Agriculture-Tar	Chambre d'Agriculture de Taroudante	08-850489	
Ezzouhour	Societe Ezzouhour SA 6 route Biougra, Ait Melloul, Agadir	08-240569	08-241820
Hortec	Societe hortec 192, Bd My Ismail, Casa	02-241271	02-400570
Sofa-Souss	Societe Sofa-Souss, 80 route Biougra Ait-Melloul	02-241459	02-241458
Casem	Comptoir Agricole des Semences 192, Bvd My Ismail, Casa	02-248819	02+400670
Chems		08-833474/76	08-843458
Sodea	SO.de A BP n 13 Oled Teima, Taroudant	08-526869	
Sodea	So. De A (siege) Av. Haj Ahmed Cherkaoui BP: 6280 Rabat-Institut	07-770825/07-774798	07-771514
SOGETA	SOGETA. Siege: 35 Rue Agdal BP: 731 Rabat	07-772834	07-772765/07-754934
SASMA	S.A.S.MA (delegation Agrumes) Mr. ahmed El Khemass. Place Bir Anzaran Cite Rabla Oulad Teima, Taroudant	08-526411	
SASMA	S.A.S.MA (delegation Maraichage) Mohamed Lhimer Immeuble Damou, Route de Biougra Ait Melloul	02-240325	
CNCA	Siege CNCA 2 Avenue l'Alger, Rabat BP 49	07-725920/07-732555	07-732580

ORGANIZATION	ADDRESS	TELEPHONE	FAX PHONE
A.N.A.P.P.A.V.	A.N.A..P.P.A.V. Dr. Med Besri Av. Hassan II Rabat-Instituts	07-710148	
Agro Spray Techniques	Route de Tiznit	08-241206	08-241206
Comptoir Agricole du Souss	Avenue Hassan II BP 374	08-820420/08-821492	08-823208
Vita Maroc	3 rue Taid Abdllkrim, Casablance	02-447726/27/28	02-293549/02-447519
Magriri	Ait Melloul Route de Biougra Hrach	02-242525/27	
Rahane Maroc	24, rue Souheil Faheen 20 000, Casablanca	02-301732/02-305244	02-305006
Graga	Route de Biougra, no. 117	08-24c1812	08-243637
Vitamar	Route de Biougra, no. 117	08-24c1812	08-243637
Alfa Chimie	215, BP Abdellah Ben Yacine Belvedere, Casablanca	02-247202	
Sedagri	Route de Taroudant	02-830905	
Magri-Ser	21, BP Almokawama, Casablanca	02-241537/40	02-246209
Amaroc	SA 152, BP Abdellah Ben Yacine Casablanca	02-242471/72	
Somai	120, BP Almokawama, Casablanca	02-305629	02-303793
Comicon	9 BP, d'Oujda, Casablanca	02-300318/02-302211	02-306082
Stokvis	Rue de Sergent Hileair Ain Borja BP 2183 Casablanca 21 700	02-403740	02-403887
Bayers	Km 1, route de Taroudant, Ait Melloul 80 150 Agadir	08-240402	08-241426
Process	Km3, route d'Essaouira BP 374	08-820904/08-820763	18-823208
Cali-Souss	Ait Melloul Route de Biougra Hrach	08-826257	
Cali-Maroc	82, rue Loudaya-La Villette, Casablanca	02-623715/02-623634	02-623904
Saoas	Omnium Agricole du Souss 367, Avenue S.M. Hassam II Agadir	08-821968/02-822317	08-825904
Phyto Sud	Route de Biougra	08-240934	
ERI-SER	Route de Taroudant no. 22 Lotissement Ait Melloul	08-242154	08-242154
CPCM			02-278344
Soremar	Walters Loots BP 468 Agadir	02-846657	08-842664
SF CCT	El Mir Abdellah, route Biougra, Ait Melloul		08-831770
CMPE	23 Rue Bnoumjid, Casablanca		02-301793
Marketiks	Mme Bominique Signore, Marketiks	08-844638	08-844638
AMI (DAI)	30, Avenue des f.A.R. 6emc etage, Casablanca		02-442107

end

MEMBERS OF THE AMPEXFLEUR FLOWER COOPERATIVE AND OTHER HORTICULTURE PRODUCERS CONTACTED BY MAGHREB AGRICULTURE

ORGANIZATION	ADDRESS	TELEPHONE	FAX PHONE
Rose d'Agadir	Mr. Lefnaoui, Sedagri Agadir	08-240905	08-240185
Arbor Sud	Nezha Benchakroun & Michel Ayello Biougra, Agadir	08+818016	02-357274/08-818454
Saflor	Saflor, Biougra, Agadir	08-818217/08-841115	08-847219
Sous Fleurs	Route de Biougra Ait Melloul	08-241898/08-241960	08-241954/241387
Sapiama	Taroudant	08-853551	08-853431
Atlas 2000	Agadir		08-362626
Fantazia	Agadir		08-845405
Rosaflor	Agadir		08-843214
Rosalie	Martin Langer, Agadir		07-708345
Marofleurs	Agadir		08-843083
Beniflore	Beni Mellal	02-243995	02-243995
Fine Flowers	Marrakech		02-314560
Florasud	Marrakech		02-409054
Ghizlane	Marrakech		02-337465
Rose Maroc	Marrakech		02-256216
Toubkal Fleurs	Marrakech		02-247683
Yssil Fleurs	Marrakech	07-772484	
Hortimex	Mr. Ouzaia Ali, Gueliz, Marrakech		
NovaFleur	Marrakech	04-447013	04-435246
Abaz	Kenitra		02-294059
Dom. Poyaux Skhirat	Skhirat, Rabit		07-742367
Florimar	Casablanca-Azemour		02-398936
Floradis	Casablanca-Azemour		02-396980
Morocco Roses	Azemour		03-328834
Prim Rose	Casablanca-Azemour		02-353398
New Garden	Rabat		07-705303
Exmora	Rabat	07-742222	
Domal Agric Marrakech	Marrakech		04-400624
DPVCTRF	Khalis Hind	07-779852/07-779873	
Pepiniere Azrou	Mme Alleon Christine, P 374 Agadir, Azrou		08-823208
Process	Km 3 rute d'Essaouira, Anza, BP 374, Agadir	08-820904/08-820763	08-823208

ORGANIZATION	ADDRESS	TELEPHONE	FAX PHONE
Ste.Des Ciments Du Maroc, Casa	1, Av. Des Pleiades, Casablanca	02-815501/02-815502	02-815505
Brassieries du Maroc	Bd. Ahl Loghlam, Ain Sebaa, Casablanca	02-754646/02-754885	02-754895
Copag	Ait Taza par Taroudant	08-853031/08-853210	08-853219
Mr. M. Benzit	110, Rue Moussa ben Noussair, Casablanca	02-202564/02-271653	02-220735
Agripharma	1, allee des Villas, Ain Sebaa 20 250, Casablanca	02-355950	02-356122
Promagri S.A.	Sidi Maarouf, Bouskoura, Casablanca	02-441100/02-440168	02-440175/441635
Rhone Poulenc Agro Maroc	92, Bd de la Resistance, Casablanca	07-767041/07-765490	07-767079
Agro Spray Technic	14, rue Oued Zem, Rabat	02-354200	02-354204
Zeneca Agrochemicals	Bd. Aicha Bent Haimoud Z.I. Ain Sebaa, Casablanca 20 250	02-220471/02-263401	02-274852
Total Maroc	146, Bd. Zerktouni, BP 13 638, Casablanca	02-355719	02-359311
BASF Maroc S.A.	3, Rue Taib Abdelkrim (ex.Rue Caporal Corras), Casablanca	02-274027	08-241777
Sapel	41, Rue El-Ouraibi Jilali (ex Rue de Foucaould), Casablanca	02-274027	02-296942/296801
CIBA-Geigy	82 Bd. Chefchaoui, Ain Sebaa 21 600, Casablanca	02-354614/02-359314	08-833857
SCPC	Route de Taroudant, Ait-Melloul	08-240710	09-900818
Bayer Maghreb S.A.	3, Bd. Zerktouni, 20 100 Casablanca	02-204727	06-619296
Coca Cola	Zone industrielle de Tassila, Agadir	08-832442	02-395571
Societe K-Lukus	BP 39, Larache	09-918289	08-824051
President Du Groupe GAB	No. 5, Imn, Kirat, rue Touria, Chaouni, Berkanc	06-619294/95	02-251719
Directeur Genera des Damaines Agricoles	km 5, route d'Azemour, Dar Bouazza, BP 125, 132, AP Ain Diab, Casablanca	02-398500/02-398321	
Societe Emballe	Rue Moussa Ibn Noussaire, (QI), Agadir	08-823345/088218 32/08-824125	02-234545
Societe Etma	68, rue de Nourmandie, Casablanca	02-251719/02-252607	02-402083
Societe Cali Souss	Route Biougra, Ait-Melloul	08-240019	
Societe Graphiscript	Route de Bouskoura par route d'El Jadida, Km 12500, BP 38/ZI Sidi Maarouf, Casablanca	02-907810/18/50/60	02-234545
Societe Permatec	411, Ave Ambassadeur Ben Aicha, 21 700, Casablanca	02-402082/02-402083	02-402083

ORGANIZATION	ADDRESS	TELEPHONE	FAX PHONE
Roda Maroc/Netrak	2, Allee des villas (st) Ain Sebaa, Casablanca	02-355927/02-355697	02-356122
Somilec	463, BD Ambassadeur Ben Aicha, Casablanca	02-401145/02-408174/72/02-406288	02-247683
Sotrachim	13, Rue Zoubeir Ibn Al Aouam, Roches noires, Casablanca	02-241618/02-401333/34/35/36	02-249550
Societe des Huileries Du Souss	BP 135, Quartier ANAZ, Agadir	08-848429/28	08-847279
Societe Civile Agriocle Mokala	10, Rue El-Oraibi, Jilail, Casablanca	02-201695/02-220691	02-205785
Societe des Ciments du Maroc	Km 7, Route Essaouira, BP 312, Agadir	08-822925/08-821474	08-823598/820792
Fertima	Imm. OCP, Angle route d'El=Jadid et Bd. De la grande Ceinture, Casablanca	02-230025/230125/231025	02-234214
Sedagri	Route de Taroudant, Ait Melloul	08-241800/240905/240578	08-240185
Kettara	11-, Rue Moussa Ben Noussair, Casablanca	02-202564/02-269615	02-220735
Rolland Irrigation Equipment	51, Rue Melouyat, Appt nl. 1, Rabat	07-778099	07-778099
Hydratec	54, Bd. Bahmad, Casablanca	02-245389/07-404048	02-243394
Magriri	58, Rue des Papillions, Oasis, Casablanca	02-254253	02-250245
President du Groupe Salam	Rue Mouquaouama, QI, Agadir	08-226981/82/08-220409	02-221418
President du Groupe Delassus Casa	9, Avenue Khalid Bnou Loualid BP 3010, Ainsebaa, Casablanca	02-353917/02-353906	02-353398/355651
President du Groupe Agrisouss	Rue du 18, Novembre, Immueble Manar, Agadir	08-843550/08-822367	08-821397
President du Groupe Sogecap	1, Place Lemaigre Dubreuil, Immeuble Liberte, Casablanca	02-318143/57	02-310457
President du Groupe	BP 125, 129 Agence postale Ain Diab, Casablanca	02-398500/398521	02-398951
President de l'AFB	BP 125, 132 Agence postale Ain Diab, Casablanca	02-397019/397083	02-396393/396083
President du Groupe Kayouh	Immeuble A no. 14-15, Av. Moulay Abdellah, Agadir	08-845258/845110	08-845227
President du Groupe OCE	45, Avenue des FAR, 15 eme etage, Casablanca	02-314117/314103/312870	02-313079

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LIST OF REPRESENTATIVES AND SEED RETAILERS CONTACTED BY THE MARKETING DIVISION OF MAGHREB AGRICULTURE

ORGANIZATION	RESPONSIBLE	TELEPHONE	FAX PHONE
CAS	Directeur: Mr. Alleon; Clause: Naji; Hi-Tech: Mr. Nouieb Omar	820420/821 492	823208
Maroc, Vilmorin	Bouamer (resp); El houari Bejja (technico-com)	242455	240513
Sofa Souss "Casem"	Directeur: Mr Ben Ali; Mr Rachid Ait M'hend (vendeur)	240549	241458
Agrimat Co, Asgrow	Mr. Bousnane Abdellah; Technicien: Mr. Hounit ElHoucine	241793	241268
Agrimassa	Mr. Nesyn Ahmed, Mr. Lahcen	240403	
Fellah Essaada	Mr. Fatihi Omar	240176	
Fellah El Massira	Mr. Aboufarah Ali	242487	
Phytonord, Van den Berg	Mr. Baroudi	224836	
Ets Ahouzi	Mr. Ahouzi Brahim	241920	
Fellah Agadir, Pioneer	Mr. Benbah Omar; Technicien ste: Pioneer	241052	
Bioprag, Van den Berg	Mr. Bouchoukou	244620	244686
Cogepra	Mr. Brahim Ait Haddouch (Technico-com)	243436/243 437	
Ste Atraco	Mr. Akki (technico-com)	02-156643 (Mobile)	
Ste Ezzouhour, Niagaga	Mr. Moussaoui si Med	241820/240 562	241820

end

LIST OF REPRESENTATIVES AND RETAILERS OF SEEDS; PRODUCERS OF PEAT AND BROMIDE AND IRRIGATION EQUIPMENT CONTACTED BY THE MARKETING DIVISION OF MAGHREB AGRICULTURE

ORGANIZATION	ADDRESS	TELEPHONE	FAX PHONE
CAS	Av. Hassan II, Agadir	820420/821 492	823208
Amaroc	Rte Tiznit, Ait Melloul	242455	240513
Sofa Souss	Rte Biougra, Ati Melloul	240549	241458
Agrimatco	Rte Biougra, Ati Melloul	241793	241268
Agri Massa	Rte Taroudant, Ait Melloul	240403	
Biobrag	Rte Taroudant, Ait Melloul	244620	244686
Fellah Saada	Rte Tiznit, Ait Melloul	240176	
Fellah El Massira	Rte Tiznit, Ait Melloul	242487	
Phytonord	Rte Tiznit, Ait Melloul	224836	
Ets Ahouzi	Rte Biougra, Ati Melloul	241920	
Fellah Agadir	Rte Biougra, Ati Melloul	241052	
Cogepra	Rte Biougra, Ati Melloul	243436/37	
Ste. Ezzouhour	Rte Biougra, Ati Melloul	241820/240 562	241820
Ste Atraco	Saus	02-156643	
Braga (Sobroma)	Rte Biougra, Ati Melloul		
Socopa	Rte Biougra, Ati Melloul	240287	
Promagri	Rte Tiznit, Ait Melloul		
Agrosray Technic	Rte Tiznit, Ait Melloul		
Irri Sera	Oued souss, Ait Melloul		
Iri Ser	Rte Taroudant, Ait Melloul	242154	
CMGP	Rte Taroudant, Ait Melloul		
Univers Irrigation	Rte Taroudant, Ait Melloul		
Bayer Maghreb	Rte Taroudant, Ait Melloul		
Agrochimie (SAOAS)	Rte Taroudant, Ait Melloul		
Sofagri (Sedagri)	Rte Taroudant, Ait Melloul		
SIPP	Rte Biougra, Ati Melloul		
Netamar	Rte Biougra, Ati Melloul		
SPCM	Rte Biougra, Ati Melloul		
Phyto Sud	Rte Biougra, Ati Melloul	240934	

end

LIST OF GROUPS VISITED AND MEETINGS HELD BY THE MARKETING DIVISION OF MAGHREB AGRICULTURE

GROUPE	RESPONSIBLES	REFERENCE	TELEPHONE	LOCALE
Salam	Amanouz Blaid	7509L		Dour ait Hammou
	Bouhdoud HJ Ayad	7413H	241034/1155	Ait Melloul
	Bairouk Lahoucine	7517I	818161	Biougra Centre
	Oulhind Mohamed	7553J		Douar Ait Moulloud, Rte Biougra
	Archa Ahmed	7605P		Khmiss Ait Amira
OCE	Oullious Mohamed	7537Z	818115	Douar Tine Said; CR Safia Chtouka
	Ait Allal HJ Houcine	7431C	241242	Km 6 rte Biougra
	Kayouh HJ Ali	7703V	526877/6105	Av. General Kettani, Agadir
	Ameziane Lahcen		834300/09/10	Al. Tassu a BP 513 Inezgane
	Fillani	7425T	240337/0851	Rte Admine Ait Melloui,Cercle
	Gentil Mohamed	7529X	241949	BP 40, Biougra Centre Douar Erteim Ouled
	Hamdaoua Aissa	7715K	818144	Teima
	Gdire HJ Mohamed	7513P		Biougra Centre
	Zoubir HJ Larbi	7405W	818051	Rte Taroudant, A.M
	Ait Allal HJ Houcine	7431E	241083/0581	Km 6 Rte Biougra
	Mouttya Mohamed	7525	818244/221472	Les Chalets Biougra
	Faiz HJ Mohamed	7449O	270528/1696	Lot no. 230, Rte Biougra, Ait Melloul
AgriSouss	Mouisset	7201C	833207/13/834676	ZI Tassila, BP 278, Agadir
	Bouchoukou HJ Brahim	7423R	319215	CR Temssia Douar, Temssia P. Ineeqgane
	Coop Azro	7417L	242903/1689	ZT Ait Melloul
	El Hiba Mohamed	7711G	526097/6836	Ouled Teima Centre

