TDC/EED
TRADE DEVELOPMENT CENTER PROGRAM
EXPORT ENTERPRISE DEVELOPMENT PROJECT

NEW DESERT GROWERS
GRAPE PRODUCTION PLANS: BY FARM

Prepared For:
USAID/Cairo
Contract No.263-0226-C-00-3095-00

Submitted by:
Shackar Karniel
CHEMONICS INTERNATIONAL INC.

1993-1994

GENERAL COMMENTS - GRAPE PLAN

DATE : 01.23.1993

TO : Mr. R. Miller

FROM : S. Karniel

In general, there is a potential of exporting during 1994. Unfortunately, the vineyards were not planted as export farms. All suit for local except one. To change the attitude immediately will not be easy. Most of the farms do not have suitable varieties nor colors for the early season.

Though, I believe that step by step we can develop the farms to be up to date farms.

I HARVEST

Every country adopts a system that suites the local variables.

Egypt must work like chile. Central packing house. The harvest must be done in plastic boxes with only one layer that does not exceed 30 cm depth with good basic modular built. The boxes need to be made of a resistant material. They must be handled on *sand*. Usually, it is recommended to utilize light carrier stands, so as to avoid sand in bunches.

Boxes should be collected immediately after the harvest and taken to the packing house.

Also, laborers must use the appropriate clippers in order not to damage the berries.

Harvest hours are normally until lunch time. If the temperature increases, work must be ended at 10:30 - 11:00 a.m.

Laborers must itemize selections in order to meet quality needs.

PRE-COOLING

All grape harvest must pass through a pre-cooling process. There are two alternatives as follows:

1- Grapes should be placed in plastic boxes when transported from the fields before packing so as to reduce grapes temperature to +3° - 5° C by 5 - 7 hours. This option is mainly used when the packing house cannot afford all boxes of the farms. In this case, packing can take place over two shifts without risking the grape temperature.

2- Field packaging should not take more than 3 hours. The best methodology is as follows: *harvest, packing, transportation to pre-cooling, pre-cooled boxes transferred to carrier* (In this case, temperature will be reduced to + 1° C).

II PACKING

1- **PACKING HOUSE**
In future All NDG will probably use the central packing house, which is the best way. Chile and South Italy use this way. When you cannot rely on your laborers, as they need supervision and quality control all day long, this is the best way to reach one standard and one shape, although it looks more expensive. Generally the operation cost of the large packing house is more than the field shade house, but it only increases the packing cost per kilo by few U.S. cents.

2- **FIELD SHADE HOUSE**
This method is very popular in Israel. Each grower has in his own field a concrete shade house with minimum facilities, of course this is the cheaper way. Transportation of grape harvest comes to a minimum.

This method has only one disadvantage, which is that each farm has to pack separately, consequently it will take years to reach uniformity and a common standard.

Only growers who employ good staff can handle field packing. For most growers it is more convenient to concentrate on the harvest and to ship the grapes to central packing houses.

3- **PACKING MATERIALS**
The common packing carton is 5 kg on most of the markets. Chile and Italy use paper partitions between bunches. This is ideal for wholesale and open markets. Chile use plastic bags for no exact reason. This system is very easy for packing and handling.

Open boxes are much more complicated but preferred on markets. Cartons must have a double paper wall to stand humidity. Color and design are very important.

In my opinion all the above mentioned need to be thought over thoroughly.

4- **PACKING QUALITY**
I recommend to use two or three different brand names for different qualities which will appear at the same time on the same shelf and compete with each other.

We would be lucky to receive the approval of the USDA inspectors but we are not ready for this stage as both the market surveys and the connections are not yet done in addition to the short time available.

III QUALITY CONTROL

This sensitive subject is not simple.

Do we want to apply the U.S. standard as is? Can our grape meet with this standard?
May be our quality for the first year will not be fancy , and only U.S. Standard
All these questions have one answer:
We have to build our standard step by step. My advise is to use in 1994 - 1995 as a brand name for the majority of grapes "standard" grade. LOW GRADE, another brand name. Major FANCY QUALITY is a different brand name , which after two to three years will be the majority and will be used as our quality trade name.

The quality control team will pass among the growers to consult and to control. Inspectors must change farms every day to avoid emotions.

IV MARKETING

All our effort will be useless if marketing is not made in advance. Europe is today united into large buying systems.

For example one large group alone represents in Europe:

535	Hyper Markets
1780	Super Markets
370	Discount stores
245	Department Stores
190	Cash & Carry stores
3120	Outlets TOTAL

A new company has entered Europe this year by opening a warehouse club for fruit sales. This chain is reducing its prices sharply. TDC will contact them instead of contacting the sharks like Marks & Spencer in the first year. The Far East must also be looked into as a very good venue for colored grapes.

GRAPE PLAN

OWNER NAME	:	Mr. N. Eissa Farm
FARM NAME	:	Cafr El Dawar Farm
VARIETY	:	Thompson seedless
VINEYARD SHAPE	:	Very strong vineyard or 70 fedan. Vineyard shows symptoms of good fertility management. No Nematods symptoms shown. Some spots of Jonson grass which reduces the vine strength. The vineyard is somehow higher than standard, which will make the bunches treatment difficult. My advise is to reduce level.
TRELLISING	:	As above, the design was copied by mistake and too high. But this is the only vineyard in the NDG group which has the overhead system. If wires and head posts are placed in high tension in addition to reducing the height, this farm will be the best one in the group. Posts are weak and wrongly designed, but can be improved.
VINE SHAPE	:	Last year a totally wrong pruning system was utilized. For the time being, we are trying to improve it. It is worth mentioning that owner & staff were very cooperative in changing and developing the vineyards. Vines are strong, good canes, mature with high potential.
CANS QUALITY	:	Good quality although less due to the pruning system changes. In general, maturity and length are good.
IRRIGATION	:	Drip, salt problems. Needs extra water to flush salt. To start watering at pruning limits quantity.
MACHINERY & EQUIPMENT	:	Unfortunately, there is a lack of modern equipment. I agreed hesitantly to apply GIB in this vineyard with 35-40 back spryer. Thompson seedless is the most difficult variety to grow in regard to quality based on GIB spray and timing. In my opinion it is too dangerous to rely on such an operation which is too small. A 25 K can do the job perfectly.

HARVESTING & PACKING : My advise is that each farm should have its own Central Shade House with facilities. If the owner cannot be present at harvest time all day long it might be better to ship it to El Aguisy packaging house.
Pre-cooling can be done within 2-3 hours from harvest.

VINEYARD POTENTIAL : The vineyard is strong. Harvest can easily be exported. The only factor is the GIB application. No more than two size spray.

VARIETY POTENTIAL : Thompson is requested in UK more than any other variety. If they do a good job, they can easily export up to 200t of early Thompson.

PS. Most of the vineyard is in good shape, less wires and grass. All the effort will be wasted if GIB fails. They must go to the proper equipment.

GRAPE PLAN

OWNER	:	Mr. H. El Aguizy
FARM NAME	:	El Amel
VARIETY	:	Flame Seedless
VINEYARD SHAPE	:	In general, it looks very promising 90 Feddan 1991 Planting 50 Feddan 1992 Planting Good soil. Good Management. The farm management does not save any effort to handle the farm in a proper way. This farm can produce good export quality.
TRELLISING	:	1991 trellising is better than 1992. I advised them to make some changes in order to make the 50 Feddan/1992 planting a modern overhead system. The head posts are weak. The wire binding is not firm enough. In general this is not the optimum. Fruit treatment will not be easy. There is a possibility of change as the basic metal is good. The additional cost due to changes will be covered by quality.
VINE SHAPE	:	By using the basic mistake of vines shaping they have only 50% of the vines potential. I taught them twice how to re-shape the vines in order to get 100% use of the vines potential in the next two years time. In general vines are strong and healthy. Nematodes problem is very minor. We dug the soil under the row to see the rooting system, which showed healthy symptoms.
SPURS QUALITY	:	Vine potential is high due to spurs. Bud, high maturity.
IRRIGATION	:	Drip irrigation. Over irrigation because of high salinity. I recommended making a trial of over head sprinkle for two purposes: - First: to increase chilling hours. - Second: to flush salinity, which is very high; up to the extent that pure salt is on surface of the row especially in the trial area. In the future I recommend to make beds undervines.

