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MALR Ministry Of Agriculture & Land Reclamation
USAID US Agency For Int. Development
APRP Agricultural Policy Reform Program
ARDI Reform Design and Implementation

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Policy and Procedures for Release of New Publicly Developed Crop Varieties in Egypt

by

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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
APRP	Agricultural Policy Reform Program
APSA	Asian and Pacific Seed Association
CAS	Central Administration for Seeds
CASC	Central Administration for Seed Certification
CASP	Central Administration for Seed Production
COP	Chief of Party
DAI/B	Development Alternatives, Inc./Bethesda
DUS	Distinctness, Uniformity, Stability
ESAS	Egyptian Seed Association
EU	European Union
FCRI	Federal Crops Research Institute (ARC)
GATT	General Agreement on Tariffs and Trade
GOE	Government of Egypt
GTZ	German Technical Assistance Agency
HSU	Horticultural Services Unit
ICARDA	International Center for Agricultural Research in Dry Areas
Kg.	Kilogram
LE	Egyptian Pound
LOE	Level of Effort
MALR	Ministry of Agriculture & Land Reclamation
MS	Mississippi
NARS	National Agricultural Research Center
NGO	Non-Governmental Organization
OVR	Office of Variety Testing & Registration
PBDAC	Principal Bank for Development & Agricultural Credit
PBR	Plant Breeders Rights
PVP	Plant Variety Protection
RDI	Reform Design and Implementation Unit
R&D	Research and Development
TOR	Terms of Reference
UPOV	Union for Protection of Plant Varieties

ACRONYM	DESCRIPTION
USAID	United States Agency for International Development
US\$	United States Dollar
VAAC	Variety Release Advisory Committee
VCU	Valve for Cultivation & Utilization
WANA	West Asia and North Africa
WB	World Bank
WG	Working Group
WTO	World Trade Organization

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Lawrence Kent, Agricultural Support Services Section, managed the consultation in a very professional, yet very flexible and considerate manner, from the initial discussions on the objectives and procedures through the final, rather frantic day trying to pull all the loose ends together. Fatma Khattab contributed greatly to the workshop and working group meetings and advised on the best ways to approach tasks and issues. Mohamed Zaki Gomaa helped with the workshop and provided much good information. Jane Gleason, Sayed Hussein, Edgar Ariza Nino, Ken Swanberg, Richard Magnani and Steve Joyce contributed in various ways as they have always done in the past.

I must also acknowledge the help of some special persons I have worked with for many years in Egypt and depend on for information and insights: Eng. Salah Wanis, retired Undersecretary of CAS and CASC and now consultant to the GTZ cotton project; C. Weisbecker, GTZ/IDGSPM (seed) project; H. Froemberg, GTZ/Seed Certification; M. I. El Hawary, CASC department head, presently on special assignment in another agency of MALR; and, of course, Dr. A. S. Gommaa, my associate in this consultation.

James C. Delouche

Cairo

March 25, 1999

POLICY AND PROCEDURES FOR RELEASE OF NEW PUBLICLY DEVELOPED CROP VARIETIES IN EGYPT

0. EXECUTIVE SUMMARY

0.1 Background

The development of improved crop varieties is arguably the most pivotal and important outcome of public investments in agricultural research. It follows, therefore, that decisions on when and how new crop varieties are introduced and made available, i.e., *released*, to farmers in areas where they are adapted are among the most important responsibilities of agricultural research organizations. Previously, the release of a public variety for multiplication and planting by farmers was a rather simple and direct process. An essentially “*open*” *variety release policy and procedure* was followed by public agricultural research agencies in most countries until the last 30 – 40 years, and they are still dominant in most developing countries, especially those that are least developed.

In recent years, however, many developing countries with substantial and relatively advanced agricultural research organizations have either revised their policy and procedures for the release of public varieties, or are seriously studying and considering revision. Liberal and progressive variety release policy and procedures, including exclusive releases, are increasingly viewed as important elements in establishing a favorable environment for a competitive, market-oriented seed industry.

0.2 Terms and Objectives of Consultancy

The GOE and the U.S. Government have agreed on a Tranche Benchmark in the APRP project for achieving the following reforms before June 1999:

“The GOE will issue:

1. Regulations and procedures on Plant Breeder’s Rights in accord with the relevant Union for the Protection of Plant Varieties (UPOV) convention;
2. Regulations for exclusive release of new seed varieties and inbred lines to private

companies and cooperatives. These regulations will include a competitive bidding process with safeguards to ensure that one firm cannot gain access to a large percentage of new seed varieties.”

This present consultancy of expatriate James C. “Curt” Delouche, Seed Industry Advisor, and Dr. A. S. Gomma, retired wheat breeder, former Undersecretary of CAS and consultant to the MALR, was organized to assist the GOE in the implementation of item 2. of the benchmark. The specific objectives of the consultancy were twofold: 1) Build understanding and consensus on the importance of formalizing policy and procedures for the release of publicly developed varieties in Egypt. This is achieved through disseminating information on variety release policy and procedures in other countries and in Egypt to key persons in the seed industry through written briefs, oral presentations, interactive workshops and working groups. 2) Assist a select working group representing ARC and other MALR agencies involved in the seed industry, ESAS and other private seed companies, and the Association of Egyptian Plant Breeders in preparing a comprehensive draft of policy, procedures and protocols for the release of varieties developed by ARC.

0.3 Activities

Home station activities before arrival in Cairo focused on collecting information on variety release procedures currently used in the developed countries (e.g. the U.S., EU countries, Australia), nearly developed countries (e.g. Brazil, Argentina and Chile), and developing countries (e.g. Thailand, India, Indonesia, Philippines, Morocco, Turkey and others). This information was collected through personal contacts by phone, fax and e-mail. A background paper on *Policy and Practices for Release of Crop Varieties Developed by National Agricultural Research Systems* (Annex D) was prepared using the U.S. experiences as a model to set forth the terms and rationale for the various variety release procedures used in the past and present.

Major activities after arrival in Egypt were interviews and informal discussions with key persons in the seeds sector, organizing and conducting a Variety Release Workshop for March 11 that was well attended, preparing a *Brief on Variety Release Policy and Procedures* (Annex B) for the workshop, and organizing a Variety Release Working Group (WG). A first draft of a policy statement on variety release based on discussions in the Workshop was prepared for discussion at the 1st WG meeting on March 14. The draft policy statement was then revised to take into account the discussions, agreements and concerns from the March 14 meeting to produce a draft of

Policy, Procedures and Protocols for Release of Public Varieties in Egypt for further discussion and debate at the 2nd WG meeting on March 18. Participation in both WG meetings was very good and very interactive.

0.4 Activities Outcome

The draft policy prepared for the March 18 2nd WG meeting was further revised following the meeting to incorporate suggestions and agreements from the meeting into a comprehensive statement on *Policy, Procedures and Protocols for Release of Crop Varieties Developed by the Agricultural Research Center (ARC)* (**Annex A**).

0.5 Recommended Follow-up

Translating the draft document on policy and procedures for release of varieties developed by ARC into policy decisions that can be implemented will require follow-up and additional efforts. Five to six key persons representing the public and private interests in ARC varieties should be retained by APRP/RDI as a Consultative Team on Variety Release. Their tasks will be further revising the policy statement to better suit Egypt's needs, and as might be necessary, serving as the advocacy group to enhance understanding and appreciation of the importance of a formalized variety release policy, and gaining support for its adoption and implementation. Several persons are recommended for service on the Consultative Team: Dr. Abdrabboh Ahmed Ismail is suggested as an excellent candidate for Team Leader, with Dr. A. Tantawi Badawi, Director, FCRI, ARC or Dr. A.S. Gommaa as a second member from ARC, and Dr. M. S. Radwan (Professor, Cairo University and President of the Association of Egyptian Plant Breeders) as members. The other two or three members should be from private seed companies (one or two), CASC or CASP (one). The consultative team's work should be completed by May.

POLICY AND PROCEDURES FOR RELEASE OF NEW PUBLICLY DEVELOPED CROP VARIETIES IN EGYPT

1. INTRODUCTION

1.1 Background

The development of improved crop varieties is arguably the most pivotal and important outcome of public investments in agricultural research. It follows, therefore, that decisions on when and how new crop varieties are introduced and made available (i.e., released) to farmers in areas where they are adapted are among the most important responsibilities of agricultural research organizations. Previously, the release of a public variety for multiplication and planting by farmers was rather simple and direct. When a plant breeder developed a superior genetic line, he and his organization prepared an application for registration and release of the candidate variety for submission to the New Varieties Release Committee authorized and constituted by the Director of the research unit. The Committee reviewed the application for acceptability and tested the candidate variety for distinctness, uniformity and stability (DUS) and also for crop value and utilization (VCU) when required. The test results and other evidence were reviewed. If favorably determined, the variety was recommended for release, registered in the official gazette, and foundation or basic seeds were allocated to eligible seed producers (e.g. registered and/or certified seed producers) who requested seeds for multiplication without restriction other than supply availability. The essentially “*open*” *variety release policy and procedure* described was followed by public agricultural research agencies in most countries until the last 30 - 40 years, and they are still dominant in most developing countries, especially the least developed.

In recent years, many developing countries with substantial and relatively advanced agricultural research organizations have either revised their policy and procedures for the release of public varieties, or are seriously studying and considering revision. Several factors are responsible for the shift in attitudes regarding the release and “commercialization” of new crop varieties:

- 1) The importance of marketing incentives, skills and promotional activities to gain widespread use of new and improved production inputs, including improved seed, is increasingly recognized and appreciated.

2) Plant breeder's rights (PBR) have been enacted in many countries and will be required for all WTO signatory countries within a few years.

3) Revolutionary discoveries and advances in genetic engineering of crop plants protected by PBR and utility patents are changing the nature, performance (or function), and value of improved crop varieties.

4) Public agricultural research funding is decreasing in many countries.

5) Agricultural policy reforms allow and promote private sector participation in seed production and supply and variety improvement research.

These factors, singly and in their interaction, require reforms in the policy and procedures governing the release of public varieties. These factors also provide opportunities for improvements in the efficiency and effectiveness of public variety releases that previously were either unavailable or socially and politically unacceptable. Although there have been some profound changes in the policies and procedures for release of public varieties, the over-riding principle remains the same: the public welfare benefiting both the producers and consumers of agricultural products.

The author notes that the procedures used by Egypt's Agricultural Research Center (MALR) are relatively liberal and progressive although very informal, and not as open, transparent, objective, consistent and equitable as they need to be.

1.2 Terms and Objectives of Consultancy

The GOE and the U.S. Government have agreed on a Tranche Benchmark in the APRP project for achieving the following reforms before June 1999:

“The GOE will issue:

1. Regulations and procedures on Plant Breeder's Rights in accord with the relevant Union for the Protection of Plant Varieties (UPOV) convention;
2. Regulations for exclusive release of new seed varieties and inbred lines to private companies and cooperatives. These regulations will include a competitive bidding process

with safeguards to ensure that one firm cannot gain access to a large percentage of new seed varieties.”

This present consultancy of expatriate James C. “Curt” Delouche, Seed Industry Advisor, and Dr. A. S. Gomma, retired wheat breeder, former Undersecretary of CAS and consultant to the MALR, was organized to assist the GOE in the implementation of item 2. of the benchmark. The consultancy was managed by Lawrence Kent APRP/RDI, with additional support provided by Fatma Khattab and Dr. M. Z. Gomaa. The specific objectives were essentially twofold:

- Build understanding and consensus on the importance of formalizing policy and procedures for release of publicly developed crop varieties in Egypt. This will be achieved by assembling and presenting information in an interactive format to key persons in the various segments of the seeds sector on: 1) the roles and functions of formalized release procedures for publicly developed varieties in both developed and developing seed industries; 2) the critical need in Egypt’s developing and transitional seed industry for the incentives and healthy competition associated with appropriate variety release policy and procedures; 3) the situation and experiences in other countries.

- Assist a select working group representing ARC and other MALR agencies involved in the seed industry, ESAS and other private seed companies, and the Association of Egyptian Plant Breeders in preparing a detailed draft of policy, procedures and protocols for the release of varieties developed by ARC.

The methods adopted for achieving the objectives were preparing briefs or papers, holding a workshop to introduce and explain the subject and build understanding and support, and holding working group meetings to construct a variety release policy appropriate for the organization and stage of development of Egypt’s seed industry, and determining the procedures and protocols needed for implementation. These methods were supplemented with formal interviews of key persons and informal one-on-one discussions with persons especially knowledgeable about the Egyptian seeds sector.

2. ACTIVITIES

2.1 Home Station (Starkville, MS, USA) Activities

Four days were spent at home station gathering information on current practices for release of publicly developed varieties in the U.S., Asia and Pacific Region, South America, North Africa and the Mid-East, and Europe. The information was gathered by phone and by fax. Contacts in Brazil, Argentina and Chile provided good information on developments in South America. The Asian and Pacific Seed Association (APSA), headquartered in Bangkok, faxed or e-mailed a simple survey on variety release practices and plans to India, Philippines, Indonesia, South Korea, and Malaysia. Contacts in Australia summarized the variety release practices and procedures in Australia and New Zealand. Information on North African and Mid-eastern countries was obtained from country reports on seed industry development published by the WANA Seed Network Secretariat in ICARDA. Information on the rapidly changing situation in the U.S. and Europe was obtained by personal visits (U.S.) and phone or fax. Since variety release policy and practices for publicly developed varieties in the U. S. either imitate those in other countries, (especially European countries) or are imitated in many countries, the history and current situation in the U. S. was used as a model for a reference brief on the evolution and rationale of the many types of variety releases. The experiences in other countries were then summarized against the background of the U. S. This background brief is in **Annex D**.