GROUPE	RESPONSIBLES	REFERENCE	TELEPHONE	LOCALE
Private	Frutesma Manuel	7561R	21193/845534	17 Impasse de Baghdad, Agadir
	Sosso Alaoui My Ahmed	7503		16 Rue de l'Atlas, Agadir
	Parolex Javamir	7523C	818444	Siege Sociale Bloc F, No 17, Biougra
	Gemuse Fruchte	7723S	319276/77	Km 25 Rte Taropudant, Ait Moussa
	Tidrarine Lahoucine	7457	822485	30 Rue du Caire, Q Residentiel, Agadir
	Madjomar Bennour	2515X/2502S	342918	QL 83/84 Azu Marrakech
	Abdellatif Mounir		232504	421 Imm. Moukhtar, Soussi Av. El Hammra, Ba'6
	Gouy Yini Andre	7549	021132/838875	12 rue Dakar
	Sidalalubouin	7557W	825514/840415	14 Impasse Amman, Ag
	Gouy Gini Andre	7534W	818454/818016	11 Rue Dakar
	Louryssem Philip	7017E	243740/42	Lotissement Adjeddig No. 57 A.M.
	Gallea		845237	SBI Medv, MM Mouritania Ag
	Zachdoud	7547D	241968/70	Imm. Baldouh No. 2 Km Rte Taroudant, A.M.

end

MEMBERS OF THE MBROUKA COOPERATIVE WHO MET WITH THE MARKETING DIVISION OF MAGHREB AGRICULTURE

REFERENCE	MEMBER NAME	TELEPHONE
3409 F	Addil	
347 R	Aassila Mohamed	
5310 U	AbelloucBoujemaa	
598 A	Abouabassi Ali	
3489 Z	Abounaime & Abdelaaz	
111 T	Aderdour Lahouncine	244141
4640 R	Agris Statrs	
3718 P	Ait Allah Assou	240521
2913 P	Ait Bakkal Brahim	
2479 S	Ait Bakkal Mohamed	
311 M	Ait el Trach Haj Laa	
2619 U	Ait el Trach Larbi	
1727 C	Ait el Trach Said	
3456 G	Ait Fakir Mohamed	
3162 L	Ajana Mohamed	220556
1875 ,	Akziz Mohamed	
2327 E	Amghar Ahmed	244100
1856 Z	Amghar H. Sliman	
4480 S	Arsalan Omar	
222 P	Assahmour Lahcen	242903/4100
4030 F	Bel Khrof Lhoucine	
6902 C	Ben Lahcen Ouakrim	
4933 B	Bouchtaoui & Abdelilah	
2486 C	Bougari HJ Said	
2801 S	Bougari M'Barek	
1519 R	Bouiha Brahim	241991/1387
122 H	Boutha Mustapha	
7076 P	Boulguid Lahcen	242138
3999 U	Boumkouk Miloud	844763/823983
4548 R	Boutalibi Ahmed	
610 M	Boutalibib Lahoucine	
1496 B	Boutouadi HJ Larbi	
1749 B	Boutouadi Said	
3543 N	Cooperative M'Brouka	
7114 H	Bieri Ayad	222219
2916 P	Domaine Amai	

REFERENCE	MEMBER NAME	TELEPHONE
4846 Z	Domaine Raja	
4027 C	Bomaine Rosalie	
6500 Y	Bomaine zakia	
6000 U	El Bguir Hassan	
2463 C	El Bguir Lahcen	
155 R	Le Fadili Ahmed	
2547 R	El Garani Abderramhim	
83 Y	El Garani Adberrahim	
849 V	El Garani Mohamed	
1671 P	El Hiba Mohamed	526067
472 M	El Hilali Abdelmaid	
6068 T	El lHilali Haj Brahim	
161 A	El Kaihal Abdeaaziz	
2640 S	El Karoumi Brahim	
4895 T	El Khatate	
2820 V	El Massi Abdelaaziz	
2534 R	El Mouden Ahmed	02-406549
6186 W	El Ouafi	
4213 E	Elbergui Abdelaaziz	
5601 H	Elbergui Thami	
2929 X	Expl Mar. Erreda(Rach)	
3445	Fadili Mohamred	
6010 H	Farissi & Charate	222193
3127 W	Rarissi & Rachid	
1094 N	Farissi Nacer	
4023 V	Fdili Boujmaa	
5250 G	Fouad	
965 W	GTM	
1021 J	GTM II	
1724 W	Grach H. Ali	
1240 V	Ghaissan Mustapha	834567
2896 V	Ghengli Salah	
2130 Y	H. Mouisset Brahim	
416 C	H. Mouissat Moussa	
600 C	Hachadi	
4101 H	Hailaliu Ahmed	
5304 Y	Hailali Mohamed	
162 B	Haymoud	
2372 D	Haymoud M'Bark	

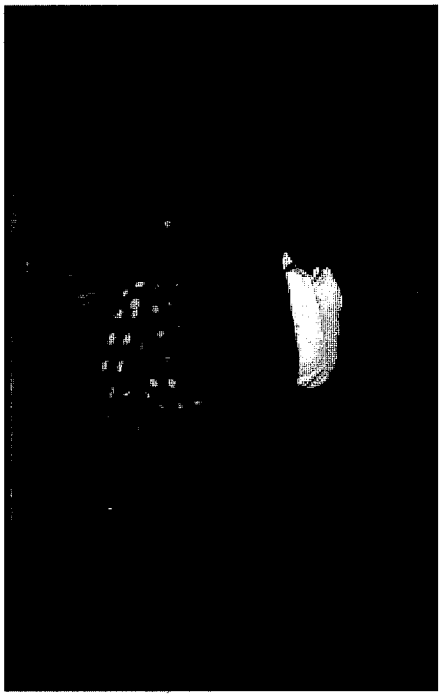
REFERENCE	MEMBER NAME	TELEPHONE
3434 H	Hilali Abdelmajid	
1550 J	Hilali Ahmed	
2453 P	Hilali Ali et Consor	
5216 S	Hilali Brahim	
3412 X	Hilali Freres Lahcen	
2805 W	Hilali M'Barek	
3401 S	Hilali Mahjoub	
5109 D	Hilali Med. B. Laarbi	
1409 G	Hilali Mohamed	
841 V	Oprimex	
5240 T	Jnah Haj M'Barek	
2800 R	Jnah M'Bark	
3423 T	Jnah Mohamed	
1731 G	Jnah Said	
332 K	Joubir Youssef	
4940 S	Kabbaj Abdelillah	841950
5519 W	Kabbaj Mohamed	841950
4306 F	Kaihal Bouih	
5778 F	Kaihal Brahim	
2229 V	Kaihal Miloud	
6044 S	Kayouh Haj Laarbi	526816
3019 G	Krich Mohamed	
4004 C	Mouadili Mohamed	241714
1717 P	Mouisset Abdel Aaziz	
4474 M	Mouisset Abdel Latif	
3478 S	Mouisset Abdel Majid	
25910 O	Mouisset Abderazzak	833207
3469 T	Mouisset Abderrahman	
1730 F	Mouissat Habib	
5074 Y	Msefer	
4341 R	Msefer Mohamed	
700 K	NTCI	
1863 A	Ouasty Ahmed	
4416 A	Oublal Abdelhadi	
1848 X	Oublal Frares	
3276 K	Oued Bouslham	242542
3906 T	Rabiet Rbati	
4463	Rbati	
5108 C	Saada	
4660 Y	Sadik Bihi	

REFERENCE	MEMBER NAME	TELEPHONE
4550 T	Sadik	
492 J	Sadiq Said	
3232 M	Sadiki Ali	
1858 S	Sadki Brahim	
3380 W	Said Ben Mohamed	
2832 D	Salam	
3000 K	Sapexo	
2792 J	Sasma	
1574 K	Sbaiti Thami	
72 D	Sebaay Abdelaaziz	
2539 J	Sedki Hj M'Barek	
4239 H	Sedki M'Barek	
2911 N	Sadki et Bougari	
4715 A	Selloum Bouchaaib	823566
1305	Serhan Mohamed	
2557 E	Serhane Omar	
415 B	Touami	
747 L	Touzani Abderrahmane	
3400 T	Touzani Dom. Lakhmiss	
3407 D	Zahidi Mohamed	848141
3867 D	Znaibar	
4953 X	Zniber Socuprom	
247 R	Zoubir Youssef	241083

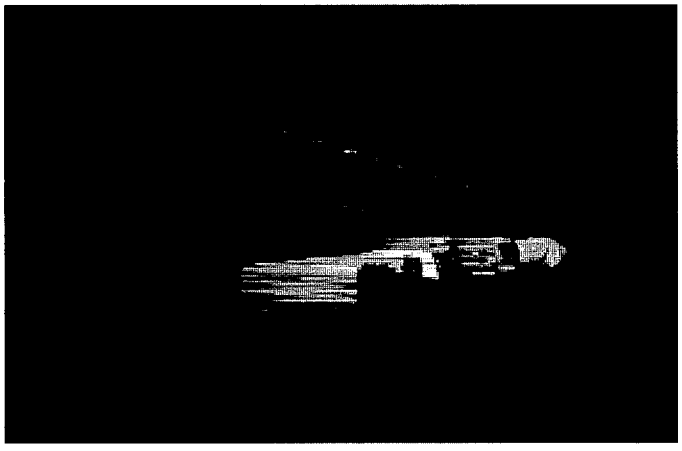
end

Photo History

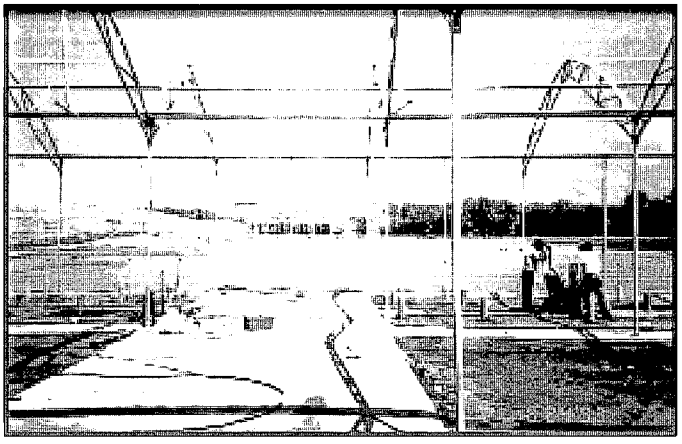
Building the Nurseries at Azemour



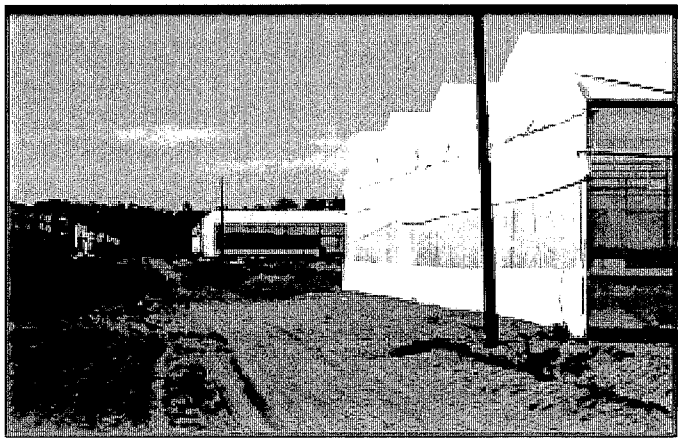
Mr. Driss Lahlou, Morocco Coordinator, and Mr. Itzhak Ayalon, Israeli Technical Advisor, views the construction site for nurseries, November 1992



Nursery building materials, shipped from Israel, arrive at Azemour, April 1993

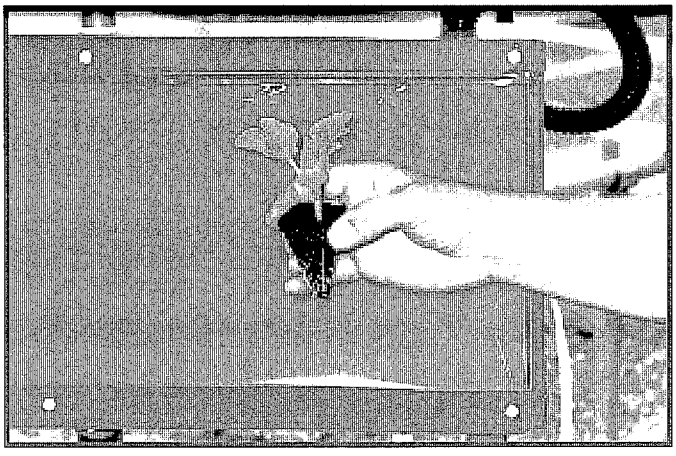


Construction begins, June 1993



Construction is completed, July 1993

Production of transplants at Amaris Nurseries in Azemour

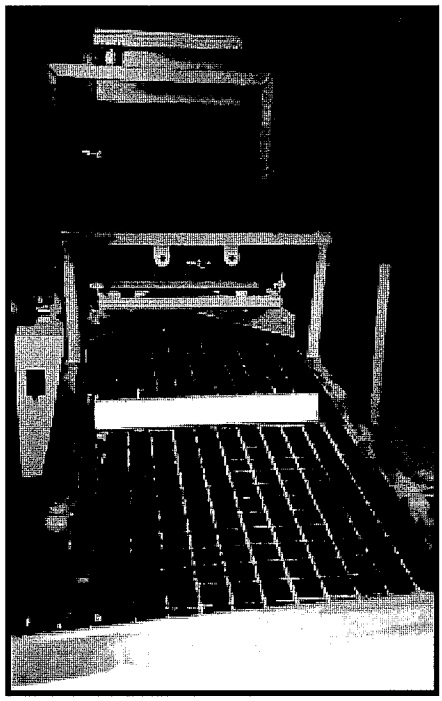


Seedling produced at Azemour transplant nursery, September 1993

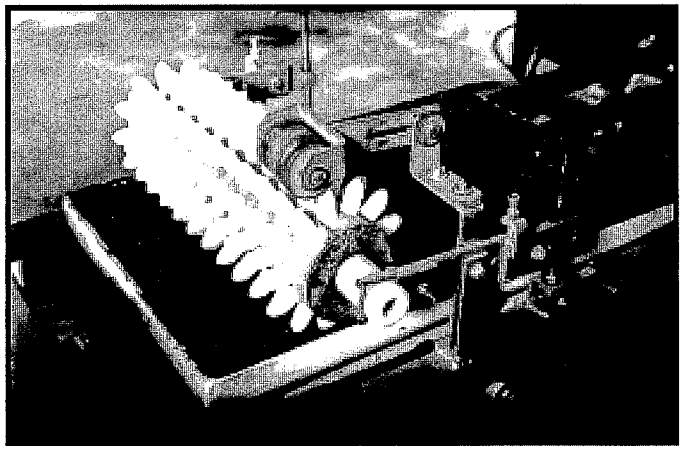
Moroccan technician examines seedlings in transplant nursery, April 1996