MACHINERY : The machinery and equipment are too primitive for our need of high performance. Usually relying on hand labors. GIB applications must be done in hours according to the flowering progress to reach the best results of GIB application needs. High performance sprayer and tractor. Beside other machinery.

HARVESTING & PACKING FACILITIES : If export is the target , we have to have packing house in the farm shaded with concrete floor, tables, scales, plastic boxes etc. All these facilities have to be started now. Plans and design will be supplied by me in case of need.

VINEYARD POTENTIAL : The vineyard can produce this year in my opinion around 3 - 4 tons/acre since spurs capacity is 50%.

VARIETY POTENTIAL : Flame have low demand so earliness + size are the key to a good price; especially in London.

* From all farms this is the highest potential. Unfortunately the variety is secondary.

* This is the only farm which made effort to learn new methods.

GRAPE PLAN

NAME	:	H. El Shiaty
FARM NAME	:	Desert road farm
VARIETIES	:	600 Feddan of Ruby Seedless. Some experimental of: Red Globe, Crimson, Parlet, Flame, Cardinal, Muscat, Riber, Early Superior. 600 Feddan of Ruby seedless divided to 12 Feddan transfer plants 2.5 Feddan 2 years old, all others one year old.
VINEYARD SHAPE	:	Except 2.5 weak feddan. The whole farm looks strong, healthy and well treated at all stages.
TRELLISING	:	I cannot consider the existing system of wood posts as a high tech. trellising system. Although it looks nice and painted. Wire distances are not correct. Head posts are weak. I recommend the usage of the new over head system to this high potential vineyard which at the end does not cost much more than the regular system. Mr. El Shiaty is planning to have high crop of his variety and bases his calculations on this high crop per feddan. Though I wonder if the wooden trellising can hold.
VINE SHAPE	:	The 12 Feddan transfer plants will be shaped on 4 arms this year. It is very unsure if the trellising will take place this year in the young vineyard.
IRRIGATION	:	All drip look OK.

* Young vineyard can develop into a first class vineyard. Trellising is a serious worry.

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FARM NAME	:	ElShiaty second location
VARIETIES	:	Ruby Seedless (mainly)
VINEYARD SHAPE	:	Vineyard is a good and rich soil of the delta. Apple trees among the vines = Mix row vines and apple. Which is not a modern way to grow grapes, although it has a nice design. The owner must decide on whether he wants apples or grapes.
TRELLISING	:	Nice design. Needs extra posts in between.
VINE SHAPE	:	Looks used over late harvest. End maturity bad. Lots of green and unmatured cans.

IRRIGATION : Drip good design. Seems that the farm manager uses the drip system very well.

MACHINERY : This farm is based on hand work. I think that this farm can continue working as is.

* This delta farm is not prepared or organized for export. So, with few improvements can be a nice productive farm.