2.2 Interviews and Informal Discussions

Formal interviews were held with Roshdy M. Hassib, Head of CASP; Fawzy Z. Shaheen, Undersecretary of CASC; and Adel Yaseen, Chairman, Fine Seeds International, and a brief but critical visit with Dr. A. Tantawi Badawi, Director of Field Crops Research Institute, ARC. Informal discussions, mostly one-on-one and sometimes more than once, were held with Salah Abd El-Wanis, former Undersecretary of CAS, later CASC, and perhaps the most knowledgeable person on the seeds sector, Dr. M.. El Hawary, CASC Department Head presently on special assignment in another MALR agency and the best authority on seed legislation and regulations in Egypt; Dr. M..S. Radwan, Professor of Agronomy, Cairo University, and President of the Association of Egyptian Plant Breeders; Mr. Abdel Abboud, Managing Director, Nile Storage Company; C. Weisbecker and H. Froemberg, GTZ "seed" projects; Ron Krentz, Ag. Economist/Consultant; Azmy Z. Iskander, Misr Pioneer; Dr. Abdrabboh Ahmed Ismail, Consultant and retired Director of ARC's Field Crops Research Institute and Head of the National

Maize Program; and Dr. Sadek El-Shahat Sadek, Director, National Maize Program, ARC.

2.3 Variety Release Workshop, March 11 (see also Annexes B & E)

A Variety Release Workshop for March 11 was organized to 1) present information on methods and procedures for release of publicly developed varieties, 2) discuss experiences in Egypt and other countries, 3) promote understanding of the importance of formalized, equitable and transparent policy and procedures for releasing publicly developed varieties, and 4) generate interest in formulating and adopting formalized procedures for variety releases by ARC.

The workshop was announced well in advance with announcements sent to specific persons through ESAS, ARC, CASP, CASC. Attendance was very good (the APRP conference room was essentially filled) with major representation from ARC, several universities, GTZ, ESAS, many private companies, CASC, and APRP/RDI. CASP, however, was not represented although personal invitation was made during a visit several days before the workshop.

The workshop was conducted by consultant C. Delouche, Lawrence Kent, Fatma Khattab, and Dr. M. Z. Gomaa, APRP/RDI. APRP's Dr. Goldensohn and Eng. M. Nour welcomed the participants and made introductory remarks.

The participants were provided with *A Brief on Variety Release Policy and Procedures* prepared by C. Delouche with versions in both English and Arabic (**Annex B**). The brief defined *variety release* and *variety release procedure*, summarized attitudes, experiences and procedures in other countries, reviewed experiences and the situation in Egypt, and presented four variety release options for discussion. The main points in the brief were presented by C. Delouche using flip charts in English/Arabic and intermittent interpretation. The presentation was followed by a semi-structured discussion of major issues (e.g. advantages and disadvantages of the several variety release options). The discussion was very lively and recorded on flip charts. There was general consensus that the open and exclusive variety release procedures already used in Egypt were the most appropriate and should be continued, and that these procedures should be formalized regarding policy, protocols, conditions and administrative procedures rather than applied in an *ad hoc* manner as in the past.

A "working group" was organized representing the ARC, ESAS and other private companies, CASP, CASC, and GTZ, and a work session was scheduled for 14 March at 2 p.m. in the APRP conference room.

2.4 1st Working Group Meeting, 14 March (see Annexes C & E)

Eighteen persons participated in the March 14 Working Group (WG) meeting: 14 from ARC, ESAS and individual private companies, the universities, and the Association of Egyptian Plant Breeders, and four from APRP (C. Delouche, Lawrence Kent, M. Z Gornaa and Jim Fitch). C. Delouche chaired the meeting. The main points of discussion and agreement during the March 11 workshop were noted and summarized in Arabic for the 1st WG Meeting, and C. Delouche prepared a draft for discussion on *Policy and Procedures for Release of Public Varieties in Egypt* (Annex C). Some of the main points in the draft were highlighted for debate and discussion, viz., qualifications of seed producers; variety release options; responsibility for determining the procedure for release of varieties; the focus of the policy; procedures for tendering exclusive releases.

The WG agreed that:

- the qualifications for seed producers specified in Ministerial Decree No. 38 of 1997 should be the minimum qualifications for participating in variety releases;
- the policy and procedures should be designed for ARC, the only MALR agency involved in plant breeding and variety improvement. The universities should be encouraged to undertake applied crop improvement research but would need their own variety release policy;
- ARC must be responsible for implementing variety release policy and procedures since it is the developer of varieties;
- the open or general release option is favored for varieties of self-pollinated crops but exclusive releases should be considered for some varieties of important crops such as wheat and rice; the exclusive release should be used for hybrid varieties of maize including single cross varieties and for variety hybrids of other crops as they are developed by ARC;
- ARC should assess royalties for all varieties it releases.

There was discussion but substantial differences in views on procedures for tendering varieties for exclusive releases, the main criteria used for evaluation of “bids”, and on safeguards to

prevent the larger companies from “winning” the exclusive rights to all of the best varieties.

It was agreed that a second WG meeting would be held March 18 and that C. Delouche would revise the draft on *Policy and Procedures for Release of Public Varieties in Egypt* to complete it and take into account the discussions, agreements reached and concerns expressed in the WG meeting.

2.5 2nd Working Group Meeting, March 18 (see Annex E)

The second meeting of the WG was held on March 18. Fourteen persons participated: eleven from ARC, ESAS and individual private companies, the Universities and the Association of Egyptian Plant Breeders; and three persons from APRP (C. Delouche, Lawrence Kent, Fatma Khattab); Dr. M. Goldensohn was present at the beginning and urged the participants to consider carefully the policy and procedures and to seek agreement so that their recommendations could be taken into the agricultural policy reform process. C. Delouche chaired the work session and had extensively revised the draft discussed during the first WG meeting, taking into account the discussions, agreements and concerns expressed as directed by the WG. The original English version of the paper, *Policy, Procedures, and Protocols for Release of Crop Varieties Developed by the Agricultural Research Center (ARC)* (see Annex A for final revision) was distributed the day before the meeting and a rough Arabic translation was distributed at the beginning of the meeting.

The main points of discussion were the organization of a *Variety Release Advisory Committee* (VRAC) in ARC for implementing policy, procedures and protocols for the release of ARC varieties and the tendering process for exclusive releases.

There was general agreement that the VRAC membership should not exceed 10 people, that the Director of ARC should be Chairman *ex officio* with an ARC breeder as Vice-Chairman, four additional members from ARC, two members from the private companies (one from ESAS), one member from CASC and one member from the Association of Egyptian Plant Breeders. The procedure for tendering or auctioning exclusive releases prompted much discussion. The WG generally agreed that the process should be transparent and competitive but not to the extent that the small to mid-sized companies would be seriously disadvantaged. Several safeguards for ensuring balance and equity in awarding exclusive rights were discussed. Disqualifying the holder of an exclusive release from competing for additional exclusive releases of the same type (e.g., 3-

way cross hybrid variety of white maize if the holder has exclusive rights to a 3-way cross of white maize) was viewed as critically important by most of the participants. Reserving some varieties for competition restricted to “small” companies was suggested. Specifying the royalty that will be assessed for the variety in the tender rather than opening it for competitive bidding was strongly recommended by the WG to eliminate a big potential advantage for the large companies.

Some participants strongly expressed the view that the exclusive release procedures used by the ARC maize program in recent years for some 3-way cross hybrid varieties worked well and should not be abandoned for some other procedure. The response from others was that the procedures used were neither equitable nor competitive, and they were not transparent. They added that the responsible breeders who enjoy the respect and confidence of all parties in the maize seed industry could retire, move to other positions, or be replaced with others who might not be nearly as considerate and accommodating.

The meeting adjourned without considering a third WG meeting. It was agreed that Delouche would further revise the draft include discussions at the second WG meeting.

3. DRAFT POLICY, PROCEDURES AND PROTOCOLS (see Annex A)

3.1 Follow-up of March 18 WG Meeting

The draft on policy, procedures and protocols for release of ARC’s varieties was revised following the March 18 meeting of the Variety Release WG. The main revisions were in the sections on organization, composition, and duties of the VRAC, the conditions and terms for exclusive releases, the main criteria (information/data required of applicants on capabilities, experience, and plan) used for evaluation, the evaluation procedures, and provisions to ensure a reasonable balance and degree of equity between the larger and smaller companies in awarding exclusive agreements.

3.2 Draft Variety Release Policy for Implementation by ARC

The draft document *POLICY, PROCEDURES, AND PROTOCOLS FOR RELEASE OF CROP VARIETIES DEVELOPED BY ARC* specified in the TOR is in

ANNEX A.

3.3 Recommended Follow-up

Translating the draft document on policy and procedures for release of varieties developed by ARC into policy decisions that can be implemented will require follow-up and additional efforts. Five to six key persons representing the public and private interests in ARC varieties should be retained by APRP/RDI as a Consultative Team on Variety Release for further revision of the policy statement to suit Egypt's situation. If it is indicated during the review, the team would serve as the advocacy group to enhance understanding and appreciation of the importance of a formalized variety release policy, and gain support for its adoption and implementation. Dr. Abdrabboh Ahmed Ismail is suggested as an excellent candidate for Team Leader, with Dr. A. Tantawi Badawi, Director, FCRI, ARC or Dr. A.S. Gommaa as a second member from ARC, and Dr. M. S. Radwan (Professor, Cairo University and President of the Association of Egyptian Plant Breeders) as members. The other two or three members should be from the private seed companies (one or two), CASC or CASP (one). The consultative team's work should be completed by May.

4. GENERAL FINDINGS AND CONCLUSIONS

ARC's variety release policy is relatively liberal and progressive. Four 3-way cross maize hybrid varieties have been released on an exclusive basis and others are planned if HSU/CASP doesn't decide to retain exclusive rights to them. Single cross hybrid varieties have not been released on an exclusive basis because of concerns about "security" of the parental lines, but several good single crosses are now registered and could be released on an exclusive basis if not monopolized by HSU/CASP. Varieties of self-pollinated crops such as wheat and rice are released on an open or general basis, but there are precedents of exclusive variety releases for wheat and there is "open-mindedness" about exclusive releases for wheat, rice, faba and other self-pollinated crops when this type of release can be justified in terms of benefiting farmers and the developing seed industry. Although the variety release procedures used by ARC are progressive, they are not formalized and are not as transparent or as equitable as they should be. Mostly, they are *ad hoc*, involving personal relationships, political influence, and subjective judgements.

There is considerable understanding and appreciation of the importance of an equitable and transparent variety release policy/procedures (especially exclusive releases) in achieving high rates of

adopting new varieties and promoting healthy competition among seed companies in the important areas of marketing and seed quality. It is also recognized and appreciated that ARC will continue to be the main source of improved varieties of wheat, rice and other self-pollinated crops for the foreseeable future and an important source of parental lines of improved hybrid varieties. Support for formalized policy, procedures and protocols for the release of varieties developed by ARC is general and good, but not wildly enthusiastic. There is legitimate concern that, without appropriate safeguards to ensure a reasonable balance, adopting the rigorously competitive procedures for exclusive variety releases practiced in some developed countries could be very damaging to the small to mid-size seed companies.

The draft policy statement prepared (**Annex A**) contains some safeguards against concentrating the exclusive releases in a few large companies. Perhaps others will surface during the final review process. Certainly, the Consultative Team on Variety Release recommended should carefully examine safeguards and incorporate additional provisions that are in accord with the intent of the draft policy.

ANNEX A

Revision of Draft Prepared for the 2nd WG Meeting, March 18, Incorporating Suggestions Made at the Meeting

POLICY, PROCEDURES AND PROTOCOLS FOR RELEASE OF CROP VARIETIES DEVELOPED BY THE AGRICULTURAL RESEARCH CENTER (ARC)

PURPOSE

The development of improved crop varieties is among the most important and pivotal outcomes of public investments in agricultural research. Their rapid and orderly adoption by farmers in the areas of adaptation is in the high interest of the rural economy and the public welfare. Decisions on how and when new crop varieties are released for seed multiplication and distribution to farmers have great influence on the rate and extent they are adopted and put into production. The purpose of this statement is to establish policy and provide guidance on procedures and protocols for the release of crop varieties developed by ARC to ensure that they contribute significantly to the reforms and goals of the agricultural sector and that the potential benefits from adoption of the varieties by farmers are fully realized.

1. DEFINITIONS

In these policy and procedures statements, the meaning of the terms “*public variety release*,” “*variety release procedure*,” and “*qualified seed producer*” are as defined below:

Public variety release means the release of breeder and/or foundation seeds of a new, registered variety developed by ARC for multiplication, production and distribution to farmers.

Variety release procedure is a collective term that can have one, a combination, or all of the following meanings depending on the context of its use: the type of release; the terms and

conditions attached to the release; the protocols followed and the administrative procedures used in releasing a new publicly developed variety.

Qualified Seed Producer means a seed producer or seed company that is licensed for seed production in conformity with the conditions and requirements in Ministerial Decree No. 38 of 1997, Article 4. Additional qualifications may be imposed in selected cases as provided for in **Sections 2.4.2 and 2.8.1.A**

2. VARIETY RELEASE POLICY AND PRINCIPLES

2.1 Registered and Released Varieties. The type and conditions of release for varieties released prior to the effective date of these policies and principles shall remain in effect.

2.2 New Registered Varieties. New varieties of all crops developed by the ARC shall be released after completing the registration process in accord with the policy, principles and protocols decreed herein and the administrative procedures established by the competent authority designated in **Section 2.3** as responsible for their formulation and implementation.

2.3 Authority and Responsibility for Release of Public Varieties. The authority and responsibility for carrying out these policies and protocols relating to the release of ARC varieties (including the formulation of additional protocols as necessary and administrative guidelines for their full implementation) are vested in the Director of the Agricultural Research Center. The Director shall form a Variety Release Advisory Committee (VRAC) to assist and advise him in carrying out the duties assigned herein.

2.3.1 Membership of the VRAC. The VRAC shall consist of ten (10) members: Chairman *ex officio* (Director of ARC); a Vice-Chairman (who shall be an ARC plant breeder acting as Chairman in the absence of the Chairman *ex officio*); four (4) additional members from ARC with breeding backgrounds; two (2) members from the private sector (one from ESAS); one (1) member from CASC; and one (1) member from the Association of Egyptian Plant Breeders. The terms for all members except the Chairman *ex officio* and the Vice-Chairman shall be two (2) years. The Chairman *ex officio* shall appoint a recording secretary to maintain records of the VRAC and perform administrative work. .

2.3.2 Principal duties of the VRAC. The principal duties of the VRAC shall be 1)

recommending specific variety release procedures for newly registered varieties; 2) tendering or auctioning varieties recommended for the exclusive release procedure, and 3) evaluating proposals to the public tenders of varieties with selection of the best or “winning” proposal. The VRAC shall begin discussions and hearings leading to a recommendation of the release procedure for a candidate variety when it enters the third year of registration trials so that the recommendation will be available at the time it is legally registered for seed production and marketing. The recommendation and actions of the VRAC will be submitted to the Minister for concurrence before implementation.

2.4 Variety Release Options. The VRAC shall recommend one of the two variety release options specified in this section for each variety submitted to it for action. In exceptional circumstances and with adequate justification, it may recommend a variety release procedure different from the two options specified.

2.4.1 Open or general release of the variety. The variety in an open or general release shall be available to all qualified seed producers. Initially, foundation seeds shall be sold to all interested seed producers in the quantity each requests, provided that in cases when the supply of seeds is limited, distribution will be made on the basis of a producer’s experience and history in producing seeds of the crop kind to which the variety belongs. After initial distribution, foundation seeds of the variety will be distributed on the basis of orders for specific quantities of foundation seeds submitted by qualified seed producers on or before the date specified and with the specified advance payment. Five (5) percent of the foundation seed stocks shall be temporarily reserved up to the closing date for orders for new, start-up seed producers who are interested and capable but do not fully meet the specified seed producer qualifications in terms of experience or production history. (See Note 1)

2.4.2 Exclusive release of the variety. An exclusive release shall be awarded to a qualified seed producer represented by a company, two or more companies independent or in partnership, a cooperative, parastatal association or other entity for a specified period on the basis of an evaluation of proposals or bids received in response to a public tender or auction of the variety. The VRAC may, with adequate justification, impose special qualifications for applicants in addition to those specified in the definition of *qualified seed producer* in **Section 1**. The period, terms and conditions of the release shall be set forth in a *Material Transfer Agreement* between the ARC or the relevant research institute and the entity granted exclusive access to foundation or equivalent seeds of the variety. The quantity of foundation seeds produced and available for release and the

terms of release (e.g. price, down payment, royalties and fees) shall be specified in the exclusive release agreement along with penalties for non-compliance with the terms and conditions of the agreement or poor performance. The agreement shall be reviewed annually. (See Note 2)

2.5 Selection of the Variety Release Procedure. The over-riding principle in decisions and actions regarding the release of a public variety shall be the public interest and welfare in terms of benefits to both the producers and consumers of the produce of the variety. Several factors and circumstances need to be considered in deciding on the release procedure for a specific variety to assure adherence to this and other stated principles and to support and advance other reforms and objectives in the country's agriculture sector (e.g. a competitive, market-oriented input supply system). (See Note 3 for discussion of factors). These include:

- The kind of crop and its importance in the country's agriculture.
- The specific advantages and/or superiority of the variety over those presently in production.
- The adaptability of the variety.
- The number of varieties of the crop released and in present use and the dates of release; the number of varieties in the process of registration and/or available for release; and the number of promising advanced lines and their characteristics.
- The number of qualified seed producers interested in producing seeds of the variety.

As a general rule, all hybrid varieties should be released on an exclusive basis, while non-hybrid varieties of self-pollinated crops may be released either as an open or general release or as an exclusive variety release, depending on the specific factors and circumstances enumerated above.

2.6 Control and Maintenance of Public Varieties. The ARC and its research institutes and programs shall retain control of the variety and be responsible for maintaining the variety, producing breeder and foundation seeds and distributing breeder and/or foundation seeds according to the variety release procedure adopted.

2.7 Sale of Foundation Seeds and Royalties. Foundation seeds shall be sold for a premium above the price of registered and certified seeds. A reasonable schedule of royalties shall be levied on all new public varieties to supplement the support available for breeding, variety improvement and related research in the research institutes and programs of ARC and to provide substantial incentives for continued productivity of the scientists involved. The royalties or fees shall be assessed on the basis of the quantity of foundation seeds purchased by seed producers.

2.8 Public Announcement of Intention to Release a Variety. When the release procedure for a variety is approved, a public announcement of the release shall be made in the name of the Director of ARC so that interested persons (public and private, in the seed industry, including cooperatives, associations and farmers' groups) will be fully informed of its availability for multiplication and seed production. The announcement shall contain a general description of the variety, its advantages over varieties in present use, its area(s) of adaptability, the technology package needed for the variety, and the variety release procedure adopted.

2.8.1 Open or general release. When an open or general release procedure is adopted for a variety, the announcement should specify the time and procedure for requests for foundation seeds from qualified seed producers, the price of the foundation seeds, and the schedule of royalties or fees.

2.8.2 Exclusive release. When an exclusive release procedure is adopted for a variety, the initial announcement shall direct interested and eligible parties [see **Section 2.9.1A,2**] (e.g. companies, cooperatives, associations) to the VRAC for a detailed technical description of the variety and full information on and access to the public tendering or auction of the variety.

2.9 Protocols for Exclusive Variety Releases. The process of awarding an exclusive variety release shall be public, in accord with the policies, principles and protocols enunciated herein and administrative procedures established and published by ARC, the designated authority. This process should be fully transparent, equitably applied, and accessible to all interested and qualified parties.

2.9.1 Tendering of the exclusive rights to a variety. The public tendering of a variety shall be the preferred exclusive variety release procedure. The conditions and terms for the exclusive variety release, the specific proposals and the information/data required from applicants for the exclusive release shall be clearly and completely stated in the public tender document. These should include the specific conditions and terms of the tender and the information/data required from applicants which will be used in the evaluation of proposals.

A. Conditions.

1) Special qualifications required of applicants, if any, in addition to those specified in the definition of *qualified seed producer* in **Section 1** shall be clearly stated.

2) *Eligibility.* An entity (company, two or more companies, association, cooperative) holding an exclusive rights award for a variety shall not be eligible to participate in the competition for tendered varieties of the same crop during the period of the initial award, *viz.*, the first 5 years, unless a specific exemption is recommended by the VRAC, provided, however, that eligibility shall be restored after the initial period regardless of whether the renewal option for a second period of exclusive rights is used. In considering an exemption to the eligibility rule stated, VRAC may consider the general and specific characteristics of the tendered variety as compared to those of the variety presently held exclusively by the applicant (such as the maturity period, type of variety (e.g. double cross, 3-way cross, single cross), area of adaptability, the main use of the produce of the variety (e.g. food or feed), as well as the interest of other qualified entities in the tendered variety.

B. Terms.

1) The period of the exclusive release shall be five (5) years with first priority for renewal for a second five-year period to the original holder of exclusive rights, provided its performance has been satisfactory and it is interested in retaining exclusive rights.

2) The schedule of royalties and the method of calculation shall be stated.

3) The priority areas or regions of the country for distribution of the seeds shall be specified.

C. Information/data Required from the Applicant (principal criteria for evaluation)

(Note: **bold** numbers and (Xs) following each item refer to the weight given to each item with X equal to 1)

1) The organization, seed production/marketing experience, capabilities, production and processing locations and capacities owned or leased, and marketing areas of the applicant for the kinds of seeds it produces and markets. (X) (See Note 4, and Section 2.9.2, A)

2) Specific experiences and capabilities of the applicant in production, processing, and distribution/marketing of seeds of the crop kind to which the tendered variety belongs. (2X)

3) Promotional activities, advertisements, and dealer/customer service activities normally carried out by the applicant as part of its market promotion. (X)

4) The production, distribution/marketing, and promotional procedures the applicant proposes to use for the tendered variety if awarded the exclusive release.(2X)

5) General pricing policy including the usual price for certified seeds of the crop to which the variety belongs as a multiple or percentage of the commodity price of the equivalent grain.(1.5X)

2.9.2 Evaluation of bids and proposals. The proposals received in response to the tender of the exclusive rights to a public variety shall be evaluated by the VRAC with selection of the proposal it deems best for recommending exclusive release to the recipient. The recommendation shall be submitted to the Minister for concurrence before the award is made.

A. Evaluation Process. The information/data required from applicants in **Section 2.9.1, C** shall constitute the principal criteria for selecting the applicant recommended for awarding the exclusive release. For each of the five criteria, the evaluation shall be expressed on a ranked basis with 1 the lowest ranking and 9 being the highest ranking. A ranking of 0 shall be recorded for no response. A suggested weight for each of the six criteria is given in **bold** multiples of **X** at the end of the statement of each criteria. Members of the VRAC shall produce independent rankings for each proposal received, which shall be averaged to determine the highest ranking proposal. In case of a tie in rankings, the proposal to be recommended shall preferably be decided between or among the applicants involved. Failing agreement of the applicants, the proposal to be recommended shall be decided on the basis of a drawing in their presence.

B. Award of Exclusive Rights to a Variety. When the Minister's concurrence with the recommendation of the VRAC is received, a *Material Transfer Agreement* or contract (see Note 5) shall be negotiated between the ARC and the entity to be granted the exclusive rights and signed by both parties.

2.10 Review and Auditing of Holders of Exclusive Releases.

The performance of holders of exclusive variety releases shall be reviewed annually to determine if terms and specifications in the agreement are being observed and achieved. Deficiencies noted shall be directed to the attention of the holder of the release in question. A comprehensive audit of performance to include production and sales will be conducted at the end of the third and fifth (last) years. Substantial deficiencies in performance or irregularities that are not

corrected shall constitute sufficient cause for assessing penalties, which shall be rescinding the agreement, re-tendering the variety or declaring it an open release, and canceling the eligibility of the delinquent party for participation in future tenders until the end of the 5-year period of the award rescinded.

2.11 Alternatives to Achieve an Equitable Balance in Awards of Exclusive Releases

To achieve an equitable balance or a *more* equitable balance in awarding exclusive rights to varieties, the VRAC shall examine possible alternatives to the exclusive variety release procedures set forth in **Section 2.9**. Alternatives that should be considered include: setting minimum standards for **Items** (criteria) **1, 2, and possibly 3** in **Section 2.9.1,C** which if met would place an applicant on an equal basis with others meeting the minimum standards, thus reducing the effective criteria for evaluation to **Items 4 and 5**; reserving some varieties for restricted tendering only to companies judged to be small by some objective criteria; permitting several small companies to unite in responding to a tender; pairing large and small companies in proposals responding to tenders, with specified market area for the small company if the pair were awarded the release.

3. ADMINISTRATIVE PROCEDURES

ARC through the VRAC shall establish and publish additional protocols and administrative procedures as necessary, in conformity with the policies, principles and protocols set forth herein for their orderly and efficient implementation.

Notes:

1. There will be no start-up companies without some special provisions for them. Since it is in the interest of the MALR and ARC to stimulate competition in the production and marketing of seeds of its varieties, a small reserve of foundation seeds for start-up companies would be very helpful. ARC, of course, should also offer advice and assistance in seed production and related activities.
2. See **Section 2.10**, Review and Auditing of Holders of Exclusive Releases.
3. The several factors listed in **Section 2.5** can and should have a great influence on the choice of

variety release procedure. Private seed companies are usually not interested in exclusive rights for varieties of minor crops or in varieties of major crops with narrow adaptability. Thus, open release would be best for such varieties. It would probably not be in the national interest and politically unwise to award exclusive rights of a very superior variety to a single company (the high-yielding varieties that started the green revolution were released in a very open way). Varieties that are similar in productivity with some differences in adaptability are best for exclusive releases. The number of varieties in present use, their age, the number of varieties in registration and/or available for release and their characteristics provides much good information on the "environment" for exclusive releases. Exclusive releases can be an excellent and very effective instrument to stimulate and even force competition which in turn should increase the rate of adoption. However, care must be taken that exclusive releases do not turn into monopolies.

4. The criteria in **Section 2.9.1, C** are those generally used in developed countries with the addition of a bid of royalties. The latter would not be good for Egypt's present stage of seed industry development. In order to accommodate Egypt's conditions, the criteria would need to be carefully examined to determine if they need to be revised or others substituted

5. An example of an agreement is in **Attachment A**.

Revision: March 21, 1999.

ANNEX B

Variety Release Workshop, March 11, 1999

BRIEF ON VARIETY RELEASE POLICY AND PROCEDURES

Background

Genetic improvement of crop varieties has been an important tactic in the strategies for development of the agricultural sector in both developed and developing countries during the past 50 years. It is solidly based on Mendelian genetics “rediscovered” early in the present century, the discovery, cataloguing, preservation, recombination and manipulation of the genetic variation in economically important species, application of powerful statistical and mathematical analytical methods, the decoding of the structure of DNA in the 1950s, and subsequent revolutionary advances in molecular biology and recombinant genetics or “biotechnology.”

Presently, the development of improved crop varieties is arguably the most pivotal and important outcome of public investments in agricultural research. It follows, therefore, that decisions on when and how new crop varieties are introduced and made available, i.e., *released*, to farmers in areas where they are adapted are among the most important responsibilities of agricultural research organizations. Previously, the release of a public variety for multiplication and planting by farmers was a rather simple and direct process. When a plant breeder developed a superior genetic line, he and his organization prepared an application for registration and release of the candidate variety for submission to the Crop Variety Release and Registration Committee or Board (VRRC) authorized and constituted by the Minister of Agriculture or his equivalent. The Committee reviewed the application for acceptability and tested the candidate variety for distinctness, uniformity and stability (DUS) and also for crop value and utilization (VCU) when required. The test results and other evidence were reviewed and if determined to be favorable, the VRRC recommended registration (and release) of the variety for seed multiplication, production and planting by farmers. Registration of the variety was recorded in the official gazette, and foundation or basic seeds were allocated to eligible seed producers (e.g. registered and/or certified seed producers) who requested seeds for multiplication without restriction other than that imposed by the supply available. The essentially “*open*” *variety release policy and procedure* described was followed by public agricultural research agencies in most countries until recent times, and they are

still dominant in most developing countries, especially those that are least developed. The breeder and/or his organization are credited with development of a variety but the only ownership claim made is “public ownership”, and foundation seeds are made available to eligible seed producers without restriction.

In recent years, many developing countries with substantial and relatively advanced agricultural research organizations have either revised their policy and procedures for the release of public varieties, or are seriously studying and considering revision. Several factors are responsible for the shift in attitudes relating to the release and “commercialization” of new crop varieties:

- 1) The importance of marketing incentives, skills and promotional activities in gaining widespread use of new and improved production inputs, including improved seed, is increasingly recognized and appreciated.
- 2) Plant breeder’s rights (PBR) have been enacted in many countries and will be required for all WTO signatory countries within a few years.
- 3) Revolutionary discoveries and advances in genetic engineering of crop plants protected by PBR and petty patents are changing the nature, performance (or function), and value of improved crop varieties.
- 4) Public agricultural research funding is decreasing in many countries.
- 5) Reforms in agricultural policy allow and promote participation of the private sector in seed production and supply and variety improvement research.

These factors, singly and in their interaction, require reforms in the policy and procedures governing the release of public varieties. At the same time, these factors provide opportunities for improvements in the efficiency and effectiveness of public variety releases that in the past were either unavailable or socially and politically unacceptable. Although there have been some profound changes in the policies and procedures for release of public varieties, the over-riding principle remains the same: the public welfare in terms of benefits to both the producers and consumers of agricultural products.

Meaning of Variety Release

It is difficult if not impossible to define the term “variety release” in any rigorous way because its meaning differs depending on the technical level and circumstances of its use. In this workshop, related discussions and documentation, however, variety release refers to the release of breeder or foundation seeds of a new variety for multiplication, production and distribution to farmers(i.e., the transformation of the variety from research outcome to production input, or in other terms, the “commercialization” of the variety). Thus, the “effective” release of a variety occurs after it is registered and becomes legally available for commercial distribution.

Variety Release Reforms in Other Countries. Review of the reforms and changes in policies and procedures for release of public varieties in some other countries is very informative in illustrating the various options adopted or under consideration in both policy and procedures and in examining their apparent effects.

United States. The U.S. seed industry is rather unique because official registration of varieties is not required and seed certification is voluntary (an option) rather than compulsory. Plant breeder’s rights (PBR) have been available since 1970 and petty patents for specific genetic traits and breeding technologies since the mid-1980s. The very liberal policy regarding public variety releases and the procedures used are contained in “A Statement of Responsibilities and Guidelines Relating to Development, Release and Multiplication of Publicly Developed Germplasm and Varieties of Seed-Propagated Crops”, adopted by the Seed Policy Committee of ESCOP (State Experiment Stations’ Council on Policy). The policy addresses and recognizes the need for cooperation and free communication among the state experiment stations, the free exchange of germplasm among the stations and with the private sector, the importance of public accessibility to released varieties, the protection of germplasm and varieties through PVP or petty patent, and the responsibilities of the originating research organization for maintenance of the variety and the production of recurring and adequate supplies of breeder and foundation seeds. Several types of effective variety “releases” are recognized in connection with “basic principles in foundation seed programs”:

- 1) Open and unrestricted release of foundation seeds of unprotected varieties to qualified seed growers and companies at an equitable price;
- 2) Open and unrestricted release of foundation seeds of protected varieties to qualified

seed producers with or without royalties, but with a high price for the foundation seeds;

3) Open and unrestricted release of foundation seeds of varieties protected under Title V of the PBR Act, which can only be multiplied and marketed as a class of certified seeds, to qualified certified seed producers with or without royalties;

4) Exclusive release of foundation seeds of protected varieties to one or a limited number of seed growers or companies under specific terms for negotiated fees or royalties. Presently, this is the most common variety release procedure in the U.S.

Sale of the proprietary rights (ownership) of varieties and the sale/transfer of genetic lines to private companies or other experiment stations are not mentioned in the ESCOP policy and guidelines but are not prohibited and are rather common.

Australia and New Zealand. As a rule, all publicly developed varieties are 1) protected under PBR as intellectual property of the state, and 2) released under license as proprietary material on an exclusive seed production and marketing basis. Exclusive licenses are granted by public tender advertised in the public media. The bids of interested companies and associations must respond to technical and commercial specifications in the tender. The bids are evaluated and any negotiations with bidders carried out by the technical and commercialization sections of the public breeding firm offering the variety and the Seed Services Unit of the Department of Agriculture. The winning bidder then signs a licensing agreement (a legal document) with the public breeding firm. The period of the license varies from 5 to 20 years (the PBR period) depending on the kind of variety, its area of adaptability, and the prevalence of farmer-to-farmer seed trading. Although single companies can and do bid and win the rights to license a variety, the strong trend is toward consortia or associations. Royalties payable to the owner are based on the wholesale price: generally 10% of the wholesale price for forage species and 4–5% for field crops such as wheat, grain legumes and some oil seeds. The owning public breeding agency maintains the variety and produces the breeder seed. It either retains responsibility for production of foundation seeds or a supervisory responsibility for the foundation seeds produced by the company or consortia awarded the release.

Brazil. Brazil enacted PBR in 1998 and present policy is to protect all publicly developed varieties except those designed for small farmers in poor areas of the country and indigenous peoples (Indians). Public soybean varieties are released by the state or federal research agency to the soybean seed producers association in the state of adaptation (one association per state) under terms

of a protocol or agreement. Wheat varieties are released in a similar manner but to the wheat seed producers association or union in the state. Rice varieties are released to the highest bidder based on tenders with technical and commercial specifications. Royalties are negotiated and paid by the association or company awarded the exclusive release. The public research center maintains the variety and produces breeder seeds. In some cases it also produces foundation seeds, while in other cases foundation seeds are produced by the association, union or highest bidder under the supervision of the research center and the relevant certification agency. The development of hybrids of maize and other crops as well as hybrid seed production and distribution is completely in the private sector. The situation in **Argentina** and **Chile** is very similar.

India, Indonesia, Philippines, Thailand. These Asian countries have not enacted PBR but in each case PBR legislation is being prepared or is already before the parliament or its equivalent. Each country plans to protect public varieties, charge royalties for protected varieties and to seriously consider exclusive releases. Presently, the most common release procedure for the self-pollinated grain, grain legume and oil seed crops is the open and unrestricted type with the usual exception that foundation seeds are released only to "qualified" seed producers or companies. Royalties are not assessed. The price of foundation seeds can be substantial but still reasonable. The private sector in each of the countries is either dominant or very active in the development of hybrid varieties of maize and other crops and the production and distribution of hybrid seeds.

Turkey, Morocco, Tunisia. These countries require registration of varieties for seed production and marketing, and certification of seeds for important crop species is compulsory. Although much of the seed production is done by private producers in the three countries, distributing and marketing are still closely controlled for major seed kinds. In Morocco the National Seed Marketing Company (SONACOS) had the sole right until the mid-1990s to market seeds of winter cereals and to import seed of sugar beets. Presently, Morocco has a very progressive and liberal seeds sector policy and most varieties developed by the government institutions are released on an exclusive basis through competitive tenders. Distribution of cereal seeds in Tunisia is handled exclusively by the Office des Cereales, a state agency, while forage, food legume and vegetable seeds are marketed by private enterprises and cooperatives. In Turkey, which has PBR, seeds produced by the public sector are marketed directly by the producers (state farms) or through the agricultural credit cooperatives, while seeds of hybrid maize, sorghum, sunflower and the vegetables are introduced, produced and marketed by the private sector. Generally, variety release for publicly developed varieties is restricted to contract growers of state marketing enterprises for the major crops handled by them (i.e., cereals) and open and unrestricted for minor crops.

European Union. European countries have PBR, variety registration is required, and certification is compulsory for most major crops. Most of the variety release procedures described for the various countries above are used in the EU with the probable exception of the open and unrestricted type.

Egyptian Experiences and Options. Variety registration and seed production under certification are required in Egypt. PBR is not available but is before the People's Assembly for action. Variety release policy has generally been more progressive in Egypt and more experience has been gained with different procedures than in other WANA regions, South and East Asian countries. Most of the variety improvement research in Egypt is carried out by the Agricultural Research Center. A few agricultural universities are involved in plant breeding in a very limited way. Most importantly, some of the private companies are actively engaged in plant breeding for maize, sorghum and forage crops and have registered varieties in production.

Variety release policy and procedures in Egypt have evolved with the progressive reform of the seed sector. Twenty years ago all publicly developed, (i.e. ARC) varieties were released to the Central Administration for Seeds, the MALR's seed production administration. Maize composite varieties and maize parental lines for double cross hybrids began to be released to qualified private seed producers in the early 1980s with the decision to privatize maize seed production. Varieties of self-pollinated crops such as wheat, rice and faba bean began to be released to interested private companies in addition to CAS (now CASP) with reforms and liberalization of seed production in the early 1990s. During the past several years about four 3-way cross maize hybrid varieties have been released on an exclusive basis. It is also claimed that some wheat varieties have also been released on an exclusive basis.

Variety registration procedures were reformed and modernized by Ministerial Decree No. 82 in January, 1998, and a proposal was made in February, 1998, with apparent Ministerial concurrence whereby ARC produces breeder and foundation seeds of varieties it develops and delivers all of the foundation seeds to CASP in return for payments to include breeder's rights, royalties or fees, and production costs. In accord with our meaning of variety release (see above) this policy or procedure essentially constitutes the exclusive release of all new varieties to CASP as well as its control of all released varieties still in production. Further, CASP has apparently recently decided not to release foundation seeds of the self-pollinated crops but rather to produce registered seeds (exclusive basis) and release (sell) registered seeds to companies that want to produce certified seeds.

There is no question that ARC should apply for registration of varieties developed by its research units, claim and retain proprietary rights for its varieties when PBR becomes available, and produce adequate supplies of breeder and foundation seeds. It should also retain responsibility for release of the foundation seeds of a variety for multiplication, production and distribution (i.e. the effective release of the variety) in accord with Ministerial policy and guidance and by the procedure determined most favorable for maximizing the benefits of the specific variety to farmers and the country as a whole. The policy, guidelines, process and procedures for variety releases must be transparent and equitable, and they need to be documented and formalized.

Considering the wide diversity of crops produced in Egypt, the huge differences in the level of research devoted to each, and great variations in their importance in the agricultural economy, several variety release procedures as outlined below are necessary:

- **Open and unrestricted, without royalties.** This procedure is most suitable for very minor and specialty crops with little commercial potential due to limited area planted and a very slow rate of variety replacement; hence little market demand.
- **Open and restricted to qualified seed producers, with royalties.** This is the most common variety release procedure in Egypt for the major self-pollinated crops. It should probably continue to be a major variety release procedure until privatization of the seed industry is completed, but exclusive releases should also be made when circumstances are favorable (e.g. the availability of four or five new wheat varieties with roughly the same productivity but differing somewhat in adaptability and disease resistance).
- **Exclusive release with royalties.** Exclusive releases have been and are being made for 3-way cross maize hybrids and for at least one variety of wheat, always to a single company. The exclusive release procedure should be continued for maize hybrids to include single cross hybrids when PBR becomes available and security of the inbred lines can be assured through proprietary rights, or even before with appropriate safeguards. Exclusive releases should also be seriously considered for some of the new varieties of the major self-pollinated crops such as wheat, rice and faba bean, especially when PBR becomes available. Experiences in developed and developing countries show that the exclusive release of a variety of wide adaptability provides the best basis and economic justification for the investments in advertising promotional activities such as demonstrations and field days, market intelligence and marketing that are critical for gaining rapid and wide adoption of the variety by farmers. "Open" releases do not provide adequate incentives for substantial

investment in these sorts of activities because the participation of other seed companies in production and marketing of seeds of the same variety (competitors) diffuses the benefits. Any substantial demand for the seeds would attract more competitors with further dispersion of benefits, if not serious over-production and a ruinous price war. Exclusive releases can be made to associations, unions, partnerships, and cooperatives as well as to a single company. The breeder, e.g., ARC, would retain ownership of the variety, responsibility for maintaining the variety and production of breeder and foundation seeds. In some cases foundation seeds could be produced by the company or consortia awarded the exclusive release but under the supervision of the ARC breeder and, of course, the certification agency. Performance of the company or consortia awarded the exclusive release would be audited annually for adherence to the terms and specifications of the release. If performance does not meet minimum expectations and improvement is not made after appropriate notification, the agreement can be voided and the variety re-tendered. It should be noted that the exclusive release option is “theoretically” available in Egypt even in the absence of PBR, since variety registration and certification are required for seed production and marketing, and certification operates under a limited generation system.

- **Sale of ownership rights for varieties and lines.** ARC (or other public breeder) could sell the ownership rights to a legally registered variety it did not want to promote, or the rights to an advanced breeding line, perhaps a “sister” line of the line it plans to nominate for registration. The buyer would own the multiplication and production rights for the registered variety and would have to apply for registration for the breeding line it acquired in its own name. Many good sister breeding lines are discarded that could be promoted and marketed by a private enterprise with good benefits to farmers as well as to the enterprise.

It should be re-emphasized that for any of the variety release options used, the process should be public, in accord with published procedures, fully transparent, equitably applied and accessible to all interested parties. There must not be any secrecy in the process and favoritism in the award and terms of the release.

March 8, 1999

ANNEX C

Draft Paper for Review and Discussion by First Meeting of the Variety Release WG

March 14, 1999

POLICY AND PROCEDURES FOR RELEASE OF PUBLIC VARIETIES IN EGYPT

1. Meaning of Public Variety Release and Variety Release Procedure

The term public variety release is used in its practical or effective sense:

Public variety release. The release of a public variety means the release of breeder and/or foundation seeds of a new, registered variety developed by a public or government research agency (e.g. ARC and its institutes) for multiplication, production and distribution to farmers.

Variety release procedure. Variety release procedure is a collective term that refers to the type of release, the terms and conditions attached to the release, as well as the protocols followed and administrative procedures used in releasing a new public variety for multiplication, production and distribution of seeds to farmers for planting.

2. Variety Release Policy and/or Principles

A. New varieties of all crops developed by the ARC and other research units of the MALR should be released in accord with the policy, principles and general procedures decreed by the Minister and the administrative procedures established by the competent authority responsible for their implementation.

B. A sub-committee within the Crop Variety Registration Committee established under Ministerial Decree No. 82 of 1998 or a special Variety Release Advisory Committee (VRAC) organized within the Agricultural Research Agency (ARC) or institute but with appropriate representation of ESAS, private seed producers who are not members of ESAS, cooperatives, etc., could be designated as the responsible and implementing authority for variety release by Ministerial Decree. The VRAC would be responsible for 1) recommending the specific variety release

procedure for a new variety after its registration, 2) tendering varieties for exclusive release, and 3) evaluating proposals received in response to the tenders with selection of the best or “winning” proposal or bid. The VRAC should begin the discussions and hearings leading to a recommendation of the release procedure for the candidate variety when it enters the third year of trials so that the recommendation will be available at the time it is legally registered for seed production and marketing.

C. The VRAC should recommend one of the following variety release options for each variety directed to its attention. In exceptional circumstances and with adequate justification it could recommend a variety release procedure different from the two options given below.

- Open release of the variety. The variety in an open release is available to all qualified seed producers. Initially, foundation seeds of the variety are released to all interested and qualified seed producers in the quantity each requests, or in cases when the supply of seeds is limited, on the basis of the producer’s experience and history in producing seeds of the crop kind to which the variety belongs. Thereafter, foundation seeds of the variety should be distributed to qualified seed producers on the basis of indents for the quantity of seeds desired made by a specified date with specified advance payment. Special provisions are needed to make open variety releases accessible to new, start-up producers who are interested and capable but do not meet the specific producer qualifications in terms of experience or production history. The foundation seeds are sold for a reasonable premium above the price of registered and certified class seeds. Royalties or research enhancement fees can be assessed on the basis of the quantity of foundation seeds purchased, or, preferably, on the basis of the quantities (bags) of registered and/or certified seeds marketed.

- Exclusive release of the variety. A variety is released on an exclusive basis to an organization with orderly and adequate seed production and marketing experience and facilities. The exclusive release is awarded to a company, two or more companies in partnership, cooperative, or association for a specified period on the basis of a rigorous and objective evaluation of proposals in response to a public tender of the variety. The period, terms and conditions of the release are set forth in a Material Transfer Agreement or contract between the agricultural research center or institute and the entity granted the exclusive rights for multiplication, production and marketing seeds of the variety. Foundation seeds of the variety are released only to the holder of exclusive rights to the variety. The quantity of foundation seeds produced and available for release and the terms of release (e.g. price,

down payment, royalties and fees) are specified in the exclusive release agreement and reviewed annually with re-negotiations as needed.

D. The MALR research agency (e.g. ARC and its research institutes) that develops a variety should retain control of the variety and the responsibilities for maintaining the variety, producing and distributing breeder and foundation seeds according to the variety release procedure adopted. The variety should also be protected under the provisions of plant breeder's rights legislation when it becomes available with ownership rights assigned to the relevant research agency.

E. A reasonable schedule of royalties and/or research enhancement fees should be assessed on the variety released to supplement the support available for breeding, variety improvement and related research in the relevant institutes of the research agency (e.g. FCRI and/or the maize program of ARC) and provide substantial incentives for continued productivity of the scientists involved.

F. The over-riding principle in decisions and actions relating to the release of a public variety should be the public interest and welfare in terms of benefits to both the producers and consumers of the produce of the variety. Several factors and circumstances need to be considered in deciding on the release procedure for a specific variety to assure adherence to this and other stated principles and to support or advance other reforms and objectives in the country's agriculture sector. These include:

- The kind of crop and its importance in the country's agriculture (e.g. the area planted; use of the produce).
- The variety's superiority over those presently in production.
- The adaptability of the variety.
- The number of varieties of the crop released, their dates of release and their relative importance in terms of area planted; the number of varieties registered for release but not yet released; the number of varieties in the process of registration; and the number of promising advanced lines and their characteristics.
- The number of private companies interested in multiplying, producing and marketing seeds of the variety and their seed production and marketing experience and capabilities.

□ CASP's involvement and performance in producing and marketing seeds of released varieties of the same crop species.

G. When the release procedure for a variety is approved, an appropriate public announcement should be made by the Director of the Research Agency (e.g. ARC) or the head of the relevant research institute so that all persons, public and private, in the seed industry, cooperatives, and farmers' unions are fully informed of its availability for multiplication and distribution to farmers. The announcement should contain a general description of the variety, its advantages over varieties in present use, its area(s) of adaptability, and the variety release procedure adopted. When the open release policy is adopted for a variety, the public announcement or a special additional announcement should specify the time and procedure for requests for foundation seeds, the qualifications and other specifications required for companies, cooperatives, associations, or individuals requesting foundation seeds for multiplication, exceptions and special provisions for new start-up companies if applicable, the allocation procedures when the requests exceed the supply of foundation seeds, the price of the foundation seeds and terms of sale, and the schedule of royalties or fees.

H. When an exclusive release procedure is adopted for a variety, the initial announcement should direct interested parties (e.g. companies, cooperatives, associations) to the Variety Release Advisory Committee (VRAC) or relevant research center or institute (e.g. ARC and/or research institutes) for full information on and access to the public tendering of the variety, request for proposals or other method that is to be used to select the company, association, cooperative, or other eligible entity for the exclusive release.

I. The process of open and exclusive releases should be public, in accord with published procedures and protocols, fully transparent, equitably applied, and accessible to all interested and qualified parties.

3. Open Variety Release

(Released to qualified seed producers on request)

4. Exclusive Variety Release

A. Conditions, terms and specifications in the tender of information/data that must be provided by the applicant. The conditions and terms for the exclusive variety release and the information/data required from the applicant or bidder for the exclusive release are stated clearly and completely in the public tender or request for proposals for the variety. These could and/or should include the following conditions and terms and specifications of information/data that must be provided.

1) Conditions

- The minimum qualifications for organizations desiring to submit proposals or bids are clearly stated.
- The format for proposals, the procedure for submitting proposals and the closing date of the tender are stated.
- Unless a specific exemption is made by the Variety Release Advisory Committee, an entity (company, partnership, cooperative, association) holding an exclusive release is not eligible to submit a proposal for a second exclusive release of a variety of the same crop (e.g. a second variety of wheat). In deciding on an exemption to this rule, the VRAC will consider the general and specific characteristics of the tendered variety as compared to those of the variety presently held exclusively by the applicant, such as maturity period, type of variety (e.g. double cross, 3-way cross, single cross, area of adaptability) as well as the interest of other qualified entities in the tendered variety.
- _____

2) Terms

- The period of the exclusive release and provisions for its renewal are stated.
- The minimum acceptable schedule of royalties or research enhancement fees.

□ _____

3) Information/data to be provided by applicant in sufficient detail for evaluation of the capabilities, experiences, and intentions of the applicant relating to the variety tendered.

□ The organization, capabilities, production locations, processing locations and capacities owned or leased, and marketing areas of the applicant for the kinds of seeds it produces and markets.

□ Validated statement of the financial condition and resources of the applicant.

□ Specific experiences and capabilities in production and distribution/marketing of seeds of the crop kind to which the tendered variety belongs, including production areas and quantities, processing, packaging and storage facilities and/or arrangements, distribution and marketing channels.

□ System and procedures used to estimate market demand for seed.

□ Promotional activities, advertisements, and dealer/customer service activities that are normally carried out by the applicant as part of its market promotion and marketing activities for the seeds it handles.

□ General pricing policy including the usual price charged for certified seeds of the seed kind to which the variety belongs as a multiple of the commodity price of the equivalent grain (e.g. 2 X the grain price, 2.8 X the grain price, etc.).

□ The production, distribution/marketing and promotional procedures and activities that would be used by the applicant for the tendered variety if awarded the exclusive release.

□ The royalties or research enhancement fees proposed by the applicant, the basis for calculation, and the plan for disbursement of the revenues to agricultural research agency or institute.

□ _____

B. Evaluation of Bids and Proposals. The bids or proposals in response to the tender of the exclusive rights to a public variety can be evaluated by the VRAC with selection of the application or proposal it judges best for recommending the recipient for the exclusive release to the Director of the agricultural research agency or institute with the authority to enter into a material transfer agreement or contractual arrangement with the selected entity.

1) Evaluation Process

(Open for discussion by working group)

ANNEX D

POLICY AND PRACTICES FOR RELEASE OF CROP VARIETIES DEVELOPED BY NATIONAL AGRICULTURAL RESEARCH SYSTEMS

1. BACKGROUND

Genetic improvement of crop varieties has been the main component of most strategies for development of the agricultural sector during the past 50 years in both developed and developing countries. Crop variety improvement is solidly based on Mendelian genetics “rediscovered” early in the present century, the discovery, cataloguing, preservation, recombination and manipulation of the genetic variation in economically important species, development of powerful statistical and mathematical analytical methods, and, most recently, on advances in molecular biology and recombinant genetics or “biotechnology.”

The release of crop varieties is one of the most important decisions and responsibilities in agricultural research and development (R&D) organizations in both public and private sectors. In the case of government R & D, the release of a crop variety was a rather simple and direct process until relatively recently. Plant breeders made crosses, selected and evaluated the progenies for the traits and properties desired, and selected one or more lines for multi-location trials. When trial results were favorable, the breeder prepared a petition for release of the variety with accompanying trial data and a complete variety description for submission to the New Variety Committee or equivalent of his organization with membership representing technical, economic, extension, farmer, and seed industry interests. In some countries the decision to release a nominated variety was (is) based entirely on the petition, and accompanying performance and adaptability data. If the Committee approved release of the variety, the breeder or his organization gave the variety a name in accord with nomenclature protocols, an official variety release statement was prepared and published, and farmers and seed producers were informed about the availability of basic or foundation seeds for multiplication. In other countries with *testing and registration of varieties required for seed production and marketing* (as in Egypt), the release and registration procedures were (are) usually combined for publicly developed varieties since variety testing and registration is a government function. The breeder or his organization submits an application with relevant performance and adaptability data for registration and release of a candidate variety to a Crop Variety Release and Registration Committee with membership similar to that enumerated above. The Committee reviews the application for acceptability and enters the variety in distinctness, uniformity and stability (DUS) tests, and, most frequently, also in crop value and utilization (VCU)

tests. After the prescribed number and testing seasons and locations, the test results are reviewed by the Committee with decision to accept or reject the variety for registration which is tantamount to acceptance or rejection of the variety for “release.” Registration when approved is published in the official gazette and seed producers and farmers are informed about the availability of basic or foundation seeds for multiplication. A variety developed by a private company is subject to the same registration process as for public varieties, but, of course, the private company does not release the variety to others, and reserves foundation seeds for its own use.

An essentially “open” *variety release policy and procedure* was followed by government agricultural research agencies in most countries until recently, and they are still dominant in most developing countries, especially those that are the least developed. The *breeder and/or his organization were credited with development of a variety but the only ownership claim made was public ownership.*

The over-riding principle or priority in the release of public varieties is the public welfare or more specifically, benefits to the producers of agricultural products (the farmers) and benefits to the consumers of agricultural products directly or indirectly (the people).

2. HISTORY AND DESCRIPTION OF CROP VARIETY RELEASE POLICY AND PROCEDURES IN THE U. S.

Crop variety release policy and procedures in the U. S. have either imitated those originated in other countries or have been imitated in other countries and, thus, constitute a comprehensive “model” for the many options for release of public varieties. The U. S. “model”, therefore, is presented here in considerable detail and rough chronological order. Two interesting asides are that seeds of “new” varieties and crops were distributed by the U.S. Patent Office, among others, in the late 19th century and seeds of “new” varieties of crops, mainly vegetable crops, were distributed by Members of Congress through about the first three decades of the present century!

The U.S. has used a variety of methods and procedures for release of the different categories of germplasm¹ discovered, developed and/or improved by state and federal agencies.

¹The term “germplasm” is used in its broad sense to include individual plants and populations with specific genetic traits, breeding lines as well as varieties or “finished” germplasm.

