OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.

DISCLAIMER

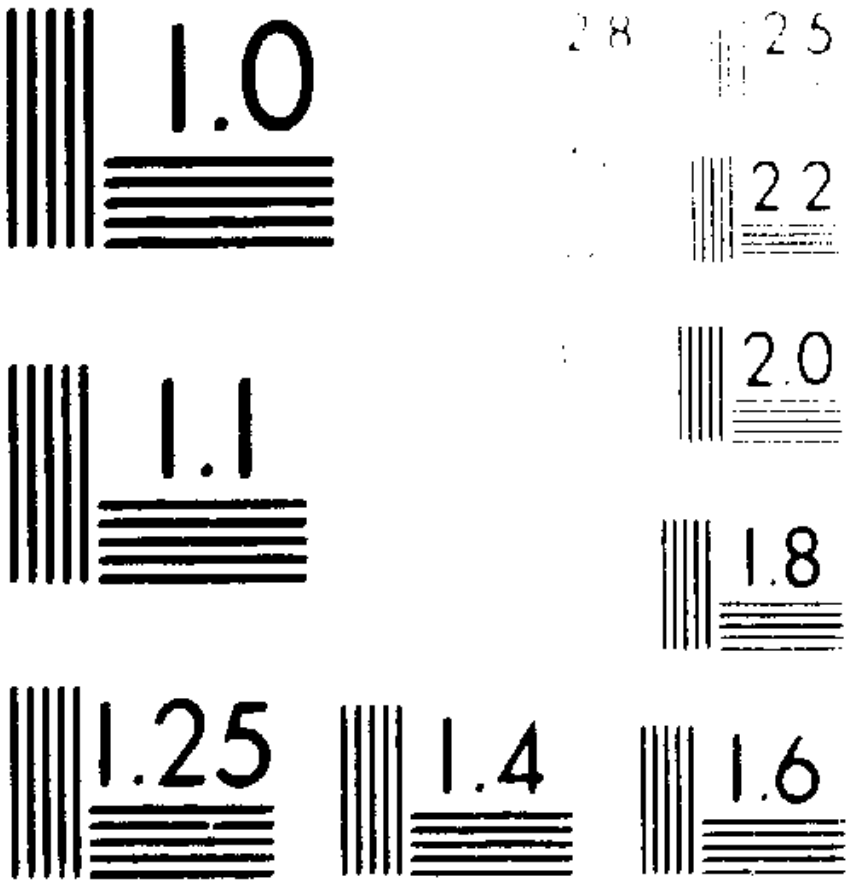
FAIR USE POLICY

CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
Vienna International Centre, P.O. Box 300, 1400 Vienna, Austria
Tel: (+43-1) 26026-0 · www.unido.org · unido@unido.org


1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8

10580

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

DP/EGY/77/004

PLASTICS DEVELOPMENT CENTRE

Report for the Government of Egypt

Mission findings and recommendations

13 to 22 April 1981

by

H.R. Spice

expert of the United Nations Industrial Development Organization acting as Executing Agency for the United Nations Development Programme

1. Introduction

This report can be considered as a continuation of the one made following the visit between 22 November and 19 December 1980 and contains some observations on trials which were initiated then as well as some established by PDC staff more recently.

Since last December two agricultural graduates have been appointed to the Plastics Development Center staff, and it is understood that they will be sent on 'plasticulture' tours abroad.

2. Visits

2.1. The farm of Mr. Mohamed Marzouk at KAFR EL DAWAR on which a trial 4 m. wide tunnel greenhouse was erected in December last. The greenhouse is currently being used for tomatoes (cropping), squash (cropping) and for raising tomato and aubergine transplants.

2.2. Two visits were made to the Nouharia Seed Company (Chairman- Mr. Hussein Shabara). On the second visit on 18 April a comprehensive slide talk was given to the staff, and on this occasion the representatives of the following Governments were present: Beheira, Sharkia, Dakholin and Guiza. The Director of the PDC considered the meeting a valuable publicity exercise. Some 60 slides were shown, these being a carefully chosen selection covering the major agricultural applications - copies of these slides have been made by UNIDO and are now permanently available to the PDC for subsequent talks.

2.3. University of Alexandria - Agricultural Department. Discussions took place with the Dean on mulching and silage.

2.4. Poultry Section, University of Alexandria. The PDC have made and erected the metal framework for a prototype poultry house to be clad with plastic film on the poultry farm of the University of Alexandria. Discussions on the type of cladding to be used, and the best method of ventilating the house took place with the Head of the poultry section.

2.5. Beef Industry Development Project, Mariut. This visit to an FAO sponsored project was disappointing insofar as the two principals were absent. However it seems from the Resident Representative that the project is interested in silage, and could be expected to have the expertise to make it correctly if wide seamless plastic sheeting can be made available to them.

3. Application Development

3.1. Plastic Mulching

Two trials were visited, one at the University of Alexandria farm, the other at the Nouharia Seed Company.

On both sites black films were being compared with white black laminated films, used with the white surface uppermost.

The trial at the University farm was on tomatoes and watermelons. The plastic mulch had been put down on very lumpy soil, which should have been broken down to a better 'tilth' before application. Several plants on both the mulched and control plots had died, and unless better field supervision can be obtained this trial is unlikely to yield worthwhile results.