GRAPE PLAN

OWNER NAME	:	H.S. Hegazy
FARM NAME	:	S. Hegazy Farm
VARIETIES	:	Thompson seedless. Ruby seedless. Flame seedless.
VINEYARD SHAPE	:	Thompson seedless is the majority. Fertilization, and irrigation management is very good. There are enough cans to select the best. In general the Thompson have the basic tools for success. Flame seedless + Ruby seedless: These two varieties were treated as mass production crops. The vines were used over capacity. This coming year is going to improve.
TRELLISING	:	Unfortunately, the basic cordon of the Thompson vineyard is too low although it is strong, which makes an over shade in the middle. I advised them to make two rows experimental of the over head system. Main posts are weak and need improvement. By using the over head system, this vineyard can come up to the international standard easily. With the Ruby seedless and Flame a simple cordon will be sufficient at the moment.
VINE SHAPE	:	Thompson was pruned without spurs. The vine structure is too spread. We are changing the pruning according to the standard rules. While Mr. H. Hegazy calculated his crop we made cans account of the coming crop. Ruby & Flame: The vines shape was by 50% wrong of canopy. We spread the vines accordingly.
CORDON & CANS	:	I do believe that the past mistakes of the pruning will improve the vine shape of Thompson. We made can selections for better choice. <u>Flame & Ruby</u>: Vines are weak, were pruned over accounts of spurs. Because of 50% vine arms. By using new cans to construct the vines. within 2 years the vineyards will come up to the standard.
IRRIGATION	:	All systems look good. Few changes should be made.
MACHINERY	:	Although there are basic equipment, there is room for development to modern machinery.

HARVESTING & PACKING	:	Since this farm has experience in exporting, we can help them to improve. I advised them to use pre-cooling containers in the farm. I also advised them to purchase two cooling containers, so one can be mobile for airport transportation.
POTENTIALS	:	Since the farm has an experience and seems to be promising, I believe we can help them this year to export also Red Grapes.
VARIETY POTENTIAL	:	Thompson early can be a good item for export and an unlimited quantity. Red grapes. As we know, less demand, but again for early and good quality there is room.

* In general, the owner himself is capable to export in large scale

GRAPE PLAN

OWNER NAME	:	Mr. S. El Beltagy
FARM NAME	:	Delta Farm
VARIETY	:	Thompson seedless, Ruby seedless.
TRELLISING	:	Major Thompson Blocks are vertical wires which makes it almost impossible to produce export quality. It is a very old fashion system. One Block of Thompson is very nice and an excellent base for over head which I recommend to treat for export with extra posts.
VINES SHAPE	:	In general the vineyards are not strong but fair for a moderate crop. One Thompson block is very promising. Ruby seedless weak, was nursery before - was prune cans and not spurs which I recommended to move on.
CANS, SPURS	:	As said above, the vertical thompson is mixed pruning cans. The good block is nice with excellent cans potential. Ruby seedless cans must prune in star shape for future spur pruning.
IRRIGATION	:	Drip. Looks far.
MACHINERY	:	As Delta farm is O.K.
HARVEST & PACKAGING	:	Since Mr. El Assaili and Mr. Beltagy are close to each other and isolated from other desert road growers, in 94, I advise them to use the cold storage by renting rooms for pre cooling and cooling service to steady the matter and then to go together for their own facilities.
VINEYARD POTENTIAL	:	The one Thompson block is good, based for export. Others can be treated. The farm is not early , so only quality can take place; otherwise local market is the alternative.

* I believe that this farm can improve slowly. Mr. El Assaili (his neighbor) will be a big help and both farms will benefit from this union.

GRAPE PLAN

OWNER NAME	:	Mr. A. Korra
FARM NAME	:	Desert Road
VARIETIES	:	Thompson seedless Flame seedless Superior seedless + parlet 1 year old.
VINEYARD SHAPE	:	Thompson looks firm (strong) because of basic mistake of cordon design. There is over shade of 4 layers on the cans, (shade affect cans maturation and fertility). Flame looks better weaker vines canopy was divided to both sides. A one year vineyard was not designed yet and was neglected. I advised to prepare it better for the future.
CANS, SPURS QUALITY	:	Thompson cans were under shade with many green and unmatured cans. Years ago and for some reason no spurs were made and vine frames were spread. Cans may be enough. Flame: Spurs look OK. For future pruning stronger cans are required.
TRELLISING	:	Unfortunately, trellising consultancy was mistaken. Too low. Almost ground surface. The existing system will never be commercial. I advised Mr. Korra to use his very strong and nice construction for development and to lift up the vineyard to a level which can be handled commercially. Since planting of 4m x 1m is excellent for overhead system.
IRRIGATION	:	All Drip Good Management.
MACHINERY	:	In the meantime it is sufficient.
VINEYARD POTENTIAL	:	I believe that by 1995 this vineyard will be 100% prepared for export.

GRAPE PLAN

FARM NAME	:	Mr. A. ElAssaily - Delta location
VARIETY	:	Thompson seedless & King Ruby
VINEYARD SHAPE	:	Keen, well managed, good fertile soil. Field management has a good understanding.
TRELLISING	:	Low V. Weak posts. this is an ideal vineyard for overhead adding.
VINE SHAPE	:	This is not an early location so it was built on high crops. Since there is no advantage of earliness. Ruby was a late harvest and potted in cold storage vineyard construction is strong and healthy to carry yield.
CANS, SPURS	:	My advice is Thompson. His manager can handle it carefully. Ruby was used over capacity and many green shoots, unmatured, appear in the vine. This coming year the vineyard can produce good crop with calculated spurs.
IRRIGATION	:	All drip irrigation. Although it is a Delta soil and fertile, water management is good.
MACHINERY	:	In general Delta farms are based on hand laborers and less machinery. This subject should be improved.
HARVESTING & PACKAGING	:	Since Mr. El Assaili and Mr. Beltagy are close to each other and isolated from other desert road growers, in 94, I advise them to use the cold storage by renting rooms for pre cooling and cooling service to steady the matter and then to go together for their own facilities.
VINEYARD POTENTIAL	:	One of the advanced vineyards. Unfortunately late reagan. So this specific farm should go on quality and quantity for special deals.

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REPORT #2

File

GENERAL RECOMENDATION FOR NDG GRAPE PLAN.
OUTLINED
BY
S. KARNIEL
MARCH 20, 1994

** THOMPSON SEEDLESS.

The most difficult and complicated variety to treat.
I will be giving you parameters and each grower with his own personal knowledge of his vineyard, machinery, and sprayers, will make the best he can.

In the U.S.A. and other countries, the equipment for GIBB application considering U.S standards, for export, are the most expensive and updated.

1. **Green Pruning**

XX At 10 - 15 c.m shoots long, to remove all un-necessary bunches, max ~~bunches~~ branches per vine 38 bunches.

2. **GIBB**

For early exporting, I recommend to use only one or two sizing Number of thinning sprays. The dose will not delay the maturity. The spray must be fully wet and fully covering the bunch, to avoid infertility cans for the coming years I recommend to.deep or bunch spot gun spray.

PHENOLOGICAL EXPLANATION:

GIBB is not a thinning agent or sizing agent. GIBB increases the natural vine activity at the moment of application through several days according to the temperature.

As the bunch starts elongating naturally and the flowering starts, we apply extra GIBB for a longer bunch.

Nile Tower Bldg., Floor 24, 21 Giza St., 12211 Giza, Egypt. P.O.Box 28 Giza. Tel. : (202) 627 006/570 2511/32/43/54/65/86 Fax. : 623 120 Tlx. : 93550 USEBC UN

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FLOWERING ACCOUNTING EXPLANATION.

Cup creuice is considerable flowering. Only the upper part of the bunch is taken as bunch (lower part will be cut off). I recommend to make in each patch three accounting stations before blooming, to account 100 bunches and to bind them in plastic tape. From now on when flowering starts any accounting for GIBB application will be according to the above system. To consider flowering a bunch of flowers in one shoulder is considered as a start of flowering when we say 25% flowering it is 25 bunches out of the 100, in one way or another in flowering. There can only be one bunch of flowers in one shoulder or 1/2 a bunch of flower, 75 bunches still not open.