Some are still widely used; others have been discarded. Some new methods are evolving due to diminishing appropriations for agricultural research and the different situations associated with germplasm and genetic materials developed and exploited through powerful new methods in biotechnology and molecular biology.

2.1 Meaning of Variety Release

The term “variety release” has different meanings depending on the technical and/or decision-making level and circumstances of its use. At the breeder’s level, variety release usually means the approval and naming of a candidate variety by an in-house “variety release” committee. Legally, variety release frequently refers to the approval of a candidate variety for registration in countries that require official registration of varieties and its recording in the official registry of varieties. In the practical and effective sense, however, a variety is released when it is made available for seed multiplication, production, and distribution; therefore, in this document “variety release” has the following meaning:

Variety release refers to the release of breeder or foundation seeds of a new variety to seed producers for multiplication, production and distribution to the farmers in the areas of its adaptation.

In an economic sense *variety release* is the change in status of a new variety from research outcome to production input, while in a business sense it can be considered as the *commercialization* of a new variety.

Variety release procedure is another term used in this document that requires definition and explanation.

Variety release procedure is a collective term that can have one, a combination, or all of the following meanings depending on the context of its use: the type of release; the terms and conditions attached to the release; the protocols followed and administrative procedures used in releasing a new publicly developed variety.

2.2 Types of Germplasm Released

Plant germplasm developed and improved by State and Federal research agencies have been (are) released in three forms:

- ***Basic genetic materials*** which can be single plant progeny, populations or races, or genetic lines containing some desirable genetic trait such as resistance to a specific disease, cold hardiness, tolerance to salinity, and so on.
- ***Parental lines*** which can be an inbred line, a recurrent parent line, or other special breeding line.
- ***Varieties*** or so-called finished genetic materials.

The guiding policy in release of *basic genetic materials* by state and federal research programs in the U.S. is the *sharing* of germplasm of economically important plant species (i.e. food, feed, fiber, industrial and ornamental crops). *Basic genetic materials* have been and are *exchanged* and *shared* among the public research agencies and with private sector research programs to promote and facilitate cooperation and research leading to the development of improved plant varieties. Generally, *basic genetic materials* are available to any bona fide plant breeder or relevant plant scientist or molecular biologist who requests them, free or for nominal fees. Special precautions are taken to ensure that *basic genetic materials* are not monopolized by any person or firm.

Varieties and inbred lines developed by government and/or publicly supported agricultural research and development units (R & D) are nominated for release and/or registration in accord with widely accepted policy translated into three guiding principles listed below:

- 1) The variety or inbred line released should be superior to existing varieties in overall performance in the areas of adaptability, superior to existing varieties in one or more characteristics that are important for the crop represented, or *novel* in some scientifically or economically significant way;

2) Technical and economic data on a nominated variety or inbred line is reviewed by a *Variety Review and Release Committee* of the responsible research with authority to deny (reject) release for reasons set forth in its decision or to approve the naming and release of the variety and the variety release procedure that is to be used. (*Note.* “Official” or legal variety registration is not required in the U. S., therefore, a new variety approved by the Committee is ready for multiplication and distribution.) In EU countries, Egypt and most other countries, however, a new variety approved by the originating research unit must be *registered*, a process that usually involves DUS and VCU trials, before it can be listed in the Registry of Official Varieties for which multiplication, production and marketing of seeds is officially authorized, i.e., legal.

3) The procedures and terms specified for the release of a variety for seed multiplication and distribution or an inbred line for producing a hybrid variety should ensure that adequate quantities of good quality seeds are available within a reasonable period for planting by farmers in the areas of adaptability so that the potential benefits to the farmers and public are realized.

2.3 Pre-Plant Breeder’s Rights (PBR) Releases

The procedures for release and commercialization of publicly developed crop varieties before the implementation of plant breeder’s rights (PBR) or plant variety protection in the U.S. beginning in 1970 (early 1960s in Europe) can be generally characterized as open and unrestricted although there were some noteworthy exceptions.

2.3.1 Open, Unrestricted Release

The traditional crop variety release policy and procedure can be characterized as “open” and “unrestricted.” A variety recommended for release by the Variety Review and Release Committee or its equivalent was released by the competent authority. The characteristics, advantages and areas of adaptability of the new variety were publicized along with information on the availability of foundation or basic seeds. Foundation seeds maintained by the research unit or a special department of the parent R & D agency were allocated on an equitable basis to seed producers who wanted to participate in seed multiplication and production, *usually experienced certified seed producers*. It should be noted that, in practice, open “unrestricted” releases could

be considered as “restricted” to the extent that criteria such as experience and minimum facilities were specified for allocation of foundation seeds to a producer. The research unit or public breeder that developed the variety was credited as the originator or creator, maintains the variety and arranges for foundation seed production, but *did not and could not claim ownership or defend proprietary rights because in the absence of PBR there is no legal basis for doing so*. Rather, public ownership was acknowledged and recognized. There were no restrictions on multiplication and production of the seeds for planting other than those that derived from seed laws and regulations (such as the required labeling of seeds marketed for specified characteristics and quality attributes, and/or the compulsory certification of seeds produced and marketed for planting).

Open, unrestricted releases of crop varieties have been essentially abandoned in the U.S. and other developed countries, are in decline in many of the middle-income countries, but are still dominant in the least developed countries.

2.3.2 Exclusive Release

It is interesting and rather ironic that the exclusive variety release was first used when the traditional open/unrestricted release was still dominant and plant variety protection (PVP) or plant breeder’s rights and the “protected” release were in the initial implementation stage in a few European countries and just beginning to be discussed in the U.S. The irony vanishes, however, and the concept of exclusive release of public varieties is appreciated as very imaginative and rational when the situation it was designed to address is considered and understood.

In the early 1960s the Alabama Agricultural Experiment Station (AAES) of Auburn University developed a variety of ladino white clover (*Trifolium repens*), named Regal, that was demonstrated in wide trials to be a superior cool season forage for the state's cattle industry. Based on previous experiences the AAES felt that if the traditional open, unrestricted release was used, the expected benefits to the cattle industry would either not be realized or realized only in a general way due to several factors. First, seed production for cool season forages is difficult and requires specialized equipment and facilities, as compared to wheat seed production. Clover seed production is very inefficient and risky in the humid southeast, i.e., Alabama, and had almost completely shifted to Oregon and Washington beginning in the late 1940s. Seed production in Alabama would be at best marginal and seed supply would probably not reach the level, stability, and quality needed by Alabama farmers. Second, it was unlikely that an Alabama-based seed company would take up the Regal variety, contract or arrange for seed production in Oregon, advertise and promote the variety among Alabama cattle farmers, knowing that if the venture was

successful other seed companies would enter into production in the same way to exploit and market it. This was the all-too-familiar case since there was no legal basis for claiming proprietary rights for crop plants other than vegetatively propagated ornamentals and fruit trees under the U. S. Plant Patent Law of 1931, which was not applicable. The usual sequence of results for open and unrestricted releases of varieties of forage and other specialty crops for which seed production is difficult or even impossible in the area of adaptation, was an initial abundance of seed producers, many without experience or commitment, a huge oversupply of seeds of dubious quality or seed production failures, collapse or saturation of a limited, non-promoted market, and demise of the variety within a few years, regardless of its merits.

The AAES decided to evade the usual consequences of an open, unrestricted release of a forage variety by using a different release procedure. It decided to request proposals from established seed companies in the state for the exclusive release of the Regal variety to the company with the best proposal as judged by its Variety Review and Release Committee (which included representation of economists, agri-business, cattle farmers, as well as the usual plant breeders, crop and animal scientists). The decision was very controversial. It was not surprising that many agricultural officials, scientists, and educators as well as farmers and farmer associations in Alabama and other states objected to the potential “enrichment” of a seed company through its selection for the award of exclusive rights (a monopoly) to a variety developed by a tax-supported research organization. It was felt that the company would take advantage of its monopolistic position and charge an exorbitant price for the seeds produced. The AAES took note of the criticism and fears but proceeded with the exclusive release. The award was made and its terms fulfilled. The variety was widely planted for forage in Alabama and in other Southeastern states with excellent gains in weight of cattle on the pastures. None of the fears of exclusive releases were realized. This can be attributed to terms of the exclusive release which were few and clear and the good business practices of the company awarded the release. The main terms of the release were:

- The AAES would maintain the variety (a synthetic), produce foundation seeds in Alabama to prevent genetic drift to adaptability to Oregon conditions, and supply foundation seeds to the company at a negotiated price which would reflect the value of seeds as the first stage in multiplication.
- The company would arrange for production of seed in Oregon under the Oregon certification system with cooperation of the Alabama Seed Certification Agency.
- Alabama farmers would have priority on the supplies of seeds produced in Oregon and

shipped into the Southeast. When the Alabama market was satisfied, markets could be promoted in other states where the Regal variety was adapted.

- The company would spend a specified percentage of gross sales on advertisement and promotional activities emphasizing “certified seeds” and targeted initially at Alabama farmers and then also to farmers in other states when adequate supplies of seeds were assured. The Alabama Extension Service would also promote the value and use of high quality certified seeds to dampen attempts at local seed production from pastures and non-certified seed production in Oregon for sale in Alabama and the Southeast.
- The AAES would not charge a royalty but would accept grants from the company and its retailers for forage research including breeding when justified by sales and profits.
- The AAES through its business unit would audit the company's books annually and by an outside auditor every three years.

Following the exclusive release of Regal Ladino White Clover, other states, especially those in the humid Southeast, began to award exclusive releases of varieties mainly of cool season forage crops (e.g. ryegrass, alfalfa (lucerne), various clovers, vetches) for which local seed production was difficult and very risky. The exclusive releases have not been restricted to individual seed producers and/or companies but also awarded to seed producer associations, cooperatives and foundations¹. In every case the rationale was the same as that of the AAES when it took the decision to release Regal ladino white clover on an exclusive basis.

Varieties of self-pollinated crops such as wheat, soybean, peanuts, and inbred lines of maize and sorghum were not released exclusively in the U.S. until after enactment of the Plant Variety Protection in 1970. There were two main reasons for continuing open/unrestricted releases for these sorts of crops until the PVP Act came into force. First, seed production in the area of

¹The most prominent “foundations” associated with land grant universities that have long been involved in exclusive releases of varieties developed by the associated AES and/or exclusive rights to produce foundation seeds of AES varieties are Illinois Foundation Seeds, University of Illinois, which has evolved into a major seed company with its own breeders, and the Purdue Agri-Alumni Foundation which produces foundation seeds for all varieties developed by Purdue University's (Indiana) AES.

adaptability and use is neither difficult nor overly risky for “grain” crops since grain with a little care becomes seed and most farmers used on-farm produced and saved seeds for planting in most seasons. Second, farmers and politically potent farmer associations and most agricultural officials, scientists, and educators (public sector) were opposed to the award of proprietary (ownership) rights for varieties then (latter half of the 1960s) and would have strongly objected to exclusive varieties of major crops such as those listed above. Once the debate on proprietary rights for plant varieties was settled with the signing of the PVP Act by President Nixon in 1970, exclusive releases with and without “protection” began to be widely used for all sorts of crops. These are discussed under “protected releases” in the next section.

It should be noted that exclusive release arrangements were used in some European countries before PBR for some crops including self-pollinated crops. The exclusive arrangements, however, were with Farmers' Unions, Cooperatives or similar government promoted or “sponsored” groups.

2.4 Protected Releases

Enactment of the PVP in 1970 provided the proprietary rights required to permit an acceptable return on investments by private companies in variety development and improvement research for the self-pollinated grain, grain legume and oilseed crops. Many became involved, especially for the major soybean crop, but also for wheat, barley, oats. The State Agricultural Experiment Stations (SAES) and the USDA's Agricultural Research Service, long and heavily involved in variety improvement and related R & D for all major crops, were confronted with the decision to continue with open/unrestricted releases for major crops and restricted or exclusive rights for specialty crops, or obtain proprietary rights (protection) under the PVP Act. Some SAESs decided against protection and followed this course for the next decade and even longer. Most, however, either opted for protection when it became available or began to do so within a few years. SAESs opting for protection were immediately confronted with decisions on options relating to the exercise and management of the ownership rights secured for its varieties: 1) exercise and manage the ownership rights of a protected variety in the name of the public, like a public patent, with the same effect as an open/unrestricted release except that protection would prevent an unscrupulous person from applying for and obtaining protection of the variety under his/her name (i.e. stealing the variety); 2) make a protected variety available to qualified seed producers (non-exclusive basis) with permission or through licensing arrangements, with assessment of royalties or fees based on the quantity of foundation seeds purchased or the number of seed units

produced for marketing; 3) release or license a protected variety on an exclusive basis to a seed company, seed association, production or supply cooperative or foundation for a negotiated license fee or royalty on production and under terms assuring benefits to the public (farmers); 4) transfer or sell the rights of a protected variety to a qualified bidder with the most favorable proposal with or without reserving responsibility for maintenance of the variety and production of foundation seeds; and 5) sale of finished germplasm (i.e. a variety-to-be) before protection for an asking price or highest bid, with decision and actions on protection left to discretion of the new “owner.” All of these options have been and are being used by the SAESs and the USDA. New options are evolving in response to the patent protection of specific genetic traits.

2.4.1 Protected “Public Interest” Release

Some SAESs and the USDA began to protect varieties developed by their research units soon after enactment of PVP and then declared the variety accessible to the public without restriction, other than granting established seed producers first priority to foundation seed supplies. This practice greatly diminished as experience was gained with proprietary rights for crop varieties, problems anticipated did not arise, and the funding of public agricultural research was reduced. Nevertheless, the procedure is still sometimes used by some SAESs for some crops under certain circumstances. It is still an option favored under rather special circumstances. This sort of protected release in the interest and for the benefit of the public has essentially the same effects and results as the traditional open/unrestricted release. All bona fide seed producers can acquire foundation seeds for multiplication and production and can market the seeds produced without specific permission, royalties, or other restrictions other than those provided in the seed law and certification regulations for production and marketing of all kinds of seeds. The SAESs or USDA protect the variety not to restrict access to it but to prevent an unscrupulous person from “claiming” the variety, renaming it, and applying for protection in his name (i.e. stealing the variety).