Technical Committee members, Dr. Richard Jones and Dr. Michael Reid of the University of California, Davis, inspect seedlings produced at Amaris, April 1996

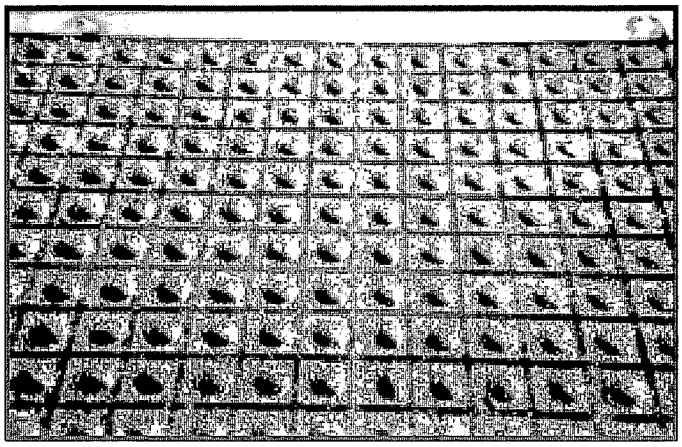
Machinery to support production activities at Amaris



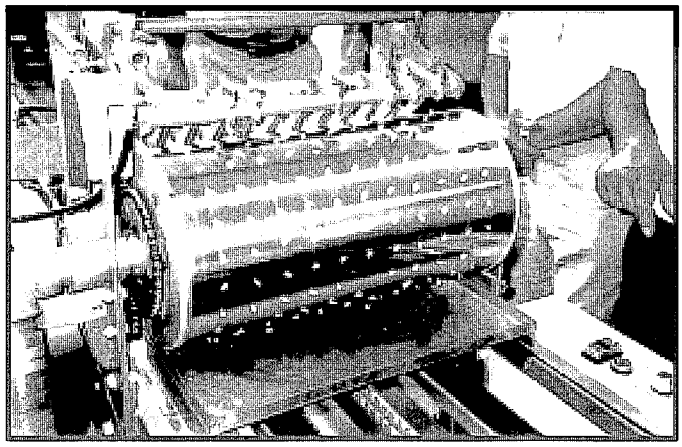
Mixing machine fills seedling trays with soil mixture, June 1994



Trays are prepared for seeding



Finished tray ready for sowing

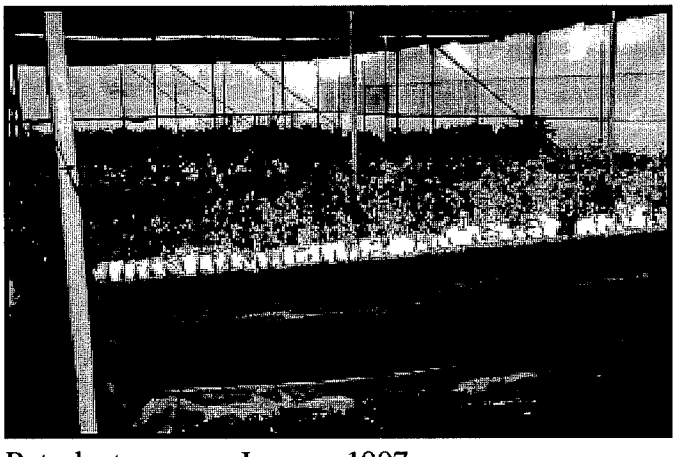


Drum sows the seedling trays with melon seeds

Pot-plant Nursery, Azemour

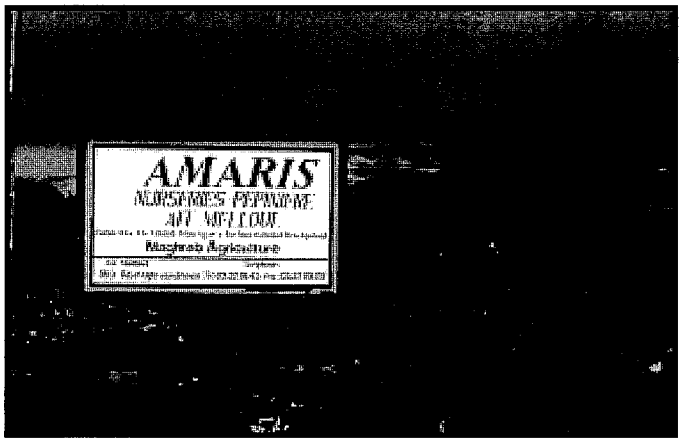
Pot-plant nursery, Azemour, April 1994

Pot-plant nursery, December 1994



Pot-plant nursery, January 1997

Amaris Nurseries at Ait Melloul



Amaris expands to Ait Melloul, June 1995

Amaris Office, Ait Melloul, June 1995

Visitors tour the nursery, April 1996

Open-field Production at Amaris Nurseries, Azemour

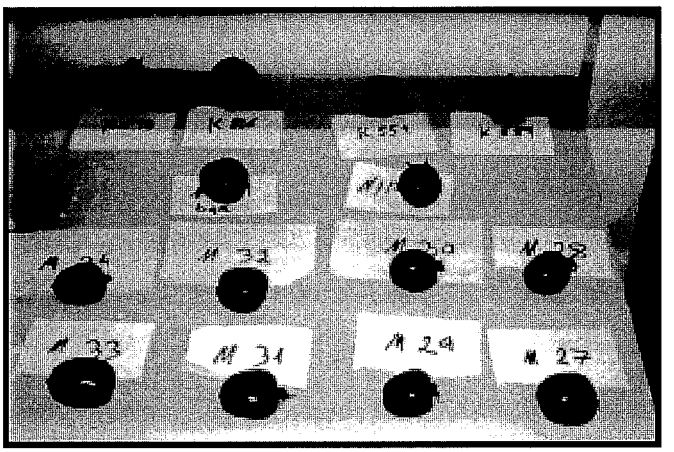
Site selected for planting melaleuca, September 1993

Mr. Driss Lahlou, Morocco Coordinator, and Mr. Omar Mounaz, Morocco farm manager, examines the melaleuca growth, August 1995

Dr. Pasternak and Mr. Lahlou discuss melaleuca marketing, April 1996

Open-field Production at Amaris Nurseries, Azemour

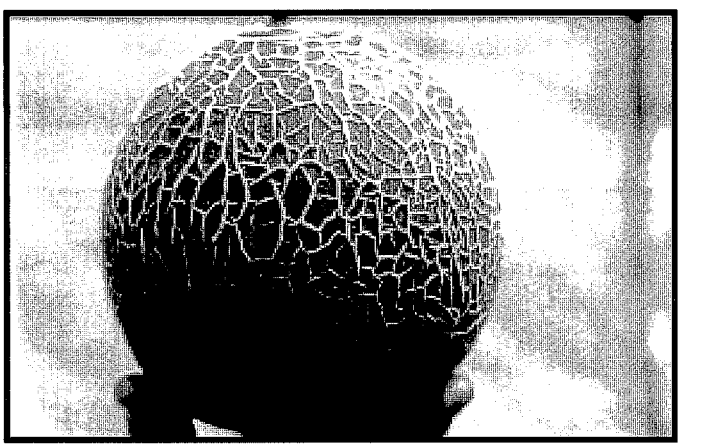
Tomatoes, Melons, Eggplant



Tomato varieties tested at Azemour

Eggplant

Melons grown for local markets



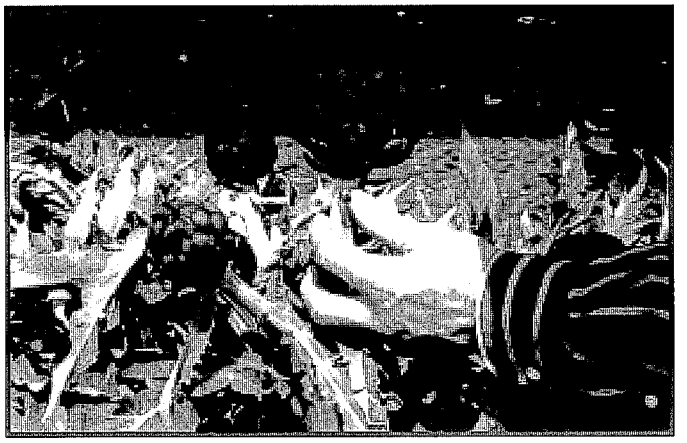
Export quality melons

Open-field Production at Amaris Nurseries, Azemour

Sterlitzia, Asparagus, Artichokes & Raspberries

Strelitzia (Bird of Paradise), April 1996

Mr. Omar Mounaz observes asparagus, April 1996



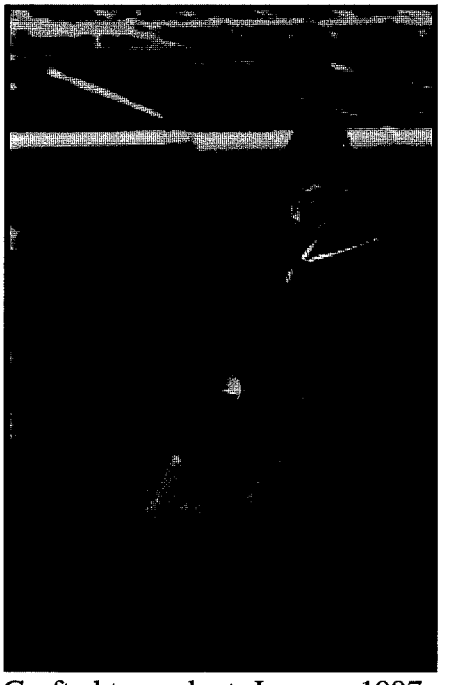
Artichokes, April 1996

Raspberries, August 1995

New Initiatives

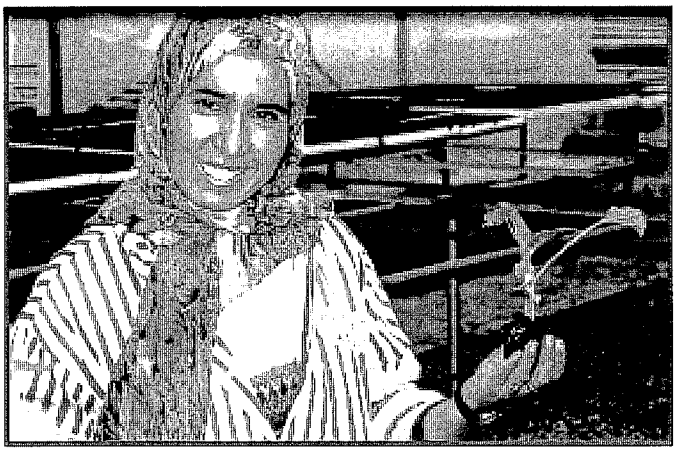
Mr. Lahlou, Morocco Coordinator, (background: ornamental plant seedlings produced for the Department of Water and Forestry in Morocco for their reforestation campaign),
January 1997

Technician working with the rootstocks used in grafting transplants,
January 1997



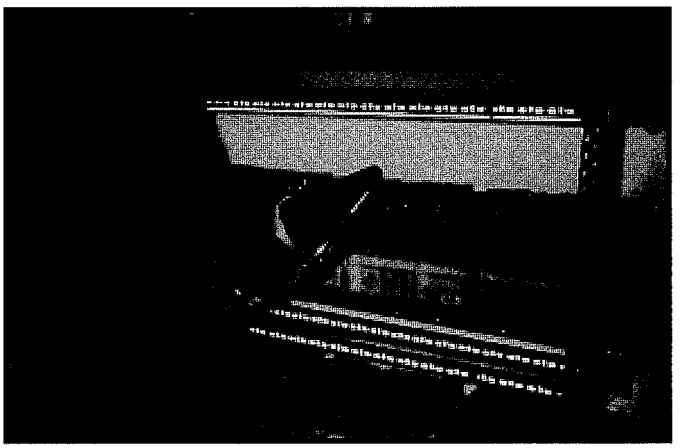
Grafted transplant, January 1997

New Initiatives



Moroccan technician holding a grafted seedling

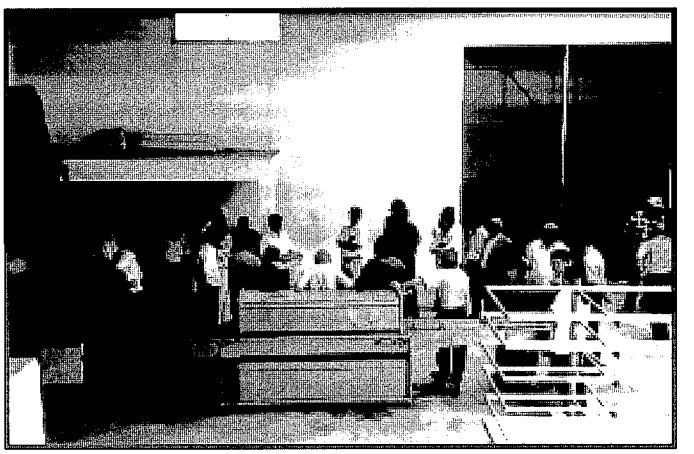
Mr. Alain Hamon, owner of Palm Dat Company, shows Dr. Dov Pasternak, Israeli Coordinator and Mr. Driss Lahlou, Morocco Coordinator, an in-vitro date palm plant of the fusarium tolerant variety



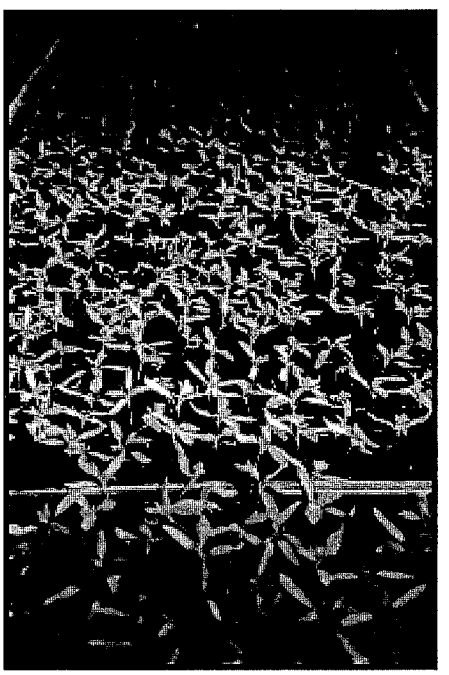
In-vitro date palm plant

Demonstrations

Technical Committee, local farmers and agri-business owners meet for discussions after touring project site, June 1994



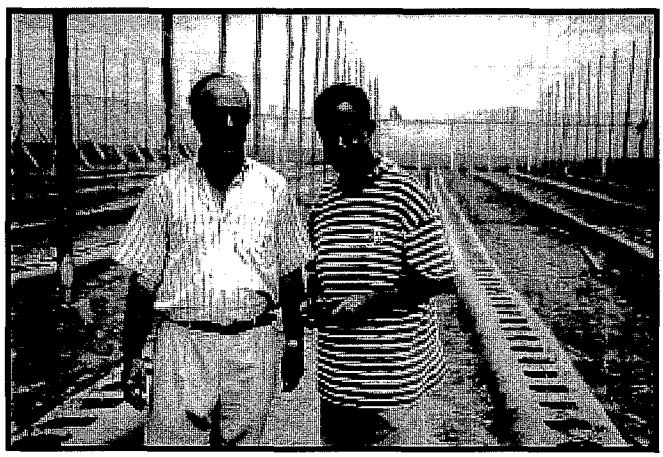
Demonstrations of the mixing and sowing machines, June 1994



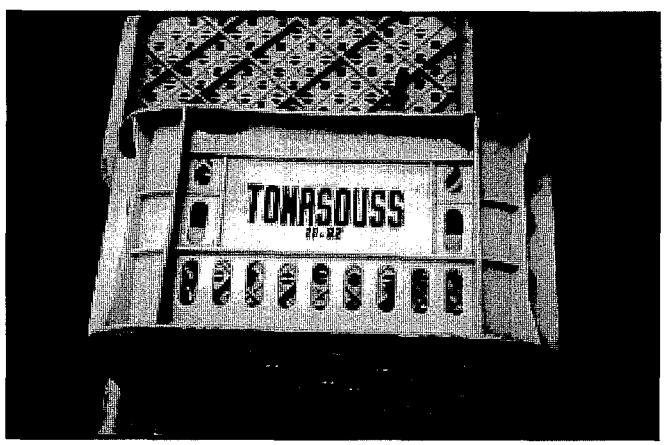
Transplants shown to visitors, June 1994

Mr. Karim Lahlou, Marketing Director for Amaris, explains transplant production techniques at Ait Melloul to local growers and businesses, April 1996

Amaris Clients - Tomasouss



Mr. Lahlou, Morocco Coordinator, meets with the manager of Tomasouss farm, a client of Amaris

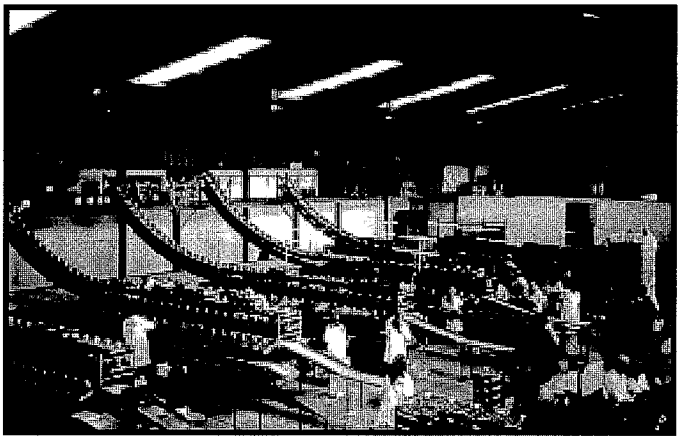


Tomasouss packing carton

Amaris Clients - IKAMEL

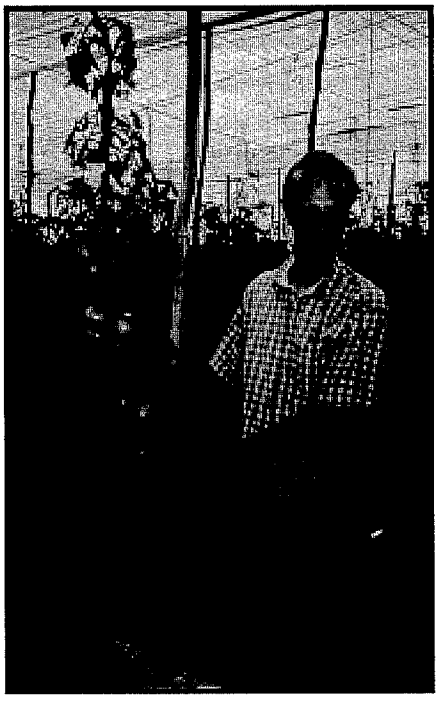
Mr. Iraqi of IKAMEL and Morocco Marketing Director, Mr. Karim Lahlou, (tomatoes grown from Amaris Nursery transplants)

Tomatoes for export grown from Amaris transplants



IKAMEL packing facility in operation

Amaris Clients - El Hajji



Tomatoes grown from Amaris Nursery transplants at El Hajji's farm

Open-field production at El Hajji's farm using Amaris products

Individuals - Cooperative Researchers

Israeli scientists who worked on selected research projects for the Morocco program. Left to right - Front Row: Dr. David Mills, Dr. Dov Pasternak. Left to Right - Back Row: Mrs. Ada Harazi, Dr. Chaim Rabinovic, Dr. Eitan Pressman, Mr. Yossi Ben-Dov, Dr. Nurit Bejarano, Dr. Irit Rylski, Dr. Moshe Barr

Tomato researchers, Dr. Eitan Pressman and Dr. Moshe Barr (Israel)

Verticordia researcher, Mr. Yossi Ben-Dov (Israel)

Micropropagation of eucalyptus and raspberry chilling researcher, Dr. David Mills (Israel)

Individuals - Collaborative Researchers

Truffle researchers - Dr. Kagan-Tzur and Dr. Roth Bejerano (Israel)

Photo of Moroccan truffles

Groups

Morocco Project Steering Committee meets at Amaris Nurseries in Azemour, October 1994

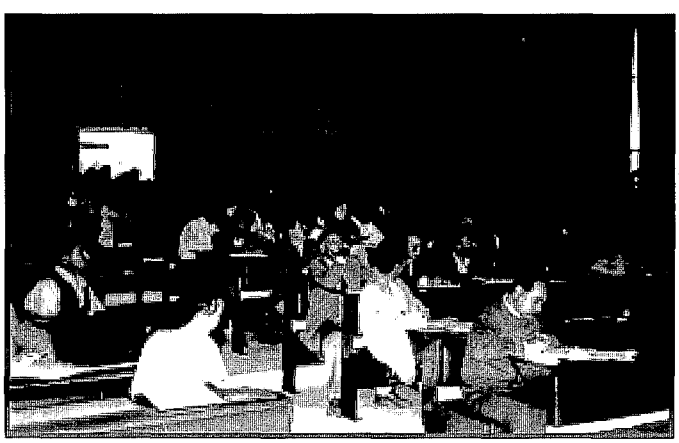
Morocco Project Technical Committee meets in Eilat, Israel in May 1993

Institutions

Dr. Dov Pasternak at Ben Gurion University of the Negev, Israel

Mr. Driss Lahlou (Morocco Coordinator), Dr. Eleizer Speigel (Israel), Dr. Michael Reid (U.S.), and Mr. Nissim Sroussi (Israel) at Hassan II Institute, April 1996

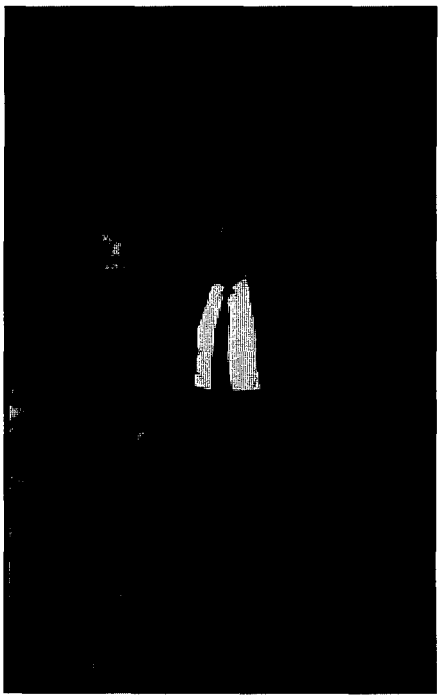
Dr. Hafidi, Director of Hassan II Institute and Dr. Achouri, scientist at Hassan II, meet with project scientists, January 1995



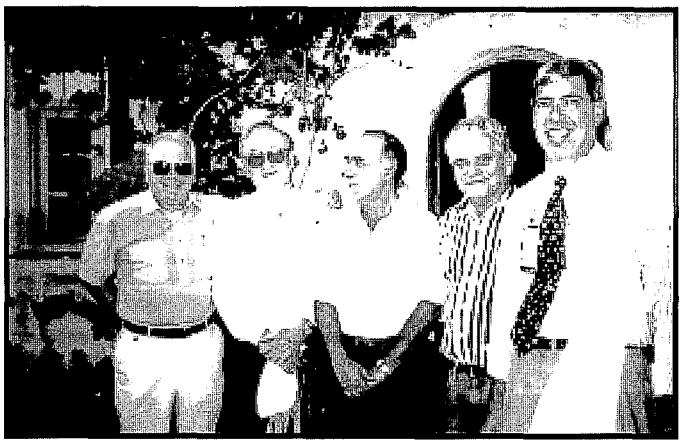
Participants attending multinational seminar sponsored by the Morocco Project and hosted at Hassan II Institute, April 1996

Government

The Honorable Shimon Peres, former Prime Minister of Israel, meets with Morocco Project Steering Committee members in January 1993



Dr. Mostafa Terrab, Cabinet Royal in Morocco, meets with Dr. Bonnie Stewart, U.S. Coordinator, January 1995



U.S. Ambassador Marc C. Ginsberg meets project Steering Committee members: Left to Right: Mr. Harry Albers, Executive Director, San Diego State University Foundation; Professor Sam Pohoryles, Israeli Coordinator; Mr. Driss Lahlou, Morocco Coordinator; Dr. Dov Pasternak, Coordinator and Technical Committee Chair; October 1994

Governor of the Souss (Agadir), Mr. Mi'Jahdi Ahmed met with project coordinators in November 1996

Shalom from Israel

Marhaba from Morocco

Best Wishes from the U.S.

Newsletters

AMARIS Nurseries
America - Morocco - Israel

Morocco Project Newsletter — *Spring 1996*

Participants listen to Lectures given during the Horticulture Seminar at Hassan II Institute in Agadir, Morocco

Multinational Horticulture Seminar is a Success

A multinational seminar was hosted at Hassan II Institute of Agronomy and Veterinary Science in Agadir on April 14, 1996. Organized by Maghreb Agriculture, the seminar was co-sponsored by the Moroccan Cooperative Agricultural Development Project, funded by the U.S. Agency for International Development. Project scientists and technical experts from Morocco, Israel and the United States along with their colleagues and collaborators at Hassan II Institute, gave presentations on new horticulture production technologies. There were an estimated 300 farmers, agriculturists, exporters, scientists, professors and students from the Agadir region who attended this seminar.

The seminar represented an opportunity for producers from the region to benefit from new information presented by scientists and horticulture professionals from Morocco, Israel and the United States. Local farmers and producers were able to discover new horizons for modern horticulture production in Morocco.

The seminar was divided into four sessions.

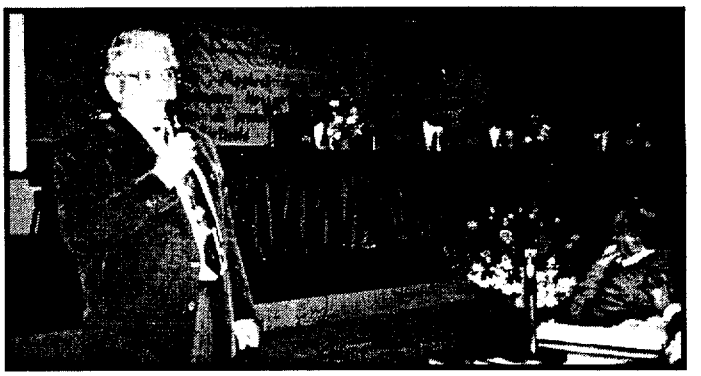
The first session focused on the **marketing opportunities for Moroccan horticulture.** Dr. Michael Reid, University of California, Davis, U.S.A., gave a presentation on *Future Market Opportunities for Moroccan Horticulture Products.*

The second session dealt with **new alternative products and technologies for Morocco.** Dr. Dov Pasternak, Ben Gurion University of the Negev, Israel, gave a talk on *New Technologies in Greenhouse Production;* Dr. Richard Jones, University of California, Davis, U.S.A. gave a presentation on *Alternative Horticultural Products: A Potential for Morocco;* Dr. Irit Rylski, Volcani Institute, Israel, spoke on the *Fruit Quality Traits in Tomatoes and Peppers ; and* Mr. Eleizer Speigel, Ministry of Agriculture, Israel, talked on the *New Market Opportunities for Ornamentals.*

The third session concentrated on **nursery production technologies.** Dr. Richard Jones gave a talk on *Vegetable Transplant Production and Stand Establishment* , and Mr. Mimoun Mokhtari, Hassan II Institute in Agadir, spoke on *Environmental Aspects of Nursery Production.*

The final session dealt with **post harvest biology and technology.** Dr. Michael Reid gave a presentation on the *Fundamental Principles of Post Harvest Technology for Horticulture Crops,* and Mr. Ahmed Ait Oubahou, Hassan II Institute in Agadir, spoke on the *Post Harvest Physiology and Technology of Fruit Crops.*

Continued on page 2



Dr. Dov Pasternak, Ben Gurion University of the Negev giving a presentation on new technologies in nursery production at Hassan II Institute in Agadir, Morocco

The Moroccan Cooperative Agricultural Development Project
Funded by the Agency for International Development/Bureau for the Near East
Administered by San Diego State University Foundation, SD, California 92182

Left to Right: Dr. Irit Rylski, Volcani Institue in Israel; Dr. Dov Pasternak, Ben Gurion University of the Negev; Israel; and Mr. Driss Lahlou talk during a break at the Horticulture Seminar.

Seminar continued from page 1

An integral component of the seminar was a site visit to Amaris Nurseries at Ait Melloul. This well attended demonstration allowed the participants an opportunity to see first-hand new production technologies. The Amaris Nurseries staff members organized guided tours at which time detailed explanations of the latest technologies were offered to the visitors. Also, scientific and technical personnel were available during this visit to answer questions.

Left to Right: Dr. Dov Pasternak, Ben Gurion University, Israel; Dr. Brahim Hafidi, Director, Hassan II Institute, Agadir; Dr. Ahmed Ait Oubahou, Hassan II Institute listen to presentations during the Horitculture seminar.

The Moroccan Cooperative Agricultural Development Project is being accomplished by participants from the Kingdom of Morocco, the State of Israel and the United States of America.

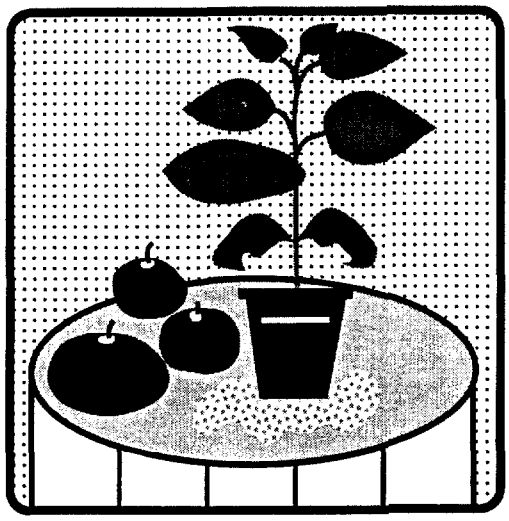
The goal of the Morocco Project is to promote world peace through scientific and technological cooperation in agriculture. Specific objectives are to contribute to the joint development of Morocco and Israel's agricultural sector by the introduction of new technologies, training and demonstration.

Moroccan Press Highlights Maghreb Agriculture

Published in the March 1996 edition of the Moroccan agricultural newspaper, ***The World of Agriculture*** (Le Monde Agricole), was an article about Maghreb Agriculture and Amaris Nurseries in Azemour and Agadir. Maghreb Agriculture is the Moroccan business enterprise and partner in the tri-lateral cooperative project with Israel and the United States. Amaris Nurseries are the production, demonstration and outreach sites for the project's activities.

The magazine article highlighted the multinational aspects of the project's activities. Of particular interest were the new approaches for producing transplants from seeds. The techniques being introduced include utilizing proper plant management practices, using controlled greenhouse environments and monitored irrigation systems. The immediate benefits for farmers are stronger, pest-free plants, more homogenous and properly hardened plants, and purchasing 100% plants irrespective of the germination percentage of the seeds. These improved production practices will result in positive economic gain for the farmers due to strong-er and healthier plants. Maghreb Agriculture through its Amaris nurseries, is the only organization in Morocco today that provides farmers with access to this type of transplant material.

Left to Right: Mr. Driss Lahlou, Morocco Coordinator; Mr. Eleizer Speigel, Israeli Ministry of Agriculture; and Dr. Michael Reid, University of California, Davis, in front of Hassan II Institute in Agadir before the seminar on April 15, 1996.



Amaris Nurseries Logo

Amaris Nurseries have a new logo. The logo will be used for product identification and promotion for all of Amaris Nurseries' products.

The name Amaris stands for America, Morocco (Maroc in French) and Israel, the three cooperating partners in the project. Amaris Nurseries are located in Azemour and in Ait Melloul (Agadir) Morocco. The two project sites are where the Morocco project's production, demonstration and outreach activities are centered.

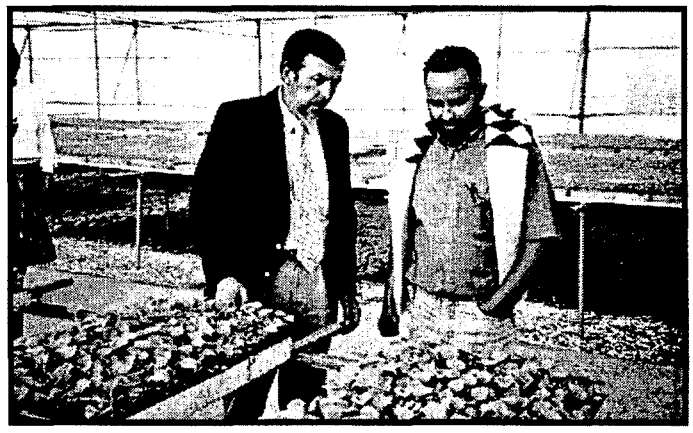
Local Producer Applauds Amaris

Amaris Nursery client, IKAMEL, purchased 301,448 vegetable transplants in the fall of 1995. They realized a very successful crop and harvest and commended Amaris Nursery for the fine quality of its products. In a letter to Amaris Nursery on December 19, 1995, Mr. Iraqi Mohamed of IKAMEL Company, wrote, "The results obtained by the Amaris Nursery in Ait Melloul, with respect to germination levels, was excellent and the quality of live plants was outstanding. Therefore, we encourage all farmers who produce vegetables to utilize the services offered by Amaris Nursery in Ait Melloul."

Amaris client, Mr. Iraqi, and Morocco Project Marketing Coordinator, Mr. Karim Lahlou, in Agadir holding a box of tomatoes grown from Amaris Nursery transplants.

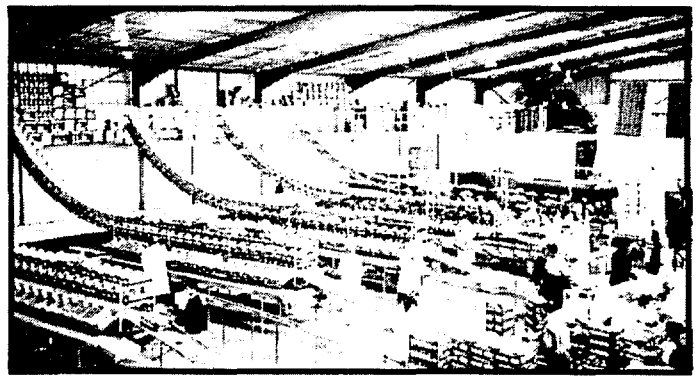
New Products for Moroccan Farmers

Local farmers in the Azemour and Agadir regions are utilizing Amaris transplants. Clients include small, medium as well as large farmers. Between August and September of 1995 local farmers in Azemour purchased over two million vegetable plants. In the Agadir region, over 1.6 million plants were purchased. Farmers have been very satisfied with the Amaris transplants.



Dr. Richard Jones, University of California, Davis explains transplant production technology to a grower in Agadir.

Farmers realize many advantages in utilizing plant materials from Amaris. The amount of seed needed to produce a hectare of vegetables is greatly reduced by first seeding in the controlled environments of Amaris Nurseries. After the plants are cultivated for a month in the Amaris greenhouses under controlled conditions, then farmers are able to pick-up their transplants and plant them in open fields or covered houses. Thus, farmers gain an additional month to properly prepare their ground and they gain a head start when environmental conditions are marginal for crop development. Loss of plants after transplanting these materials is greatly reduced because the plants are stronger, healthier and more resilient. Consequently, farmers are able to increase their profits due to record costs of production.



Inside the IKAMEL packing house in Agadir showing packing of tomatoes that were grown commercially from Amaris transplants.

Technician at Amaris Nursery looks at transplants.

Marketing is Key to Success of Amaris

New production techniques and new plant materials are being offered to farmers in Morocco through Amaris Nurseries. However, a key to the success of these efforts is marketing....dissemination of critical know-how and information on products available, and providing follow-up advice once the products are purchased.

Amaris staff have devoted considerable time to these activities. Staff are contacting farmers in the Azemour and Agadir regions to explain and demonstrate their products. Informational brochures are being prepared to help farmers improve their management practices. Once clients have purchased transplant materials, Amaris staff make follow-up visits to monitor the production cycle and to help solve any problems that arise. Amaris staff are working on expanding their marketing and promotion activities in order to benefit greater numbers of Moroccan farmers.

Dr. Richard Jones and Dr. Michael Reid of the University of California, Davis look at the transplant materials in Amari Nurseries.

New Innovations for Morocco

Adaptive research trials are being done on asparagus, artichokes, tomatoes and raspberries at the project site in Azemour. Preliminary results of the trials suggest good possibilities for Moroccan farmers.

Asparagus is being grown to demonstrate how local saline water can be used to grow a salt tolerant crop and to successfully bring to market a new, high demand fresh vegetable for export. New varieties to Morocco are being tested to determine their adaptability to local growing conditions. The possibility for early season exports of asparagus to European and Canadian markets is also being evaluated. Currently, four varieties are being tested.

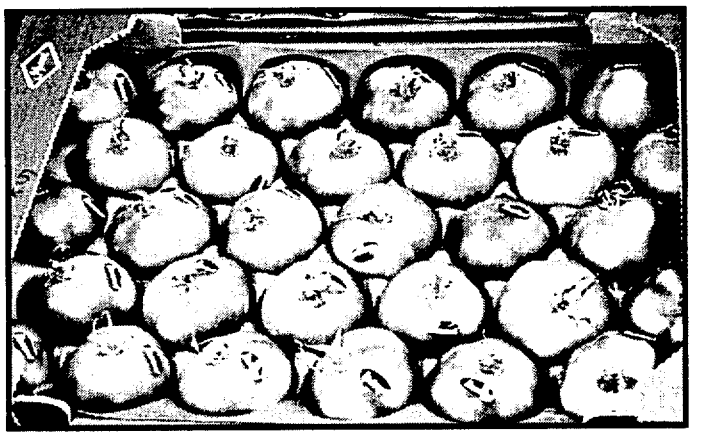
Artichokes are being tested to demonstrate the integration of a cool-season crop in winter production schedules for export market development. New varieties are being evaluated for their local adaptability.

Innovations continued on page 5

Tomato trials for nematode resistance. Right to left: Mr. Nissim Srousi, Israeli Technical Advisor; Mr. Omar Natifi, Farm Supervisor; Mr. Omar Mounaz, Project Farm Manager.

Innovations continued from page 4

Tomato varieties developed in Israel are being tested to determine their adaptability to Morocco. Early results of a nematode resistant tomato cultivar have shown positive results. Additional testing will be done in Azemour and in the Agadir regions to confirm the early results.



Tomatoes grown in Azemour.

Melaleuca is a hardy shrub or tree native to Australia. Many melaleucas have decorative branches which can be used as green material in floral decorations. Melaleucas are grown outdoors, they are salt tolerant and are irrigated with local saline water. Both investment and production costs are low. The branches can be exported by trucks to Europe which reduces transportation costs over air freight. The melaleuca is not well known to the Moroccan ornamental industry.

The Moroccan Cooperative Agricultural Development Project has grown two species of melaleuca on one hectare in Azemour. Initial market evaluations confirmed the demand for the branches, however; additional evaluations are being made to determine the economic feasibility of producing and exporting this product. If the market studies are successful, Amaris Nurseries will begin production of melaleuca seedlings. Melaleuca may prove to be a new and innovative product for the Moroccan export market.

Raspberries are being grown to determine their adaptability to Moroccan growing conditions. Raspberries have considerable potential of becoming a very attractive export item for Moroccan agriculture. Raspberries mature early in Morocco due to the mild climate of Morocco's coastal area and therefore could be sold at relatively high prices in the European market. Raspberries also are a labor intensive crop which is advantageous for Morocco with its cost-effective labor. Finally, investment and production costs are relatively low, making raspberries quite attractive as a new crop.

Raspberry field in Azemour.

Close up of a raspberry fruit.

Feasibility trials of five cultivars of raspberries will continue at the Azemour site through the end of the project. Activities will focus upon chilling requirements, and yield and quality assessments. Cane material will not be propagated from the project's site.

Mr. Driss Lahlou, Moroccan Coordinator (left) and Mr. Omar Mounaz, Amaris Farm Manager, look at the melaleuca growing in the field at the project site in Azemour.

Moroccan & Israeli Scientists Collaborate on Research

The project has been actively involved in building a collaborative research projects between scientists from Hassan II Institute and Israel. When the project started in 1992, such collaborative programs were not possible. Moroccan scientists are now collaborating with Israeli scientists on two projects of mutual interest and benefit. One program on truffles was initiated in 1994. The second project on argan was initiated in 1995.

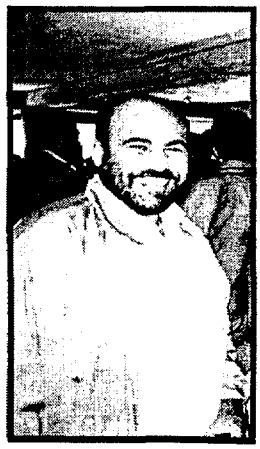
Truffles

The first program focuses on the domestication of the local Moroccan truffle *(Terfezia leouis)*. The work is being done by Dr. Mohamed Achouri of Hassan II Institute in Agadir, Morocco and Dr. Varda Zur from the Ben Gurion University of the Negev, Israel. Little is known about the truffle as a fruiting body. These researchers hope to develop a body of research that will contribute to understanding the truffle and possibly lead to its domestication.

The collaborative research activities are aimed at determining optimal conditions for truffle inoculation, fruiting body development and growth. The research in Morocco is identifying host plant ranges and selecting productive genotypes. The research in Israel has concentrated on understanding the two basic relationships between the fungus and the host.

Argan

The newest program is on the domestication potential of the argan tree *(Argania spihosa)*. This collaborative work



Truffle researchers Dr. Varda Zur, Ben Gurion University, Israel (Left) and Dr. Mohamed Achouri, Hassan II Institute in Agadir, Morocco (Right).

is being done by Dr. Fouzia Aameur of the University Ibn Zohr in Agadir, Morocco and Dr. Avinoam Nerd of the Ben Gurion University of the Negev, Israel. Argan is grown in Morocco. It is a draught tolerant tree with multipurpose uses. Argan oil extracted from its seed, is a high quality culinary oil that brings high prices. This oil is also highly sought after for use in the cosmetic industry. The branches and stems are used locally for firewood.

In Morocco, the population of Argan trees is shrinking due to overexploitation. The research objectives in Morocco are related to finding avenues to stop overexploitation of argan and to restore the argan tree. Other objectives of the research are to demonstrate the uses of argan and to develop the argan into a commercial crop for oil production. UNESCO has shown a great interest in this project and has agreed to cooperate with Drs. Aameur and Nerd in the development of this program.

Dr. Irit Ryeski, Volcani Institute in Israel (left), discusses project actuaries with Mr. Driss Lahlou, Moroccan Project Coordinator.

Dr. Brahim Hafidi, Director Hassan II Institute, Agadir (Left) and Mr. Driss Lahlou, Moroccan Coordinator and President of Maghreb Agriculture, in front of Hassan II Institute.

POUR LES LECTEURS FRANÇAIS du bureau de l'éditeur.....

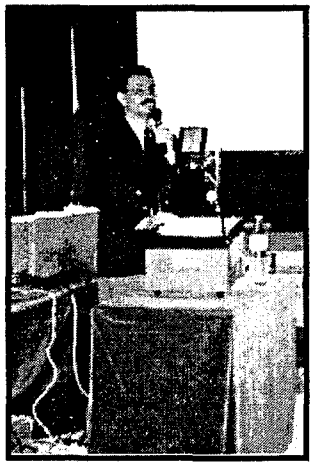
Le nouveau nom de ce journal est "Amaris Pépinière." Ce nom représente les trois pays, Amérique, Maroc et Israël, qui collaborent pour atteindre le but du projet. Dans ce petit journal il y a quelques articles et photos qui présentent les nouvelles actuelles des activités du projet.

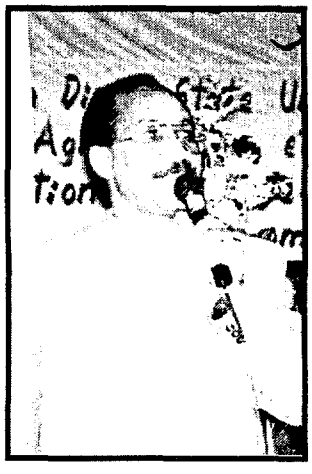
Au cas où vous désiriez de plus amples renseignements sur ce projet, veuillez vous mettre en contact avec Dr. Bonnie Stewart, à l'adresse de l'expéditeur sur ce petit journal.

Le Projet de Coopération pour le Développement Agricole Marocain est fondé par le Bureau de Développement International aux États Unis (USAID). L'Université de l'État de San Diego, l'Université Ben-Gourion en Israël et la Société Maghreb Agriculture au Maroc travaillent et collaborent pour accomplir le but du projet.

Le but du projet est de promouvoir la paix mondiale par la coopération des trois pays dans les activités agricoles. L'objectif est de contribuer à l'amélioration du secteur agricole au Maroc par l'introduction de nouvelles technologies et en démontrant les bénéfices de ces innovations aux fermiers de la localité. On espère que le projet pourra démontrer l'efficacité économique de cette entreprise ainsi que ses bénéfices.

Mr. Karim Lahlou, Morocco Project Marketing Coordinator, talks to the seminar participants at the Amaris Nursery site in Ait Melloul near Agadir, Morocco on April 15, 1996.

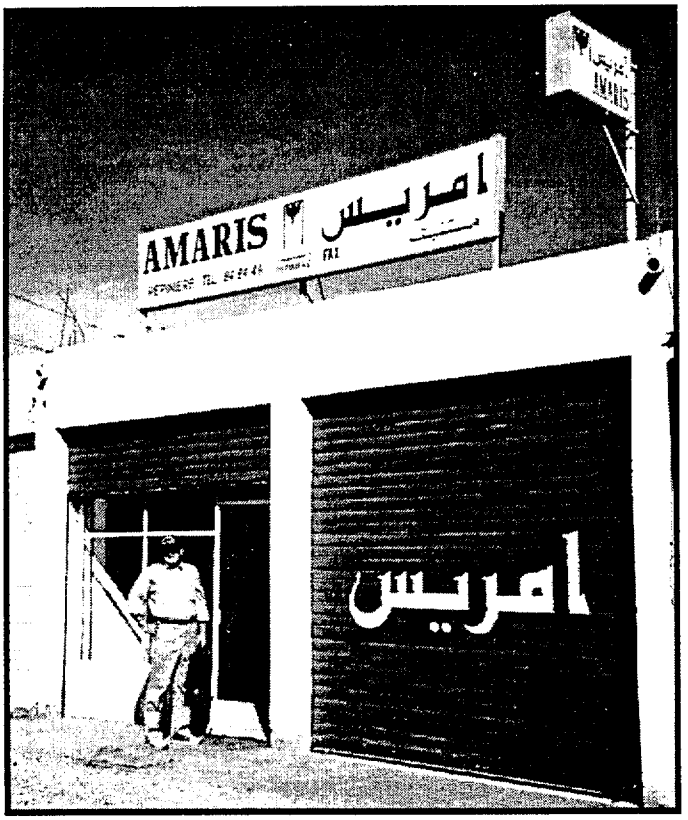




Mr. Mimoun Mokhtari (Left), Hassan II Institute in Agadir, and Dr. Ahmed Ait Oubahou, give presentations at the seminar co-hosted by Hassan II Institute and the Moroccan Cooperative Agricultural Development Project.

Correction

Previous issues of Morocco Report discussing activities and products of AMARIS Nurseries in Morocco and Israel have improperly used the registered trademarks SPEEDLING and SPEEDLING and Plant Design which are the subject of U.S. Trademark Registrations Nos. 967,911 and 1,099,084 and corresponding foreign registrations of Speedling, Inc. of Sun City, Florida. Such use was without permission of Speedling, Inc. and was a violation of the rights of Speedling, Inc. which is not affiliated with AMARIS Nurseries in any manner. This error is sincerely regretted.



Mr. Harry ALbers, Executive Director, San Diego State University Foundation , in front of the Amaris Nursery Office in Ait Melloul near Agadir, Morocco.

Left to Right: Mr. Harry Albers, Executive Director, San Diego State University Foundation; Professor Sam Pohoryles, Israeli Coordinator; Mr. Driss Lahlou, Morocco Coordinator; Dr. Dov Pasternak, Technical Committee Chairman; and the U.S. Ambassador Marc Charles Ginsberg visit the project site in Azemour.

This is a U.S. Agency for International Development Project. Comments or questions may be forwarded to:

Dr. Bonnie Stewart
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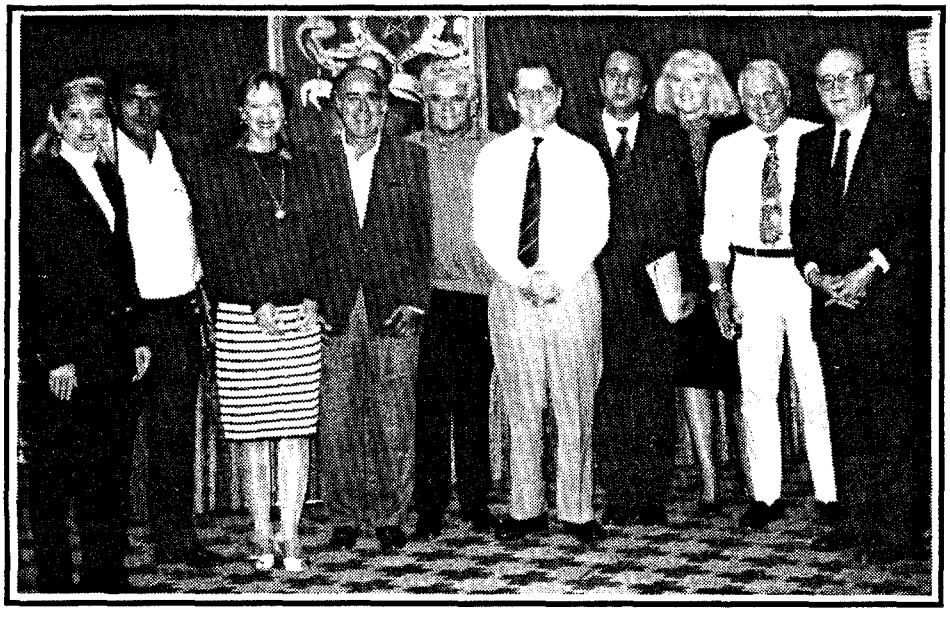
Phone (619) 594-5644 Fax (619) 583-5734

Moroccan Cooperative Agricultural Development Program
San Diego State University Foundation
6330 Alvarado Court, Suite #220
San Diego, California 92120 U.S.A.

TO:

MOROCCO REPORT

NEWSLETTER *SPRING 1994*



Steering Committee meeting in Casablanca, October 26,1993. Left to Right: Ms. Stephanie Barnett, Director of Public and Community Relations, San Diego State University Foundation (SDSUF); Mr. Itzhak Ayalon, Israeli Technical Advisor; Dr. Bonnie Stewart, U.S. Project Director; Mr. Driss Lahlou, Morocco Project Coordinator; Dr. Dov Pasternak, Chair of the Technical Committee and Head, Institute for Agriculture & Applied Biology, Ben Gurion University; Professor Lehaim Naggan, Vice-President and Dean of Research and Development, Ben Gurion University; Mr. Hassan Alami, Steering Committee member and President, Manay Maroc; Ms. Frea Sladek, Associate General Manager for Sponsored Research & Educational Programs, SDSUF; Mr. Harry Albers, Executive Director and General Manager, SDSUF; Professor Samuel Pohoryles, Israeli Project Coordinator.

The Moroccan Cooperative Development Project is funded by the Agency for International Development Bureau for Near East Regional Cooperation Programs. The project is being accomplished by participants from the Kingdom of Morocco, the State of Israel and the United States of America.

The goal of the Morocco Project is to increase the ability of Morocco's agricultural sector to meet internal demands for agribusiness products. Export capabilities for both Morocco and Israel will be strengthened through project activities. The project constitutes a new stage in the Middle East Regional Cooperation Programs, introducing a new partner with Israel and the United States.

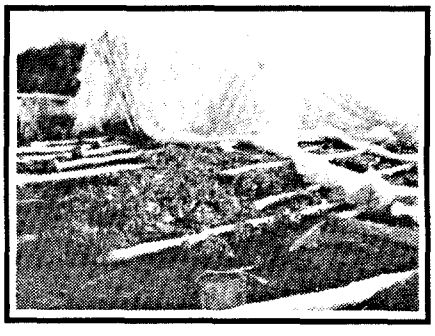
SPECIAL REPORT

Storms Damage Project

Two exceptionally severe storms caused an estimated damage of $138,000 at the project site in Morocco. Three green houses were destroyed by strong winds and heavy rains that occurred in November 1993 and January 1994.

The first storm occurred on November 2. Winds up to 120 km/ hour were followed by heavy rains causing green houses #2 and #3 to collapse (see Amaris Nursery plan in the center section of the Newsletter for exact location). Losses included the materials for the green houses, labor and production costs.

The second storm occurred on January 5. Green house #1 was completely destroyed in addition to the melon crop within the green house. Winds up to 110 km/hour with



Tomato green house #3 destroyed by a storm on November 5, 1993.

The Moroccan Cooperative Agricultural Development Project
Funded by the Agency for International Development/Bureau for the Near East
Administered by San Diego State University Foundation, SD, California 92182

heavy rains caused the damage. In the region surrounding the farm there were over 100 hectares affected by this storm activity.

The destruction caused by the storms has seriously impacted the project in terms of lost investment, lost time as well as lost revenue. It still needs to be determined if the plan of work for the project will need to be modified due to these losses. Some activities may need to be delayed.

AMARIS Nursery

A New Name for the Project Site

Amaris stands for America, Morocco (Maroc in French) and Israel, the three cooperating partners in the Morocco project. The name, *Amaris Nursery and Demonstration Farm*, was approved by the Steering Committee in October.

The purpose of the name is to promote product recognition in the marketplace. As the project continues to grow and production increases, it will be important to have name recognition with newly introduced varieties of plants and produce.

The nursery name will also help to give the project recognition as more and more demonstration and training opportunities at the farm are offered to local farmers.

NURSERIES BEGIN PRODUCTION

Construction of three nurseries at the project site in Azemour was completed by August 1993. Production activities began shortly after in two of the nurseries. Fortunately, none of the nurseries were damaged by the recent storms in the region (see "Special Report").

The **transplant nursery** was the first to begin production. Tomato and melon seedlings were grown. Local farmers purchased 150,000 melon seedlings. Tomato seedlings also were purchased by local farmers while the remainder were used on the farm for varietal testing. Peppers and cucumbers will be produced in the transplant nursery in the spring of 1994.

The storage and preparation area for the transplant nursery, and the germination chamber, were constructed last fall. The sowing and mixing machines that will be used to prepare the transplants were installed in December 1993 and are now in operation.

The **potted-plant nursery** will generate rooted seedlings and finished pot-plants. By the end of 1993, the following ornamentals had been purchased for the nursery: Ficus Benjaminia, Ficus Goldenking, Scheflera, Croton Goldstar, Croton Red and Amaranthus. A shading net was installed in the nursery.

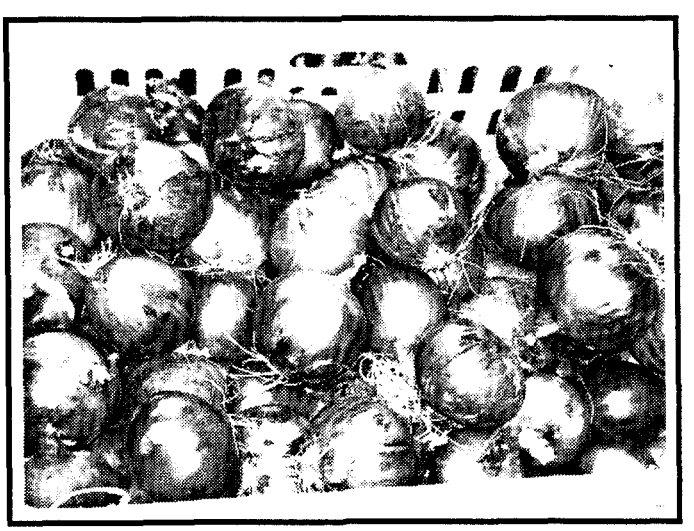
The **hardening nursery** for the production of tissue culture seedling has been constructed but is not yet in production. The hardening nursery will be expanded to include a tissue culture laboratory. These activities will occur later in the project.

VEGETABLES GROWN IN OPEN FIELDS & GREEN HOUSES

Melons, tomatoes, peppers, artichokes, cucumbers squash, eggplants and green beans were produced in the fall 1993 on the farm in open fields, green houses and low tunnels (see farm plan for location of crops). In addition, Strelizia was planted in open fields in November after the storm.

The purpose for the production activities was to evaluate different varieties of vegetables under different growing conditions, evaluate different agri-management techniques, varietal resistance, cost benefit analysis and the commercial production capabilities of selected crops. In addition, comparisons of different plastics, heating systems and the design of protected structures was made using local and imported materials.

Some of the produce was sold in the local markets. Unfortunately, three green houses were destroyed by storms causing substantial losses to the project (see "Special Report").



Onions grown at the project site in Morocco.

MOROCCANS TRAIN IN ISRAEL

Two Moroccan engineers traveled to Israel in December 1993 for training. Ms. Fatima Agdid and Mr. Moulay Sadiq went to Ben Gurion University of the Negev where they will receive seven months of training in agri-management practices and tissue culture propagation. After their return to Morocco they will work on the farm while receiving additional hands-on training.

Training and Demonstration in Morocco

Seven Moroccan students are receiving training at the project farm in Azemour. Their training began in November 1993 and will continue for six months. They are learning about new agri-management techniques, new varieties of vegetables and new production methods.

Demonstrations are held weekly on the farm. More than 100 farmers participated in demonstrations offered during the recent months of December and January. Topics addressed included nursery production, new varieties of crops, management techniques and new technologies being introduced such as improved plastics for the green houses.

Local farmers continue to show a great interest in the demonstrations at the farm.

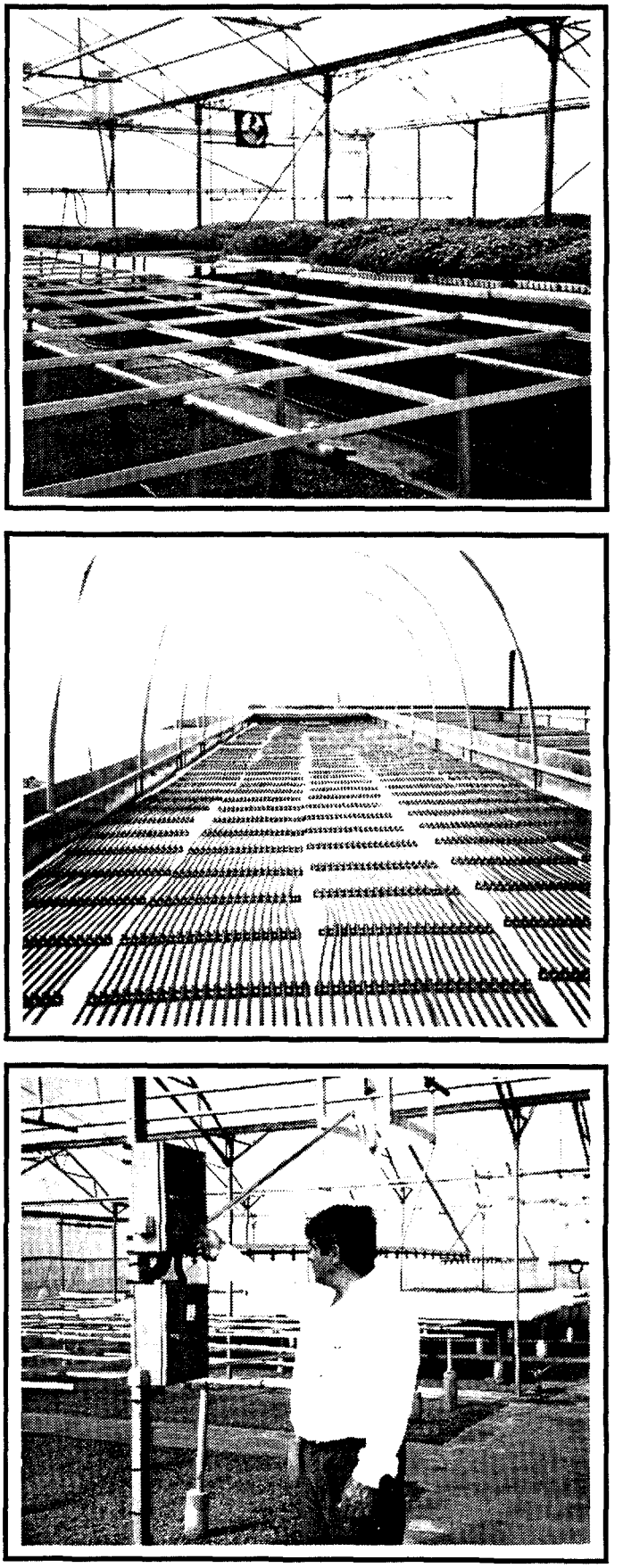
SCIENTISTS VISIT MOROCCO

Israeli and American scientists have made several technical visits to the project site in Morocco in support of the production activities in Morocco and the research activities in Israel.

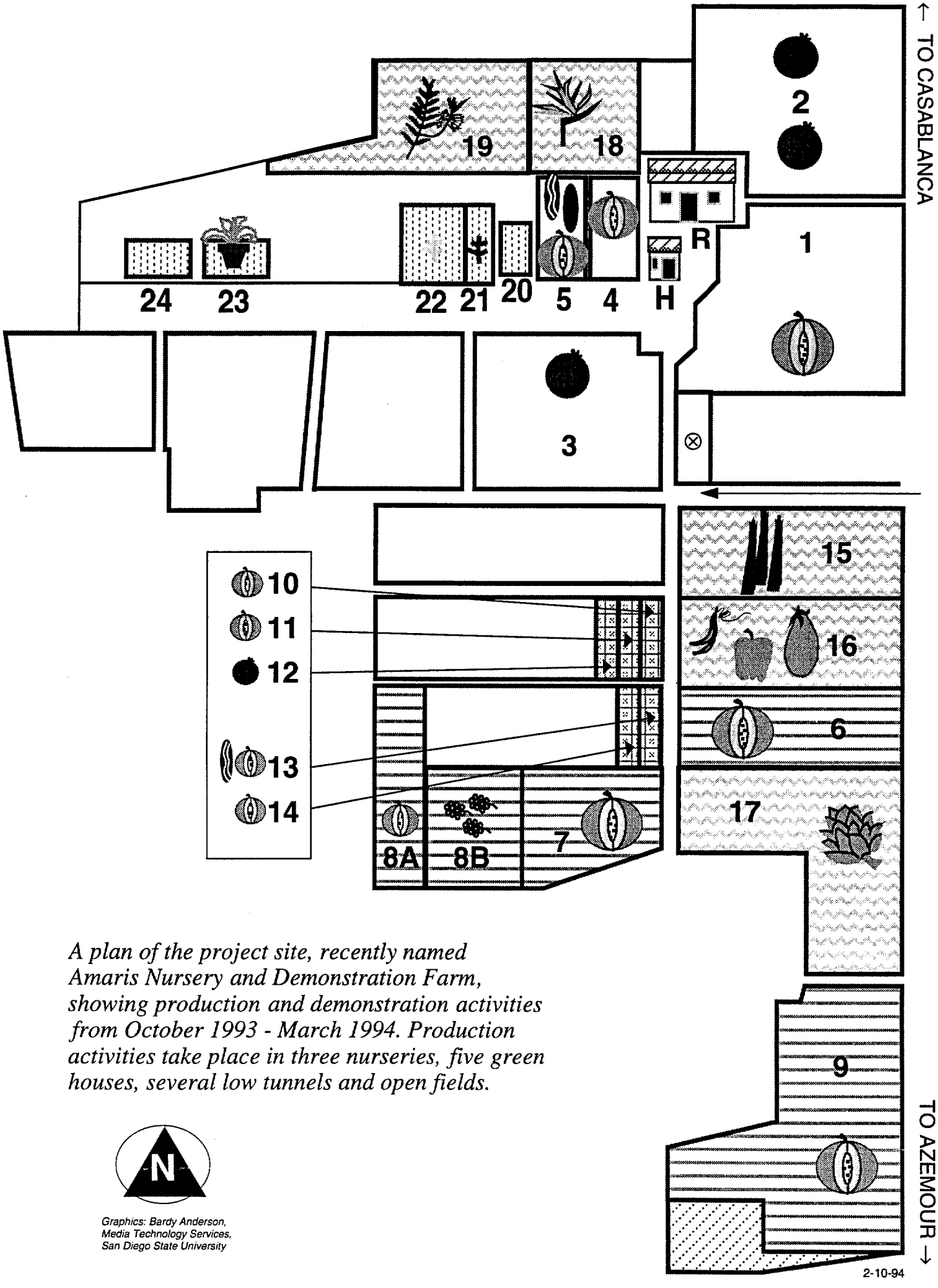
Dr. Irit Rylski, from the Volcani Institute in Israel and Technical Committee member, and Mr. Moshe Bar, from the Volcani Institute, traveled to Morocco in December 1993 to provide consultation on tomato and vegetable research and production activities. Two consultants from Shorashim Nurseries in Israel traveled in December to help install the mixing and sowing machines for the transplant nursery and to provide guidance in the operation of the equipment.

Dr. Richard Jones from the University of California, Davis, and Technical Committee member, visited the project in January 1994 to evaluate the vegetable production activities and to provide consultation on raspberry and asparagus agri-management techniques.

Ms. Varda Tsur from the Ben Gurion University of the Negev in Israel will visit Morocco in March to collect local varieties of truffles as part of her research study on the development of commercial truffles.



Views of the Transplant Nursery at the project site in Azemour. Top: irrigation system, tables and transplants. Middle: heating systems. Lower: Mr. Itzhak Ayalon, Israeli Technical Advisor adjusts the environmental control system.



A plan of the project site, recently named Amaris Nursery and Demonstration Farm, showing production and demonstration activities from October 1993 - March 1994. Production activities take place in three nurseries, five green houses, several low tunnels and open fields.

Graphics: Bardy Anderson, Media Technology Services, San Diego State University

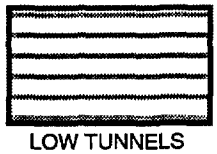
AMARIS Nursery and Demonstration Farm

of the Moroccan Cooperative Agricultural Development Project

KEY:

GREEN HOUSES

1 Melons • 1.7 hectares planted 12-7-93 *-Destroyed 1-5-94*
2 Tomatoes • 1.8 hectares planted 9-16-93 *-Damaged 11-5-93*
3 Tomatoes • 1.1 hectares planted 9-16-93 *Destroyed 11-5-93*
4 Melons • .2 hectares planted 12-1-93
5 Cucumbers, Squash & Melons • .2 hectares planted 12-7-93

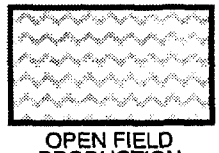


LOW TUNNELS

6 Melons • .5 hectares planted 11-24-93
7 Melons • .5 hectares planted 1-20-94
8A Melons • 1.8 hectares planted 2-7-94
8B Raspberries • 1.7 hectares planted 1-30-94
9 Melons • 1.5 hectares planted 2-3-94

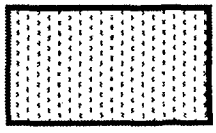
WALK THROUGH TUNNELS

10 Melons • planted 11-24-93
11 Melons • planted 11-24-93
12 Tomatoes • planted 12-5-93
13 Melons & Squash • planted 11-24-93
14 Melons • planted 12-1-93



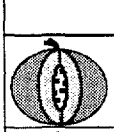
OPEN FIELD PRODUCTION

15 Asparagus • .7 hectares planted 4-2-94
16 Green Beans, Eggplant & Peppers • .5 hectares planted 1-30-94
17 Artichokes • 2 hectares planted 10-16-93
18 Strelitzia • .5 hectares planted 11-10-93
19 Melaleuca • 1 hectare planted 2-15-94

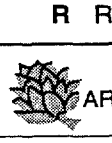


NURSERIES & BUILDINGS

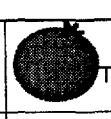
20 Office, Storage, Preparation Area for Transplant Nursery
21 Transplant Nursery
22 Transplant Nursery expansion of 2000 sq.^{2} proposed
23 Potted-Plant Nursery
24 Hardening Nursery
H House for Resident Technician
R Residence



MELONS



ARTICHOKES



TOMATOES

ASPARAGUS

GREEN BEANS

PEPPERS

CUCUMBERS

SQUASH

RASPBERRIES

EGGPLANT

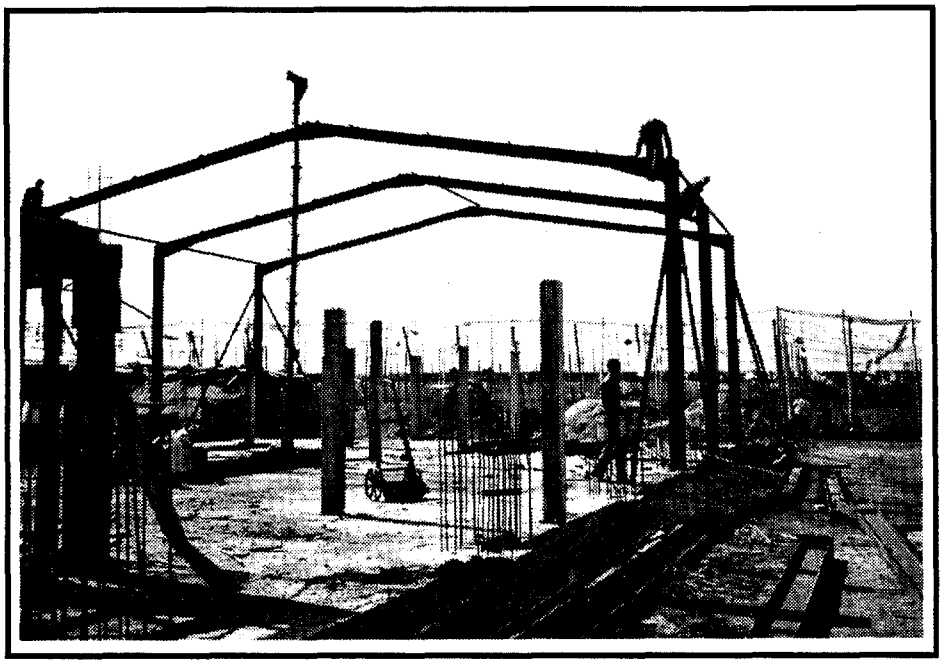
POTTED PLANTS

TRANSPLANTS

STRELITZIA

MELALEUCA

IRRIGATION PUMP



Construction of the office, storage and preparation areas adjacent to the transplant nursery. Photo was taken in October 1993. Construction was completed in November.

Winrock Official Visits Morocco

Dr. Edward Rice, Middle East Specialist with Winrock International, visited the project site of the Moroccan Cooperative Agricultural Development program in Morocco in January 1994. Dr. Rice observed current on-going work including production, marketing and training activities accomplished to date. This was Dr. Rice's first visit to Morocco.

After visiting Morocco, Dr. Rice continued to Israel where he met with Dr. Dov Pasternak, Chairman of the Technical Committee and Head, Institute for Agriculture and Applied Biology, Ben Gurion University of the Negev. Morocco project research and training activities in Israel were reviewed and other program details discussed.

Winrock International, based in Arlington, Virginia, is under contract with the United States Agency for International Development to review all of the regional cooperation programs sponsored through the Bureau for the Near East. Annual site visits are made to each project by staff specialists.

Technical Committee Meeting

The Technical Committee is scheduled to meet March 16-17, 1994 in Casablanca. A review of work plans for this year will be made. Plans for 1994-1995 will be discussed and an implementation schedule proposed. The damages caused by the recent storms in Morocco will be evaluated and work plan adjustments will be determined as necessary (see "Special Report").

Steering Committee Meets

Casablanca

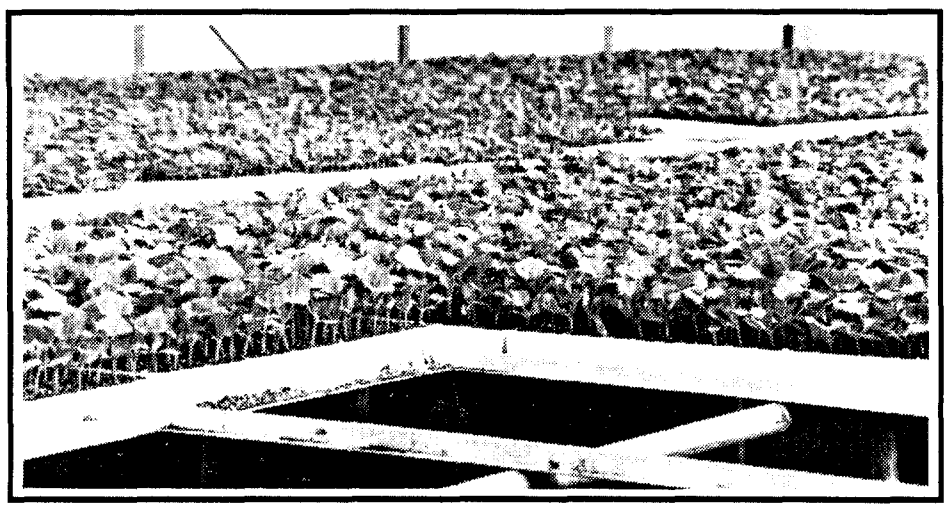
The Steering Committee met on October 26, 1993, in Casablanca, Morocco. Mr. Harry Albers, General Manager, San Diego State University Foundation, welcomed members to the second meeting of the Steering Committee. His remarks were followed by comments from Mr. Driss Lahlou of Morocco and Professor Samuel Pohoryles of Israel.

The speakers acknowledged the impressive accomplishments made by Moroccan, Israeli and American participants to date. They expressed a desire for the project to serve as a model for Morocco and for the region in promoting future cooperative programs.

The next Steering Committee meeting was scheduled for October 1994.

Azemour

A visit to the project site was made prior to the Steering Committee meeting. Mr. Lahlou, Morocco Project Coordinator, and Mr. Ayalon, Israeli Technical Advisor, gave an informative tour of the project site. All members expressed deep appreciation for the hard work and technical progress made over the past year.



Arava melon transplants produced at Amaris Nursery and Demonstration Farm in Morocco. The transplants were sold in the local markets in December 1993.

POUR LES LECTEURS FRANÇAIS du bureau de l'éditeur.....

Le Projet de Coopération pour le Développement Agricole Marocain est fondé par le Bureau de Développement International aux États Unis (USAID). L'Université de l'État de San Diego, l'Université Ben-Gourion en Israël et la Société Maghreb Agriculture au Maroc travaillent et collaborent pour accomplir le but du projet.

Le but technique du projet est de contribuer à l'amélioration du secteur agricole du Maroc par l'introduction de nouvelles technologies et en démontrant les bénéfices de ces innovations aux fermiers de la localité. On espère que le projet pourra démontrer l'efficacité économique de cette entreprise ainsi que les bénéfices technicals.

Dans ce petit journal il y a quelques articles qui présentent les nouvelles actuelles des activités du projet. "Le Rapport Special" décrit la destruction récente des serres de la ferme à cause des tempêtes en Novembre 1993 et en Janvier 1994. L'article, "Amaris Pépinière..." présente le nouveau nom attribué au projet marocain. Ce nom spécial est très important pour l'identification du travail dans la région et des produits du projet vendus sur le marché local et international. Il y a aussi quelques articles qui expliquent les activités du projet: production, formation et démonstration. Il y a également des articles qui offrent des informations sur les visites scientifiques et les réunions en relation avec le projet.

Au cas où vous désiriez de plus amples informations sur ce projet, veuillez vous mettre en contact avec, Dr. Bonnie Stewart, à l'adresse de l'expéditeur sur ce petit journal.

Vegetables produced at Amaris Nursery and Demonstration Farm in Azemour, Morocco. Left to Right: peppers, eggplants, tomatoes.