As the temperature raises, the process becomes shorter. Alot of experiance is needed to predict flowering stages.

I will try to give you the tools on how to judge your flowering. Always read the station three times / day all three stations the average of the three.

In hot days, it can run from 25% to 75% in one day, so I recommend that always to be ready when you have 10% less then needed to be ready, those few flowers are the success or failure.

For the Phenological continuation it was necessary to explain what flowering meant.

The vine makes self thinning, but not enough, thus what we do is just to increase the thinning by using GA3 at the time which the vine does it.

IN COOL TEMPERATURES

Three thinning sprays can be made however, two can be enough.

1. 15 - 20% Flowering = 12 - 13 PPM GA3 = Buffer.
2. 50% Flowering = 16 - 20 PPM GA3 = Buffer.
3. 80 - 90% Flowering = 20 - 25 PPM GA3 = Buffer.

the bigger the crop the more PPM.

IN HOT TEMPERATURES

1. 25% - 50% Flowering - 20 PPM GIBB
2. 85% - 90% Flowering - 25 PPM GIBB

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Fast in thinning
Lazy in sizing
Not before 4-5mm.

SIZING

At Q 4 - 5 mm Berry size 40 - 48 PPM GIBB
3 - 5 days later 40 PPM GIBB

At this time to make Girdling. At first sizing spray all concentrate work should be done the same day, or around, girdling.
Bunches trimming, to 4 - 6 shoulders according to the bunches size, at this time also removing all checked bunches which are too loose or too compact and total per vine max 28 bunches.
The Grower who wants to harvest early can reduce his bunch counting up to 20 bunches.
In case of too long shoulders and a high density of berries shoulders trimming can be done.

C3 FLAME SEEDLESS

All the same beside GIBB.
Thinning at 50% bloom 5 PPM and another one at 100% bloom of same 5 PPM.

If flowering comes at once 7 PPM one time, at full bloom sizing: at Q 8mm not before 40 PPM GIBB and gerdling bunch trimming and 5 days later follow one 40 PPM.

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October 25, 1993

Mr. Shackar Karniel
Fax #: 00972-6-398516

No. of pages to follow: Two

Dear Shackar,

Thank you for your fax of the 24th.

For this one time, would it be possible for you to spend ten days to do the initial assessment and business plan for each farm. After that one, one week will be fine per month. I have attached the scope of work that is required for the initial assessment and visit. Please look it over and give me your comments as soon as possible.

Best Regards,

John R. Miller
Senior Advisor to TDC

Ref. eed1\karniel1

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SCOPE OF WORK - GRAPE EXPERT

a) To visit 9 farms within the New Desert Growers company who are presently growing table grapes.

b) To develop, on an individual basis on the above farms, a complete farm plan for export grape production to include the latest suitable production technologies based on their present varieties. (A full vineyard management program).

c) Within the above, to chart out all various functions on a daily, weekly and monthly basis, to provide a complete audit trial, to include; the levels of usage for all chemicals; insecticides, pesticides, fertilizers, irrigation, and all input to adhere to the European standards for retail market requirements. To include packaging requirements and packing and loading techniques and procedures.

d) To produce an overall table grape program on a combined basis to include a 3 year business plan for grapes.

e) To produce overall quality control systems and a manual as to procedures.

f) To advise on new varieties and new systems of infrastructure for table grapes.

g) To advise on pre-cooling facilities on-site and post-harvest physiology and transport requirements.

h) Advise on Marketing in Europe and the M.E. (Windows of opportunity in target markets) on present varieties and recommended varieties.