The mulching trial at Nouharia had been established on a good tilth and results should be of value. Neither of the mulching trials had been in operation long enough to show any positive response.

3.2. Wide seamless perforated clear film over crops

Trials at two locations were started on the previous visit, on tomatoes and potatoes.

It was reported that in both trials excessive condensation formed on the under surface of the film, resulting in wet foliage. This low-cost method of crop protection should be tried again during the next cold season, with a more heavily perforated film.

3.3. Low tunnels

Generally favourable reports on better growth under low wire-supported plastic tunnels were noted. One grower commented that the low tunnels erected on his farm were not large enough for the tomatoes, which rapidly filled the protected area. In this case wider tunnels would be advantageous but the cost of the supporting hoops increases proportionally to the width of the tunnel.

4. Publicity - Leaflet preparation

Some assistance was given in the preparation and selection of photographs for use in a publicity leaflet which is in preparation to publicize the agricultural activities of the PDC.

A similar leaflet issued by CICA in Mexico was posted to the PDC from the UK on 30 April 1981.

5. Recommendations and Suggestions

5.1. Proposed conference 'Plastics in Agriculture' in December 1981

It is suggested that the following two American experts could make valuable contributions:

i) Mr. Bernarr J. Hall, University of California Extension Officer, San Diego County.

ii) Dr. Merle H. Jensen, Environmental Research Laboratory, University of Arizona.

These two experts could deal with low tunnels, windbreaks, mulching, drip irrigation, greenhouse crop production in arid lands and chemical soil sterilization (using plastics). Both have previously accepted UN missions, and Dr. O. Abugeid and Ms. Nosseir will have the opportunity of discussing their availability in Mexico in June.

5.2. Proposed consultant in canal lining

It is recommended that an engineer with practical field experience should be engaged. What is particularly required is someone who can advise on suitable wall slopes relative to the kind of protective covering (of cement, tiles, blocks or bricks) which are available in Egypt. A great number of canals have been lined with polyethylene sheeting in India and it seems likely that an Indian expert would prove suitable. An unofficial letter was sent to the Indian Petrochemicals Corporation to ask if they could suggest the name of a suitable candidate.

5.3. Wide seamless plastic film - availability in Egypt

It was not possible to establish precisely when wide polyethylene sheeting of Egyptian manufacture would be available. Many agricultural, horticultural, canal and reservoir applications require wide sheeting of at least 6 m seamless width.

5.4. Silage in plastic

Further discussion at the Agricultural Faculty of the University of Alexandria confirm the interest in and potential importance of this aspect of fodder conservation. Once wide polyethylene sheeting is available, the publication of a technical note on plastics for silage should be considered by the PDC.

5.5. Perforated flexible plastic land-drainage pipes

According to Mr. Cyril Brighton's recent report, 9,000 tons of PVC are currently used annually in Eg[illegible]r this application.

Enlightened Egyptian agricul[illegible]ts (e.g. the Dean of the Faculty of Agriculture University of Alexandria and the Chairman of the Noubaria Seed Company) are becoming increasingly aware of the need for land drainage. The PDC would be doing a good service to both agriculture and the plastics industry by publicisin the merits of this kind of land drainage.

5.6. Protective (reflective) paint which will adhere to polyethylene film

When plastic films are used to cover greenhouse structures their durability can be increased by painting the plastic on the outside at those places where the film is in contact with the supporting structure. The name and address of a French manufacturer of a special paint for this purpose has been sent separately to the PDC and is repeated here:

The paint is called LACQUER 'D'
Made by: SILVALLAC SMS
20, RUE VERMER
75017 PARIS

5.7. Training for the PDC Agricultural Staff

It is very important that the two recently recruited agriculturists should be fully aware of developments in 'plasticulture' already taking place in Egypt.

Two examples: 1) They should know where, why and how the 9,000 tons of PVC drainage pipes mentioned in 5.5. above are used each year.

2) They should be encouraged to visit the greenhouse project at Kaha at regular intervals throughout the year in order to be fully conversant with the growing techniques used there

5.8. Adhesive tapes for joining plastic sheets

Under section 7 of the previous report reference was made to Polyethene Pipe Wrap Tape, type 1408, made by Adhesive Tapes Ltd. of Borehamwood, Hertfordshire, UK. "Sellotape" is one of the trade names used by Adhesive Tapes Ltd. and they may export under this name.

A tape of similar quality is made by the Minnesota Mining and Manufacturing Co. (3 Ms). The 3M Company may have an agency in Egypt.

It is essential that the PDC are in a position to recommend an adhesive tape suitable for, for example, joining sheeting in reservoirs and canals, and for silage.

The main properties of such a tape are that it should be made from tensilized film plastic, be black in colour, be around 250 microns thick with an adhesive layer of about 50 microns. A convenient width is 7.5 cms and rolls are normally 30 m long.

Adhesive Tapes Ltd. advise they are not represented in Egypt, the nearest agent being in Dubai. Enquiries should be sent to: Sellotape Products Ltd., Export Dept., Borehamwood, Herts., UK.

6. Miscellaneous

At a brief 'debriefing' session with the Assistant Resident Representative on the eve of my return to the UK, a verbal request was made that a copy of the UN Report, 'Conditions of Life in Mexico' should be sent to the PDC for use prior to the departure for Mexico of the Director and Ms. Nosseir. This request is mentioned here in case a copy of the report is not available in the Cairo office.