This is a U.S. Agency for International Development Project.
Comments or questions may be forwarded to:

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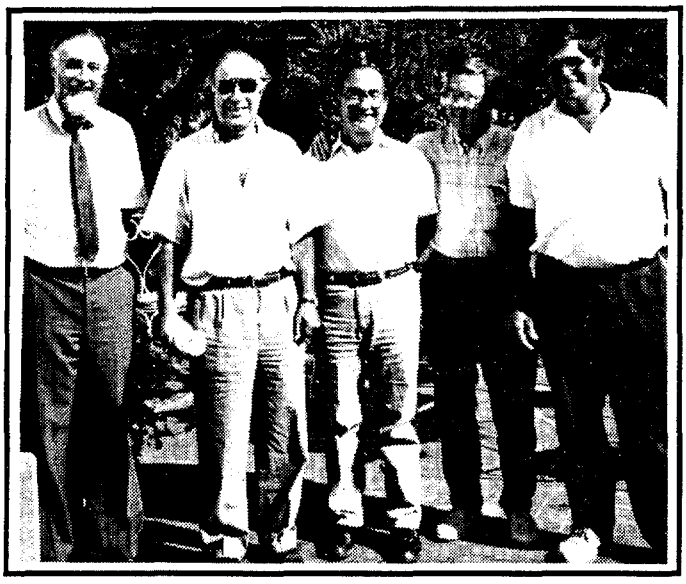

San Diego State University Foundation and USAID, Washington, D.C. officials visit the project site in September 1993. Left to Right: Mr. Herb Blank, Grant Officer, USAID; Mr. Driss Lahlou, President of Maghreb Agriculture and Morocco Project Coordinator; Mr. Frank DiSanto, Director of Grants and Contracts Administration, SDSUF; Mr. Robert Benshoff, Associate General Manager for Financial Management, SDSUF; and Mr. Itzhak Ayalon, Israeli Technical Advisor.

SDSUF Managers & USAID Grant Officer Visit Morocco

Mr. Robert Benshoff, Associate General Manager for Financial Management for San Diego State University Foundation (SDSUF), Mr. Frank DiSanto, Director of Grants and Contract Administration, SDSUF, and Dr. Bonnie Stewart, U.S. Project Director, visited the project site in Morocco in September 1993. Mr. Herb Blank, Grant Officer from the Near East Bureau of the United States Agency for International Development in Washington, D.C., joined the San Diego team on their visit to the project site in Azemour.

In addition to the site visit, the San Diego team reviewed the business, accounting and banking practices of Maghreb Agriculture; reviewed compliance with the Cooperative Agreement requirements; and provided guidance in finalizing the business plan for use of revenue generated through project activities.

The trip was successful. Most important, these efforts continue to demonstrate cooperation among all participants in pursuing the goals of this regional cooperation program.

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THE MOROCCO PROJECT
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THE MOROCCO PROJECT
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THE MOROCCO PROJECT
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ATTACHMENT A

MAGHREB AGRICULTURE BUSINESS PLAN AND COST OF PRODUCTION DATA

THE MOROCCAN COOPERATIVE AGRICULTURE RESEARCH PROGRAM

RECONVERSION PLAN

THE REASON OF GOING FOR PRODUCTION OF TOMATO

SINCE THE BEGINNING OF THE PROJECT

An important part of the budget was attributed to the experiments and trials; dozens of varieties, mainly tomato, melons, etc., (Israel) and raspberries (United States) have been experimented by the project with success because these varieties (tomato and melon) are now representing the major part of the market crops in Morocco.

Other budgets were attributed to the research between Israeli scientists and Moroccan scientists, for the development and in the production of crops like Argan and truffle.

The introduction in Morocco of new technologies, and techniques of production in agriculture like the creation of the nurseries for vegetable crops («premiere» in Morocco) and also nurseries for ornamental plants or pot production.

Also, all efforts done by the project to establish itself in the professional sector by training's, seminars, open door sessions, and advertisements. All these items needed a fixed human structure, infrastructure, and follow-up that did absorb another part of the whole budget provided during the project life.

This is why we have both agreed with the evaluators that the next efforts to be done should be in the research of a profitable business plan of conversion.

This study completed, we realized that most of our nursery activities were for tomato seedlings that corresponds to the period of the tomato campaign in Morocco for the producers that expect to export their tomatoes. Now, in order to breakdown all our indirect and direct (labor) costs in place, we decided by to produce tomato ourselves.

The rest of our revenues will finance the initiation of this conversion. This programs is composed in this manner:

Agadir site:	Production of tomato in open field:	5 to 6 hectares
Azemour site:	Production of tomato in open field	3.5 hectares
	Production of tomato in greenhouse	5 hectares

The target of these productions is for export and local markets. We expect from these crops more than acceptable yields because of the «savior faire» learned during the project existence that will cover the charges invested.

NB: We have now already started producing, exporting and selling the first tomatoes and we estimate being in good shape, but in open field production we are exposed to many climatic risks.

THIS IS HOW WE ARE ORGANIZING OURSELVES TO PROMOTE OUR KNOW-HOW AND EXPERIMENTS AND TRIAL RESULTS

COOPERATION WITH MOROCCAN MINISTRIES

The results we obtained are notified to the Ministry of National Agriculture. Such ministry decides on the positive aspects that will be widely disseminated to farmers throughout Morocco. Several agencies of the Ministry of Agriculture involved in extension and outreach services, pay frequent visits to the site of AMARIS Project such as:

SO. DE.A. (Agricultural Development Company);
SASMA;
The Agricultural Service Regional Agricultural Development Boards cooperatives, each consisting of hundred of farmers, who visit us both in Agadir and Azemour .

We organize an average of one visit every three months to our facilities. Such visits provide the opportunity to display products and know-how and to teach how to prepare quality seedlings (healthy and vigorous). These visits also provide the farmers with a chance to look at our experimental species irrigated with salty water containing up to 4g of salt per liter, as we have in the Azemour region.

Examples: Asparagus, seedlings from the United States;
Raspberries, seedlings from the United States;
Melaleuca, ornamental seedling from Israel;
Artichokes;
Tomato resistant to nematodes and salinity;
Grafting techniques and results.

This shows that we are spreading all over Morocco our data and our openings to visitors from all over. Visits from many different faculties, universities, organizations (national and international) are being organized frequently. Unfortunately, the seminar on plants for reforesting the country with the Moroccan department of water and forest and the Israeli researchers did not take place.

Now, a seminar should be required on the introduction of the new technique of grafting and is in way of preparation.

STUDY OF THE IMPORTANCE OF A NURSERY FOR THE PRODUCERS

COST PRODUCTION OF ONE SEEDLING OF TOMATO

Considering that one kilogram of hybrid tomato cost is at lowest 125,000DH. AMARIS uses 60g of seeds to obtain one hectare planted (20,000 seedlings) but the producers or farmers in Morocco are using at least the double, which is 120g minimum of seeds.

Then, the fact that the nursery is specialized in growing seeds, we obtain a best quality seedling at the price of 0.80DH each. Unfortunately the farmer's cost per seedling raised to at least 1.10DH each with all the risks that can occur during that month and a very poor quality seedling planted.

Then we came to:

1 hectare of seedlings from AMARIS value is: 0.80 x 20,000 = 16,000DH/HA

From the farmer:

1 hectare seedlings cost is: 1.10 x 20,000 = 22,000DH/HA

the difference of cost per hectare is 6,000DH, which is almost 40% higher for the producer.

PRODUCTION COST OF TOMATO CROP UNDER GREENHOUSE

Seedling (plants) cost per hectare:

20 000 plants / HA x 0.80DH / plant = 16 000 DH/per hectare

Chemicals, amendments, and pesticides: = 35 000 DH/ per hectare

Irrigation water cost:	
5 000m^3 x 1.80 DH	= 9 650 DH/ per hectare
Staff:	
Fixed cost of management (human)	= 9 660 DH/ per hectare
Field preparation:	= 1 000 DH/ per hectare
Disinfecting of soil:	= 17 000 DH/ per hectare
Labor cost:	= 30 000 DH/ per hectare
Plastic/Ficelle	= 27 000 DH/ per hectare
TOTAL CHARGES	= 145 310 DH/ per hectare

Expected yield: 80 to 100 tons exportable average price expected for exported products: 2,00 DH/kg and average price expected for locally sold products: 1.00 DH/kg

PRODUCTION COST OF TOMATO CROP IN OPEN FIELD

Cost of plants (seedlings):	= 12 800 DH
Field preparation:	= 1 500 DH
Disinfecting of soil:	= 17 000 DH
Cost of irrigation water:	= 7 720 dh
Achat piquets/roseaux:	= 10 000 DH
Fixed cost of management (human)	= 9 000 DH
Labor cost:	= 25 000 DH
Chemicals, amendments, and pesticides	= 30 000 DH

OVERVIEWS OF THE PROJECT

OBJECTIVES

Introduction of hybrid seeds from Israel with gave long shelf products (tomato, melon, etc.)

Introduction of new techniques or technologies of production as the nursery system still from the Israeli collaboration

Introduction of many ornamental varieties, nursery for pot plant production, and new techniques through the Israeli research

Human exchange of workers and trainees between Israelis and Moroccans. Also, exchange between Israeli scientists and Moroccan scientist

Marketing activities as, seminars, publications, open-door sessions, brochures, promotional literature, extension materials for promoting the project (the tri-parts project between Israel, United States and Morocco)

Introduction of new technologies for micropropagation, irrigation, controls, fertigation management, in order to increase the yields, for vegetable crops and others

Introduction of grafting technique on vegetable (grafted melons, tomatoes and watermelons) in Morocco

OUTPUTS RECEIVED FROM THE FULFILLMENT OF THESE OBJECTIVES

Recognition of Israeli seeds which are now well implanted in Morocco and lead most of the market share, as well as in material for drip-irrigation

Ex: 80% of produced tomatoes come from Israeli hybrid seeds
70% of produced melons come from Israeli hybrid seeds

So, official recognition an acceptance of the Israeli agriculture force

Familiarization between Moroccans and Israeli – trainees in Israel and workers in Morocco added to the scientists' cooperation

Morocco opened its door to Israel in November 1995, by the organization of an economic conference between Arab countries and Israel. This was the very first

time that such a step was established by the Arab countries towards the state of Israel.

No more than one project was established between the countries (Morocco and Israel) and it was ours, which was running officially until then. And, we received at this occasion the visit of some Ministers at the project site of Azemour. The French television and the Israeli were at this occasion much more than present, and all of them did a big «reportage» scoop out the project

Birth of other nurseries for grafting plants and raising seedlings

The training of many young Moroccan technicians or so, to the Israeli way of working in agriculture

Morocco Project Business Plan

Submitted by

Mr. Driss Lahlou
PRESIDENT, MAGHREB AGRICULTURE
December 2, 1997

ATTACHMENT B

NON-CONTRACT CONTRIBUTIONS TO THE PROJECT

Contributions to the Moroccan Cooperative Agricultural Development Program by Cooperating Partners

MAGHREB AGRICULTURE, MOROCCO

Our Moroccan partner, Maghreb Agriculture, provided in-kind contributions to the program of equipment, land, vehicles, greenhouses and technical support in the amount of $457,000. This amount was agreed and detailed in the original grant award under the section, "Cost Sharing and Other Contributions", Attachment 1-J, page 22. *(Copy attached)*

In addition, Maghreb Agriculture provided in-kind contributions of $112,000 over and above the original agreement. *(See attached list of contributions by Maghreb Agriculture)* In addition, approximately $350,000 in revenue generated by the project activities in Azemour and Agadir was reinvested in the program to further and expand the original goals and objectives of the program. This additional income enabled the project to expand to the Agadir area, initiate the marketing campaigns and to begin the grafting project. All these activities supported the original goals and objectives of the program.

BEN-GURION UNIVERSITY OF THE NEGEV, ISRAEL

Our Israeli partner, Ben-Gurion University of the Negev, provided in-kind contributions to the program of lab space, green house space, equipment, field facilities, research scientists and expertise, training programs that represented an in-kind contribution of $1,025,000. This amount was agreed and detailed in the original grant award under the section, "Cost Sharing and Other Contributions", Attachment 1-J, page 22. *(Copy attached)*

It is this additional support and commitment – the extra effort – made by the projects partners that reflected the true energy and dedication to the goals of the program and to the goal of regional cooperation and peace. It is this commitment that contributed to the successful completion of the program.

SAN DIEGO STATE UNIVERSITY FOUNDATION & THE HANSEN INSTITUTE FOR WORLD PEACE, U.S.A.

Management of the project by SDSU Foundation has involved support from project staff and senior management. Monthly meetings were held in San Diego

by senior management and project staff. Programmatic concerns as well as fiscal management involved travel by project staff and also senior management. The SDSU Foundation provided separate funding for the travel of additional Foundation staff when needed. Over the life of the project travel by twenty-four senior staff was sponsored by the SDSU Foundation. The purpose for this additional collaboration was to support the project goals and objectives as well as to facilitate Middle East regional cooperation efforts. This SDSU Foundation supported travel represented additional investment of more than $60,000 in travel costs alone, plus the salaries and benefits of the participating individuals.

The Hansen Institute for World Peace also contributed more that $7,000 to support a second meeting of the Technical Committee during the first fiscal year of the program in order to launch the project and provide the needed technical support during this beginning phase.

1I.7. Defense Base Act (DBA) and/or Medical Evacuation Insurance

Pursuant to Section J.16. of OMB Circular A-21 (for educational institutions) or Section 18 of Attachment B of OMB Circular A-122 (for nonprofit organizations other than educational institutions), the Grantee is authorized to purchase DBA and/or medical evacuation insurance under this Grant. If DBA insurance is purchased, it shall be purchased from the insurance company or agent with which A.I.D. has a contract to provide DBA insurance for A.I.D. contracts, (if authorized by the terms of the insurance contract). The Grant Officer will provide the name, address, and telephone number of such insurance company or agent upon request.

1J. COST SHARING AND OTHER CONTRIBUTIONS

See 1C.5. above and the Grantee's proposal entitled "Moroccan Cooperative Agricultural Development Project", dated January 15, 1992, as revised, including Response to Comments dated April 1992 and clarification dated August 26, 1992.

It is anticipated that the two Subgrantees will provide the following in-kind contributions over the five-year life of the program. Maghreb Agriculture has agreed to contribute at least 15% of the project costs in Morocco in the form of in-kind contributions.

Ben-Gurion University of the Negev:

Research Scientists (2)	$ 400,000	($ 80,000/yr x 5 yrs)
Train Moroccan Graduates (3)	$ 225,000	($ 45,000/yr x 5 yrs)
Lab \Space/Greenhouse Space/ Lab Equipment/Field Facilities	$ 400,000	($ 80,000/yr x 5 yrs)
Total	$1,025,000	($205,000/yr x 5 yrs)

Maghreb Agriculture Company:

Research & Development Center	$ 317,000	
Vehicles (3)	$ 60,000	
Land Rental	$ 80,000	($ 16,000/yr x 5 yrs)
Total	$ 457,000	

Maghreb Agriculture's In-Kind Contributions
to the
Morocco Project

Original Contributions			
3 Existing Wells		300.000	DHS
2 New Wells		400.000	DHS
4 Km Pipe		800.000	DHS
600 m^3 Reservoire		300.000	DHS
Pump		100.000	DHS
2 Generators		300.000	DHS
Irrigation System		50.000	DHS
Storage 7 x 25m		300.000	DHS
Small house for farm Manager		300.000	DHS
Sub Total	***$317,000 USD***		
3 Vehicles	$ 60,000		
25 Hectare (16,000 x 5) Arable land	$ 80,000		
Original Contributions Total	***$457,000 USD***		
Additional Contributions			
4.4 Greenhouses	$ 70,000		
1 Truck	$ 20,000		
1 Pick-up Truck	$ 20,000		
4 Tunnels	$ 2,000		
Additional Contributions Total	***$ 112,000 USD***		