Export Enterprise Development Project
Contract No. 263-0226-C-00-3095-00

SCOPE OF WORK

Grape Production and Marketing Specialist (Short Term)

A. BACKGROUND:

USAID/Egypt has funded the Export Enterprise Development (EED) project with the stated goal to "promote Egypt's economic growth through expanded foreign exchange earnings," and with the purpose to "increase non-traditional exports produced by Egypt's private sector." In the document prepared by Chemonics International for USAID/Egypt, titled Strategy and First Annual Work Plan, "grapes for export" are targeted as one of the priority crops for immediate attention given the assumptions that a market already exists for this product, that Egyptian growers have production experience, and that there is potential for high impact in a short period of time.

Although there is production and export experience in Egypt for grapes destined for the local and Middle East markets, there is little experience with the varieties of grapes that are preferred in Europe, the main target market for this commodity.

B. STATEMENT OF WORK:

This short-term assignment is designed to provide the initial, necessary guidance to the private-sector grape growers in Egypt so that they can produce the appropriate grapes for the European market and enter that market successfully.

C. SPECIFIC DUTIES:

1. **CONDUCT GENERAL REVIEW OF GRAPE PRODUCTION:** The consultant, in coordination with the COP and representatives of the New Desert Growers (NDG) group, will visit as many grape production areas as possible to review the state of the industry, to include available infrastructure, agronomic conditions and grower experience. Where appropriate, recommendations will be given on-site to be followed by written recommendations at a later date. Basic production practices will be reviewed for field-grown grapes. A production guide for export grapes will be prepared, with separate recommendations for specific production sites.

2. **DEVELOP BUSINESS PLAN FOR GRAPES:** A preliminary, three-year business plan for grapes will be outlined for NDG growers, with the understanding that this type of plan is dynamic and will require constant updating.

3. **REVIEW QUALITY CONTROL GUIDELINES:** The consultant will review, with the relevant growers, and with staff of NDG and the Trade Development Center (TDC), the quality norms and requirements for grapes for European markets. This review will include guidelines for establishing quality control programs. Recommendations for implementation will be given relative to existing conditions. Where applicable, the review of quality norms will include pesticide residue tolerances and phytosanitary/quarantine restrictions.

4. **ASSESS POST-HARVEST HANDLING:** As part of the industry review, assess the available infrastructure for packing and post-harvest handling and make specific recommendations for improvement where applicable. When possible, recommendations for equipment upgrade or purchase will include sources of supply. As part of this review, advice and recommendations will be given on proper pre-cooling, packing and transport for export grapes.

5. **REVIEW MARKETING PLAN:** In conjunction with European marketing personnel already identified by EED and NDG, review the marketing plan being developed, making comments and recommendations where applicable. Wherever information gaps are noted, the consultant will provide the required information to the best of his ability and experience, drawing on the experiences of Chemonics International staff.

6. **PROVIDE ON-THE JOB TRAINING:** Appropriate staff from NDG and TDC will be trained by the consultant in all of the processes mentioned above during the normal course of the assignment ("on-the-job" training) but not as individual training events.

7. **PRODUCE FINAL REPORT** highlighting findings, conclusions and recommendations for increasing grape exports.

D. PLACE OF WORK:

Based in Cairo with routine, daily field travel to the grape production areas.

E. DURATION OF ASSIGNMENT:

Two person-weeks, to begin on or about November 21 and be completed on or about December 4, 1993. A six-day work week is authorized, Saturday to Thursday.

F. REPORTING RESPONSIBILITIES:

The grape production/marketing advisor will report directly to and coordinate with the chief of party/management advisor for EED, John R. Miller.

G. PROPOSED CANDIDATE:

Sachar Karniel has the appropriate background and experience with the production and marketing of grapes for export. He is the owner of a grape and deciduous tree farm in Israel, as well as an independent consultant. He has undertaken similar assignments in Australia, Chile, and the United States, as well as Egypt, where he worked for Pico Farms in 1985 and 1986/90, advising on the production and marketing of grapes, bananas and strawberries for export. Between 1990 and 1993, he advised Robert Carian Enterprises of Coachella Valley, California, in all aspects of vineyard management, with an eye to European markets.

SE