2.4.2 Protected Public Interest Release with Required Certification

Title V of the PVP Act of 1970 which continues in the amendments of 1994 provides an option restricting the production of seeds of the protected variety to a class of certified seeds. The effect is to make certification compulsory for the variety, rather than voluntary, as it is for varieties of all crops that are not protected or protected without specification of the Title V option. This type of release has effects and benefits only in countries where certification of seeds produced and

marketed is voluntary rather than compulsory or required for most kinds of seeds as in the U.S. Certification of seeds produced and marketed is required in Egypt and countries of the EU for most kinds of seeds. Thus, there is no need for a legal provision such as Title V in their plant breeder's rights laws and/or regulations.

2.4.3 Protected Release with Royalties

There were some cases of royalty charges on public varieties before enactment of PVP (e.g. some SAESs charged a royalty to private companies using their inbred lines in maize and sorghum hybrids, or alternatively established a very high price for breeder or foundation seeds which they controlled). After enactment of PVP, protected variety releases with assessment of royalties on multiplication and production became the most common variety release procedure. Bona fide seed producers (companies) are granted permission to multiply, produce, and market seeds of a protected variety with execution of the sales agreement for foundation or registered seeds available by the owner AES or its authorized representatives, requiring the purchaser (seed producer) to agree to pay the established royalty or fee to the owner AES. When the protection does not include the Title V option (i.e. certification is not required), the royalty or fee is usually assessed on the foundation or registered seeds purchased from the owner. For varieties protected under the Title V option (i.e. seeds can only be marketed as a class of certified seeds) the royalty is usually assessed on the number of seed units (standard volume packages) certified by Certification Agencies. The Agency collects the royalty as an add-on to the certification fee, retains an agreed-to percentage for its services as an auditor and fee collector, and transfers the remainder to the owner AES. *Example:* the seed certification agencies in six southern states collect the royalty assessed by the Virginia AES on its protected Hutchinson variety of soybean based on the units (60 lbs.) certified in their state, retain 10% for services rendered, and send the remaining 90% to the Virginia AES. The general lessening of appropriated support of SAES and the USDA research units has increased both the role and importance of royalties on varieties and other "inventions" for support of public agricultural research agencies. This trend is similar in most developed countries and in many of the larger, more agriculturally advanced developing countries such as China, Ukraine, Brazil, and Argentina.

2.4.4 Protected Release with Exclusive Assignment of Rights

The *assignment of the rights* for production and marketing of seeds of a protected variety for a specific period to a seed company, association, cooperative, foundation, or other entity *on an*

exclusive basis for negotiated royalties or fees is similar in procedure to the exclusive releases before PVP enactment with the exception that the variety is protected or owned. The seed production and marketing rights are tendered under specific terms to interested and qualified companies, associations, cooperatives and foundations. The offers or bids received are reviewed and evaluated by a committee (usually the Variety Release Committee or its equivalent) with recommendation to award the seed production and marketing rights for the variety to the entity submitting the proposal judged to best fulfill the terms of the tender and offer the highest returns in the form of fees and/or royalties. The rights assigned are usually limited to those involved in “commercialization” of the variety, production and marketing of seeds to farmers with the owner AES retaining responsibilities for maintenance of the variety and production of foundation seeds. The assignment of rights is reviewed as the end of the specified period approaches (usually five years), with extension of the period if both parties are satisfied or re-tendering and re-assignment of the rights if there is dissatisfaction or loss of interest on the part of the award. In some countries (e.g. Australia, Brazil, and Japan) the transfer of rights is restricted to seed producer associations, cooperatives and similar groups, or such groups are favored in the evaluation and award process. This avoids the criticism and controversy that can and often does attend the award of rights to a seed company, especially a large privately owned seed company.

2.5 Public Variety Associations

After enactment of Plant Variety Protection the entry of large seed companies in breeding, variety development and seed production/marketing of the self-pollinated crops (mainly soybean and wheat) seriously disadvantaged many of the small to mid-sized seed companies that produced seeds of these crops. The situation became even more serious as the SAESs began to withdraw from variety development in favor of private companies and concentrate on basic genetic research. Beginning in the 1980s small to mid-size seed companies began uniting in corporate associations (e.g. Public Varieties, Inc.) to bring pressure on SAESs to continue variety improvement research and offer a relatively large outlet for “exclusive” releases of the SAESs varieties. Some of these corporate associations have been very successful and pay a lot of royalties to SAESs to finance large breeding and variety improvement programs. Recently, a multi-state (eight southeastern states) public service corporate association was formed, UNI-SOUTH GENETICS, INC., by the Certification Agencies in the member states. Their objective was competing for exclusive variety releases from the different SAESs for commercialization by its associate member shareholders who are the qualified seed producers who joined UNI-SOUTH before the close of membership and bought a substantial share of the corporate association. The idea is that the qualified and

experienced seed producer associate members will produce and market the seeds, and UNI-SOUTH will carry out large scale and targeted market promotions and supervise quality assurance.

3. SITUATION AND EXPERIENCES IN OTHER COUNTRIES

3.1 Australia and New Zealand

As a rule, all publicly developed varieties are 1) protected under PBR as intellectual property of the state, and 2) released under license as proprietary material on an exclusive seed production and marketing basis. Exclusive licenses are granted by public tender advertised in the public media. The bids or proposals of interested companies and associations must respond to technical and commercial specifications in the tender. The bids are evaluated and any negotiations with bidders carried out by the technical and commercialization sections of the public breeding firm offering the variety and the Seed Services Unit of the Department of Agriculture. The winning bidder then signs a licensing agreement (a legal document) with the public breeding firm. The license varies from 5 to 20 years (the PBR period) depending on the kind of variety, its area of adaptability, and the prevalence of farmer-to-farmer seed trading. Although single companies can and do bid and win the rights to license a variety, the strong trend is toward consortia or associations. Royalties payable to the owner are based on the wholesale price (generally 10% of the wholesale price for forage species and 4-5% for field crops such as wheat, grain legumes and some oil seeds). The owning public breeding agency maintains the variety and produces the breeder seed. It either retains responsibility for production of foundation seeds or a supervisory responsibility for the foundation seeds produced by the company or consortia awarded the release.

3.2 Brazil, Argentina and Chile

Brazil enacted PBR in 1998 and present policy is to protect all publicly developed varieties except those designed for small farmers in poor areas of the country and indigenous peoples (Indians). Public soybean varieties are released by the state or federal research agency to the soybean seed producers association in the state of adaptation (one association per state) under terms of a protocol or agreement. Wheat varieties are released in a similar manner but to the wheat seed producers association or union in the state. Rice varieties are released to the highest bidder based on tenders with technical and commercial specifications. Royalties are negotiated and paid by the association or company awarded the exclusive release. The public research center maintains the

variety and produces breeder seeds. In some cases it also produces foundation seeds, while in other cases foundation seeds are produced by the association, union or highest bidder under the supervision of the research center and the relevant certification agency. The development of hybrids of maize and other crops as well as hybrid seed production and distribution is completely in the private sector. The situation in **Argentina** and **Chile** is very similar.

3.3 India, Indonesia, Philippines, Thailand

These Asian countries have not enacted PBR but in each case PBR legislation is being prepared or is already before the parliament or its equivalent. Each country plans to protect public varieties, charge royalties for protected varieties, and to seriously consider exclusive releases. Presently, the most common release procedure for the self-pollinated grain, grain legume and oil seed crops is the open and unrestricted type with the usual exception that foundation seeds are released only to “qualified” seed producers or companies. Royalties are not assessed. The price of foundation seeds can be substantial but still reasonable. The private sector in each of the countries is either dominant or very active in the development of hybrid varieties of maize and other crops and the production and distribution of hybrid seeds.

3.4 Turkey, Morocco, Tunisia

These countries require registration of varieties for seed production and marketing, and certification of seeds for important crop species is compulsory. Although much of the seed production is done by private producers in the three countries, distributing and marketing are still closely controlled for major seed kinds. In Morocco the National Seed Marketing Company (SONACOS) had, until the mid-1990s, the sole right to market seeds of winter cereals and to import seed of sugar beets. Presently, Morocco has a very progressive and liberal seeds sector policy, and most varieties developed by the government institutions are released on an exclusive basis through competitive tenders. Distribution of cereal seeds in Tunisia is handled exclusively by the Office des Cereales, a state agency, while forage, food legume and vegetable seeds are marketed by private enterprises and cooperatives. In Turkey, which has PBR, seeds produced by the public sector are marketed directly by the producers (state farms) or through the agricultural credit cooperatives, while seeds of hybrid maize, sorghum, sunflower and the vegetables are introduced, produced and marketed by the private sector. Generally, variety release for publicly developed varieties is restricted to contract growers of state marketing enterprises for the major crops handled by them (i.e. cereals) and open and unrestricted for minor crops.

3.5 European Union

European countries have been leaders in developing innovative legal and business provisions for its seed production and supply system. Farmers' Unions and Cooperatives have long been very strong and favored by government agencies involved in agriculture. Official variety registration and official variety lists have long been part of the European agricultural scene. Royalties were assessed on public varieties before PBR began to come into effect in Western and Northern Europe in the early 1960s. Phytosanitary requirements have been and are rigorous, perhaps more rigorous than scientifically justified. Certification is compulsory and "state sealing" of seed packages was common well into the second half of this century. Most of the variety release procedures described for the various countries above are used in the EU with the probable exception of the open and unrestricted type.

Egyptian Experiences and Options.

Variety registration and seed production under certification are required in Egypt. PBR is not yet available but is before the People's Assembly for action. Variety release policy has generally been more progressive in Egypt and more experience has been gained with different procedures than in other WANA regions, South and East Asian countries. Most of the variety improvement research in Egypt is carried out by the Agricultural Research Center. A few agricultural universities are involved in plant breeding in a very limited way. Most importantly, some of the private companies are actively engaged in plant breeding for maize, sorghum and forage crops and have registered varieties in production.

Egypt is also at a crossroads. It needs to adopt a formalized but flexible policy and procedures for release of varieties developed by ARC so that their rate of adoption will be maximized through healthy competition, market promotion, and hard selling, which in turn require appropriate variety release procedures.

The Egyptian situation will be examined much more closely in the present consultation with the objective of developing a draft of policy and procedures for release of varieties developed by ARC that will help establish a more favorable environment for seed industry development in Egypt.

Prepared: February 27, 1999

ANNEX E

Workshop Notes

(prepared by C. Delouche)

WORKSHOP ON PLANT VARIETY RELEASE

03/11/99, 2 p.m., APRP Conference Room

C. Delouche, LK, FK, MZG, APPR/RDI

Purposes: to present information on methods and procedures for release of publicly developed varieties; discuss experiences in Egypt and other countries; promote understanding of the importance of formalized, equitable and transparent methods for releasing publicly developed varieties; generate interest in formulating and adopting formalized procedures for variety releases by ARC.

Attendance: The workshop was announced well in advance with announcements sent to specific persons through ESAS, ARC, CASP, CASC and direct. Attendance was very good (the conference room was essentially filled) with major representation from ARC, several universities, GTZ, ESAS, many private companies, CASC, and APRP/RDI. CASP, however, was not represented although personal invitation was made during a visit several days before the workshop.

The Workshop:

- The workshop was conducted by consultant C. Delouche, LK, MZG, and FK of APRP/RDI. APRP's MG and Nour welcomed the participants and made introductory remarks.
- The participants were provided with *A Brief on Variety Release Policy and Procedures* prepared by C. Delouche with versions in both English and Arabic. (Annex B). The brief defined *variety release* and *variety release procedure*, summarized attitudes, experiences and procedures in other countries, reviewed experiences and the situation in Egypt, and presented four variety release options for discussion. The main points in the brief were presented by C. Delouche using flip charts in English/Arabic and intermittent interpretation. The presentation was followed by a semi-structured discussion of major issues such as advantages and disadvantages of the several variety

release options. The discussion was very lively and recorded on flip charts. There was general consensus that the open or general and exclusive variety release procedures already in use in Egypt were the most appropriate and should be continued, and that these procedures should be formalized in terms of policy, protocols, conditions and administrative procedures rather than applied in an *ad hoc* manner as in the past.

A “working group” was organized representing the ARC, ESAS and other private companies, CASP, CASC, and GTZ, and a work session was scheduled for 14 March at 2 p.m. in the APRP conference room.

Participants:

Safy El Din Mohammed Selim, Zagazig University
Gamal Eissa Attia, CASIA
Mohammed Abdel Moneim Moussa, CASIA
Sayed Abdel Mawgoud Moussa, CASIA
Herbert Fromberg, CASC/GTZ
Lawrence Kent, APRP/RDI
Mohammed Bel Hadri, Ministry of Agriculture, Morocco
Safwat Youssef Zakhary, Cairo University
Tamer Abu El Maaty, AERS
Mohammed Ragaa El Amir, Agri-business Professor
Ahmed El Amir Abdel Hamid, Agri-business Specialist
Edgar Ariza Nino, APRP-RDI
Dr. Max Goldensohn, COP, APRP
Mahmoud Nour, Project Coordinator
Dr. Abdel Aziz Galal Abdel Hafez, Crops Professor
Mohamed Salah Abdel Wanis, GTZ Consultant
Heinz, GTZ
Hesham Abdel El Rahman, MSSP Consultant
Adel Ebboud, El Nile Storage Company
Mohamed Zaki Gomaa, APRP-RDI
Dr. Hamdi Soliman Oush, Asst. Manager, Nat'l. Program for Feed Crops Research
Dr. Mohammed Essam El Grobsi, Misr High-Tech for Seeds Co.
Dr. Samir Farag, Horticultural Research Institute

Abduallah Shehata Attia, Cairo University

Ahmed Abdel Latif Amer, Cairo University

Azmy Iskander, Pioneer Company

Ihab Ramsis Fatthallah, Samatreed Co.

Dr. Abdu Rabu Ismail, Part-time Research Director

Dr. Abdel Azim El Tantawi Badawi, Director, Crop Research Institute

Dr. El Sayed Radwan, Cairo University

Eng. Fahmi Ibrahim, Zagazig University

Meeting Notes
(prepared by C. Delouche)

1st MEETING CROP VARIETY RELEASE WORKING GROUP

03/14/99, 2 p.m., APRP Conference Room

Thirteen Attendees from Private Companies, ARC, and Universities

C. Delouche, LK, MZG, J. Fitch, APRP/RDI

Purpose: 1st Meeting of Variety Release Working Group

Preparation: The main points in the March 11 workshop discussions on general principles, procedures and experiences in release of publicly developed varieties for seed production were recorded on flip charts in Arabic. These were transferred to hard copy for photocopying and distribution to the attendees at the working group meeting. A draft of variety release policy and procedures prepared by Delouche was distributed to attendees.

Meeting:

- Delouche summarized the major points in the draft policy and procedures with emphasis on those that generated differences in views during the March 11 workshop. The meeting was then opened for discussion of the major points.
- Agreement that the minimum qualifications on seed producers participating in the release of varieties (i.e. requesting foundation seeds) should be those specified for registration or licensing of seed producers in Ministerial Decree No. 38 or 1997.
- There was agreement that the types of release or release procedures should be limited to the open or general release and the exclusive release. Both procedures have been used by ARC.
- Exclusive releases were favored for hybrid maize varieties, while open or general releases were favored for varieties of self-pollinated crops such as wheat, rice, faba bean. There was a strong

view, however, that the exclusive release procedure should be an option for self-pollinated varieties and should be used, especially when more varieties are registered and available for release.

- There was no general agreement on the procedure for exclusive releases. Representatives from the small to mid-size maize seed companies without established breeding research programs felt that if strict tendering and auctioning procedures were used the large companies would “win” most if not all of the exclusive rights. In the words of one attendee, “the larger fish would simply swallow the small fish.” To paraphrase another influential attendee, the present system has worked well, it is not broke, therefore, it doesn’t need fixing. This person conceded, however, that the “present system” lacked transparency. There was some discussion but no conclusions on ways to ensure equity and balance among the small and large seed companies in the competition and/or award of exclusive releases. Some of the methods discussed were disqualification (declaration of non-eligibility) of holders of exclusive releases for bidding on other varieties of the same kind during the first five-year period of the exclusive release held, allotting some varieties for competition only among the smaller companies, and grouping of small companies for an exclusive release.

- There was agreement that the exclusive release period should be for five years with first priority to the holder of the release for renewal for an additional five-year period provided the holder’s performance was satisfactory. If the holder’s performance was unsatisfactory or if the holder is no longer interested in exclusive rights to the variety, the variety should be re-tendered or re-auctioned or declared an open and general release.

- There was unanimous agreement that ARC and the relevant Research Programs should have the responsibility and dominant role in decisions on the release of ARC varieties. The ARC research programs should also maintain the varieties and lines, and produce breeder and foundation seeds.

The working group meeting adjourned at 4:05 p.m. Before adjournment decision was made to hold a second meeting of the working group on March 14 at 1 p.m. in the APRP conference room. LK and Delouche stated that a revised draft of policy and procedures for variety release would be prepared and translated into Arabic by the time of the second meeting.

Participants:

Zaki Hamza, Nile Seed Co.

Adel Yaseen, Fine Seeds International

Mohe S. Radwan, Egyptian Plant Breeders Association

Hamdy Soliman Oushy, Field Crops Research Institute, ARC
Abdel-Aziz Galal, Egyptian Plant Breeders Association
Ahmed Salem, IDIA Group Co.
Essam El-Gressi, Misr Hytech Seed Company
Azmy Z. Iskander, Misr Pioneer Seed Company
Ibrahim El Badry, EGA Seed
Mohamed Farag, El Safa El Watania
Ali Attia Ali, Danton for Seed Co.
Abdel-Salam A. Gomaa, ARC
Abdrabboh, Ismail, ARC
James Fitch, RDI consultant
James Delouche, RDI consultant
Lawrence Kent, RDI
Mohammed Zaki Gomaa, ESAS

Meeting Notes
(prepared by C. Delouche)

2nd MEETING CROP VARIETY RELEASE WORKING GROUP

03/18/99, 1 p.m., APRP Conference Room

Eleven Attendees from Private Companies, ARC, and Universities

C. Delouche, LK, FK, MG, J. Fitch, APRP/RDI

Purpose: 2ND Meeting of Variety Release Working Group

Preparation: Delouche extensively revised the draft on Policy, Procedures and Protocols for Release of Public Varieties in Egypt. The English version of the draft was delivered or faxed to members of the working group and other interested persons on March 16 and 17. A first draft Arabic translation was completed just before the meeting and distributed to the attendees on arrival. About thirty minutes were allowed for attendees to review the Arabic translation.

Meeting:

- LK opened the meeting. MG made introductory remarks, emphasizing the importance of all attendees participating in the deliberations and arriving at some agreements and/or conclusions that could be taken into the agricultural policy reform process for adoption and implementation.
- Delouche summarized the areas of agreement during the March 14 working group meeting and highlighted points that had not yet been discussed or that needed additional discussion.
- It was agreed that in some cases and/or circumstances, qualifications in addition to those specified in Ministerial Decree No. 38 or 1997 might be required for eligibility of seed producers to participate in variety releases.
- There was discussion of the focus of the variety release policy: should it be restricted to ARC or

also include the universities? The majority view was that ARC should be the focus since it is the dominant (and in most cases the only) public agency involved in crop breeding and related research. The Universities should be encouraged to undertake practical research leading to development of crop varieties, but each should develop its own variety release policy.

– There was considerable discussion on the appointment of a commission or committee in ARC to determine and recommend the most appropriate release policy and to organize and evaluate exclusive release tenders or auctions. The draft on policy and procedures suggested a 12-member commission with the Director of ARC as Chairman, a rotating Co-Chairman, and the additional members from the ARC research programs, other government agencies, the private sector (e.g. ESAS), and the Egyptian Association of Plant Breeders. There was agreement that the commission was too large and should be reduced to 10 members, that the Director of ARC should be Chairman *ex officio*, but considering that his duties would not permit him to participate fully in all meetings of the commission, a permanent Vice-Chairman was needed. Further, the Vice-Chairman should be a breeder or administrator with a strong background in plant breeding. The composition of the commission might be: Chairman, *ex officio* (Director of ARC), Vice-Chairman (ARC breeder), four (4) additional members from ARC's crop research programs, two members from private sector (one representing ESAS), a representative of CASC, and a representative of the Egyptian Association of Plant Breeders. ARC should and would have a majority of six on the 10-member commission or, more realistically, a majority of five of the nine members acting in the absence of the Chairman, *ex officio*.

– The second focus of discussion was on the procedures for awarding exclusive rights to varieties. The small to mid-size companies continue to express concern that they would be left out in any broad-based competition for exclusive releases. There was agreement that there should not be competition for royalties in any tender or auction of varieties. Rather, ARC and the relevant research program should specify the royalties that would be assessed in the tender. This would help in leveling the field of competition for the smaller companies. There was also the strong view that since the larger companies have far more assets and resources than smaller companies, companies should generally be considered or evaluated as equal if the experience, facilities, personnel qualifications and so on meet minimum specifications. For small or large companies meeting the minimum specifications for facilities, experience, and personnel qualifications, competition or evaluation could be on location of production in relation to area of adaptability of a variety, plans for promotion of the variety, marketing plans and network, and perhaps others. (The advantages of the large companies even in the competitive areas mentioned are obvious). The general view was

strong that somehow the present system, which is neither competitive nor transparent, should be continued with provisions that would make it transparent and eliminate favoritism. There was agreement that one excellent means of improving the equity and balance among the smaller and the larger seed companies in the award of exclusive releases would be to declare the holder of an exclusive release ineligible to participate in subsequent tenders or auctions of varieties of the same type (e.g. white, 3-way cross maize hybrid varieties) during the first five-year period of the release held. If the variety held continued to be well above average in popularity and demand, the holder's ineligibility for additional varieties might be continued during the second five years of a renewal of the award.

- There was agreement that, regardless of the method of exclusive release, the holder's performance must be reviewed and audited to determine compliance with the exclusive award agreement. Substantial deficiencies in performance would be noted and called to the attention of the holder and if not corrected in a specified period, should constitute sufficient cause for rescinding the exclusive rights agreement and either re-tendering the variety or declaring the release to be open and general.

- It was evident that while the majority of attendees support the effort to formalize the policy and procedures for release of ARC varieties, the exclusive release of maize hybrid varieties, and in some situations the exclusive release of varieties of wheat, rice, faba bean and other self-pollinated crops, they are apprehensive about changes that would disrupt present procedures and relationships and, perhaps, seriously disadvantage the smaller seed companies without established breeding and variety improvement research programs.

- The meeting adjourned at 3:45 p.m. It was agreed that the draft policy and procedures would be revised to take into account the discussions, agreements and concerns relating to the several points discussed and debated and to substantially simplify the document. No plans were made for a third meeting of the working group.

Participants:

Boushra Nagib Ayad, Egyptian Seed Company

Adel Yaseen, Fine Seeds International

Zaki Hamza, Nile Seed Co.

Adel Yaseen, Fine Seeds International

Mohe S. Radwan, Egyptian Plant Breeders Association

Hamdy Soliman Oushy, Field Crops Research Institute, ARC

Ahmed Salem, IDIA Group Co.

Azmy Z. Iskander, Misr Pioneer Seed Company

Ibrahim El Badry, EGA Seed

Ali Attia Ali, Danton for Seed Co.

Abdrabboh Ismail, ARC

Fatma Khattab, RDI

Max Goldensohn, RDI

James Delouche, RDI consultant

Lawrence Kent, RDI

ANNEX F

CROP VARIETY RELEASE AGREEMENT

This agreement is made by and between the Field Crops Research Institute (FCRI) (as an example), a unit of the Agricultural Research Center, MALR, and (company/cooperative), a company (or cooperative) engaged in seed production and marketing in Egypt and qualified as a seed producer under terms specified in Ministerial Decree No. 38 of 1997. Unless terminated sooner by mutual consent or for cause, the Agreement shall be in effect for a period of 5 years from the date of the last signature to this agreement, after which the agreement may be renewed for an additional 5 year period. The agreement may be terminated sooner than 5 years only by mutual consent or for sufficient cause charged by either party and upheld by the appropriate judicial procedure.

In accord with the decision of the Variety Release Advisory Committee and concurrence of His Excellency, The Minister of Agriculture, the FCRI, will provide (company/cooperative) with foundation seeds (or parental seeds) of the (crop) variety named (give name of variety) on *an exclusive basis* for seed multiplication, production and marketing, under the following terms and conditions agreed to by both parties.

1. The (company/cooperative) acknowledges that the FCRI is the owner of the (name of variety) variety of (crop name) and the exclusive rights granted are limited to exclusive access to foundation seeds of the (name of variety) variety.

2. For the initial or first year of this agreement the FCRI will provide (quantity of seeds in kilograms) of foundation seeds of the (variety name) variety of (crop name) to (company/cooperative) by not later than 3 months before the planting season recommended for the variety at a price of Le _____ per kilogram. The quantity of foundation seeds to be supplied for subsequent years of the agreement shall be determined by negotiation between the parties to this agreement one year in advance.

3. The (company/cooperative) will plant a minimum of (no. of fedans) for seed production in the first year with priority in marketing (if any) to (as example) the (names of governorates) governorates. In subsequent years seed production will be based on the rate of acceptance of the new variety, quantity of seeds marketed the previous season, and market intelligence.

4. In order to gain rapid and widespread acceptance of the new variety, the (company/cooperative) will conduct (number) demonstrations and/or field days in (governorates named). Visual advertisements will also be developed and used in places where the seeds are marketed.

5. The (company/cooperative's) representatives will communicate the appropriate technological package for best performance of the variety to dealers and direct farmers during demonstrations and field days.
6. The price the (company/cooperative) charges for the seeds it markets to farmers shall be reasonable and in general agreement with the prices of seeds of other varieties of the same kind.
7. The (company/cooperative) shall not release any of the foundation seeds it receives to another company under any circumstances without the specific consent of the FCRI.
8. The (company/cooperative) will provide the FCRI with a report on its seed production and marketing activities and results at the end of the seed processing and packaging and at the end of the marketing season. The reports shall include the number of fedans of seed production, the kilogams or tons of cleaned and packaged seed, and the kilograms or tons of seeds marketed.

The (company/cooperative) agrees to produce and market seeds of the (name of variety) variety of (crop name) in a professional and business-like manner. The failure to plant a reasonable number of fedans for production, the failure to manage seed production so that most of the production is acceptable for certification and the failure to market a reasonable portion of the seeds produced will be among the sufficient causes for abrogation of the agreement. If this agreement is abrogated for cause, the (company/cooperative) will not be eligible for another exclusive release until the end of the 5 year period.

By executing this agreement the undersignees represent that they are authorized to enter into this agreement on behalf of the FCRI and the (company/cooperative)