

TRADE AND AGRICULTURE DIRECTORATE
COMMITTEE FOR AGRICULTURE

OECD Seed Schemes

PROPOSAL FOR THE AMENDMENT OF THE OECD MAIZE AND SORGHUM SEED SCHEME TO
MAKE PROVISION FOR THE CERTIFICATION OF MIXED SEED LOTS

This paper, prepared by the Republic of South Africa, is circulated to Delegations, National Designated Authorities and Observers for information and discussion at the Standing Working Group Meeting [under item 12 of draft agenda TAD/CA/S/A(2013)1/REV1] to be held in Paris, France, on 29-30 January 2013.

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**PROPOSAL BY THE REPUBLIC OF SOUTH AFRICA FOR THE AMENDMENT OF THE
OECD MAIZE AND SORGHUM SEED SCHEME TO MAKE PROVISION FOR THE
CERTIFICATION OF MIXED SEED LOTS**

1. Introduction

1. The OECD Scheme for the Varietal Certification of Maize and Sorghum Seed Moving in International Trade makes provision for the certification of varietal associations. However, it does not allow *per se* for the certification of seed lots consisting of mixture of varieties where male sterility is not involved. As there is an escalation in the marketing of seed lots where two maize varieties are mixed, the demand to have such seed lots certified in terms of the OECD Scheme for the Varietal Certification of Maize and Sorghum Seed Moving in International Trade also increases.

2. Background

2. With the advent of genetically modified varieties with insect resistance, care had to be taken that the insects for which the specific trait was developed, did not develop resistance themselves to the trait contained within the insect resistant plants. This is done by the compulsory planting of so-called refuge areas with plants that do not contain this resistance, in close proximity to the plants that do contain the trait. The rationale is that the few adult insects that do survive on the plants containing the trait would mate with the abundant adults that mature on plants that do not contain the trait, and would therefore not have any resistance for that trait. The offspring resulting from such a mating would then also not have resistance to the trait concerned.

3. In countries where the use of genetically modified organisms are allowed, the regulators issue permits to the trait holder, in which strict requirements are set with the express intention of preventing the build-up of insect resistance to the trait concerned. Growers are not allowed to use genetically modified (GM) seed, if they have not signed a Technology Agreement, committing compliance to the requirements of the relevant GM legislation. Some of these requirements include the planting of refuge areas. A typical example of the requirements for such a refuge area for GM maize plants containing a trait for resistance to stem borer is as follows:

- The refuge area must consist of an area cultivated with maize without the use of insect resistance gene technology (conventional varieties). The refuge area should be clearly marked.
- There are two options:
 - 80% of the area (field) planted with GM insect resistant varieties and a 20% refuge area planted with conventional varieties where the chemical control of stem borer may be applied on the refuge area with products not related to the trait concerned.
 - 95% of the area (field) planted with GM insect resistant varieties and a 5% refuge area planted with conventional varieties where no chemical stem borer control may occur in the refuge area.

- The refuge area may not be further than 400 meters from the nearest GM insect resistance maize area.
- The refuge area and the GM insect resistant maize may not be planted more than seven days apart.
- The varieties of the refuge area and GM insect resistant maize must have the same growing periods.
- The refuge area and the GM insect resistant maize must be cultivated under the same agronomic conditions – water, fertilizer, population, chemical pest control excluding stem borer control.
- The refuge area must be at least six rows wide and may be planted at the border of the field or in strips across the field.
- Every farm where GM insect resistant maize is planted should have a refuge area meeting the above requirements. The maize fields of neighbouring farmers do not qualify as refuge areas.

4. Owing to the high cost of genetically modified maize, these hybrids were traditionally exclusively planted by commercial farmers with sophisticated on-farm management systems, and it was relatively easy for the regulators / permit holders to control whether the growers complied with the permit conditions. However, this is very expensive and – with the rapid growth in the use of these traits worldwide – almost impossible to administer. In 2011 more than 51 million hectares were planted worldwide with GM maize varieties, of which 43.3 million hectares contained at least one trait for insect resistance. Therefore, 43.3 million hectares had to be monitored for compliance in 2011 on maize alone. As the area planted with maize varieties with these traits are increasing annually, alternative methods had to be found.

5. Furthermore, new developments in the field of GM technology have made the use of GM maize varieties with insect resistance traits accessible to smallholder / subsistence farmers. As many of these farmers are resource-poor, the planting of refuge areas was at risk. Furthermore, these farmers usually farm on very small areas of one hectare or less. Subsequently, control and monitoring of the planting of refuge areas will become unmanageable.

3. Deliberation

6. In order to overcome the above, seed companies now mix the seed of GM insect resistant varieties and those of conventional varieties before it is bagged and sold – the so-called ‘refuge-in-a-bag’. This ensures that the refuge area is actually planted. The ratio between the conventional and GM varieties depends on the traits and is determined by the regulators and permit holders of the traits. It will typically be in the range 85:15 to 95:5, with the GM varieties taking up the higher percentage.

7. As the control and monitoring of the conventional varieties in the field will be very difficult, this has to be done before the seed is planted. Therefore, seed companies identify the two fractions by colouring them with different dyes. Control is conducted by taking samples of the mixture and analyzing it for the total percentages by weight or by number of each component.

8. The two varieties in the mixture are produced individually with the normal checks and controls for varietal purity and identity before the two components are mixed. This is exactly the same procedure being followed for the certification of varietal associations, the certification of which is already provided for in the OECD Seed Schemes.

9. Recognizing the fact that the use of genetically modified seed are not allowed by the regulators of some participating countries in the Seed Schemes, the certification of such mixtures will be subject to National Legislation in this regard, and National Designated Authorities will have the option not to allow the certification or marketing of such mixtures in their territory.

4. Proposal

10. South Africa proposes that the OECD Seed Schemes be amended to provide for the certification of mixtures of varieties of maize seed, by the following:

Adding of the following paragraph to the Common Rules and Regulations of the OECD Seed Schemes:

16. Certification of Mixtures of Varieties of Maize Seed

Mixtures of varieties of maize seed are eligible for certification under the OECD Maize and Sorghum Seed Scheme. The minimum requirements to be satisfied are described in Appendix 5 of the Maize and Sorghum Seed Scheme. Certification of mixtures containing genetically modified varieties is subject to the provisions of National legislation regulating conditions for the use of genetically modified organisms in the country concerned. Furthermore, it will be at the discretion of the National Designated Authority to permit certification of such mixtures in their territory.

Adding of the following paragraph to Common Appendix 1 of the Common Rules and Regulations of the OECD Seed Schemes:

26. Mixtures of Varieties of Maize Seed

A mixture of maize varieties obtained by blending a variety containing a GM insect resistance trait with a variety that does not contain a GM insect resistance trait; mechanically combined in proportions determined by the persons responsible for their maintenance, with such combination having been notified to the National Designated Authority.

Adding of the following Appendix to the OECD Scheme for the Varietal Certification of Maize and Sorghum Seed Moving in International Trade:

MAIZE AND SORGHUM SEED SCHEME

APPENDIX 5

**MINIMUM REQUIREMENTS
FOR THE CERTIFICATION OF MIXTURES OF VARIETIES OF MAIZE SEED
UNDER THE SCHEME**

1. Varieties eligible for mixtures

Only maize varieties included in the List of Varieties eligible for seed certification under the OECD Seed Schemes may be included in a certified mixture of varieties of maize seed.

2. Registration of the varietal mixtures

2.1 For the purposes of certification, the name of the mixture shall be registered with the National Designated Authority. The percentage breakdown by weight or by number of seeds of component varieties shall also be registered with the National Designated Authority by the person responsible for their maintenance.

2.2 The maintainer has the option to indicate both variety names on the labels instead of names of mixtures.

3. Constituent seed lots eligible for inclusion in a certified mixture of varieties of maize seed

3.1 Only lots of maize seed previously certified under the rules of the OECD Maize and Sorghum Scheme shall be eligible for inclusion in a certified mixture of varieties of maize seed.

3.2 The conventional variety and GM insect resistant maize variety in each mixture must have the same growing periods and similar morphological properties.

4. Control of the mixing and packaging operation

4.1 All organisations producing certified mixtures of varieties of maize seed must be approved by the National Designated Authority.

4.2 The seed of the variety containing a GM insect resistance trait with a variety that does not contain a GM insect resistance trait shall be mechanically combined in proportions jointly determined by the persons responsible for the maintenance of these component varieties. The seed of the respective components shall be coated with different colours.

4.3 The mixing and packing operation must be carried out under the supervision of an official or authorised seed sampler, who is responsible to the National Designated Authority.

4.4 The mixing itself must be carried out so as to ensure that only lots intended for inclusion are used and that the resulting mixture is as homogeneous as possible.

5. Inspection of the production of mixtures

5.1 The inspection of production of mixtures must be carried out by the National Designated Authority or their authorized representative.

5.2 The inspection must be carried out through:

- a) controls of the identity and total percentages by weight or by number of each component, at least by random checks of the official labels identifying the percentages of seed; and
- b) a random check of the mixing operations, including the finished mixture.

6. Labelling and sealing of mixtures

6.1 The appropriate mixture labels must be fixed to each container. The labels shall be green with a diagonal blue line.

6.2 The labelling specifications and information requirements set out in Common Appendix 3 for Certified seed shall apply, except for the label colour (see 6.1 above) and for the name of the variety to be replaced with the name of the mixture. The maintainer has the option to state the name of both of the component varieties. In addition, the percentage breakdown by weight or by number of seeds of the component varieties shall be given; it shall be sufficient to give the name of the mixture if the percentage breakdown has been officially recorded.

7. Records of mixtures

7.1 Records must be kept, by the producers, for all mixtures of varieties as follows:

7.1.1 Name of the mixture;

7.1.2 Reference number of the seed lot of the mixture;

7.1.3 Details of the component varieties of the seed lot, including names and percentage by weight or by number of seeds;

7.1.4 Seed lot reference numbers of the constituent seed lots;

7.1.5 Weight of each constituent seed lot;

7.1.6 Total weight of the seed lot of the mixture.

7.2 A copy of the seed test certificate for each constituent seed lot included in the mixture must be kept by the producer of the mixture.

7.3 These records must be kept in such form that it is possible to identify and verify the authenticity of the constituents of each the seed lot of the mixture. They must be made available to the National Designated Authority on request.

7.4 The National Designated Authority shall make regular checks of all the records kept by the producers in respect of mixtures of varieties of maize seed.

8. Analysing mixtures of varieties of maize seed

The National Designated Authority shall proceed to official check-sampling and official check-testing on a proportion of the mixture seed lots produced in its territory to ensure compliance with the rules for certification.

9. Specimen Certificate

Certificates must contain all the information outlined below but the exact arrangement of the text is at the discretion of the National Designated Authority.

**Certificate Issued for a Varietal Association of Hybrid Maize Seed,
under the OECD Scheme for the Varietal Certification of Maize and Sorghum Seed
Moving in International Trade**

Name of the National Designated Authority issuing the Certificate:

Reference Number:

Constituents of the lot:

Variety	Seed Lot Reference Number	Percentage -by weight or number of seed of mixture
1.		
2.		

Number of containers and declared weight of lot:

The seed lot bearing this Reference number has been produced in accordance with the OECD Maize and Sorghum Seed Scheme and is approved.

Signature (or an equivalent electronic authorisation):

Place and Date: