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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

ADMINISTRATIVE AND LEGAL COMMITTEE**Forty-Seventh Session****Geneva, April 10, 2003**MEMORANDUM PREPARED BY THE OFFICE OF UPOV
ON THE GENETIC USE RESTRICTION TECHNOLOGIES*Document prepared by the Office of the Union*

1. The Conference of the Parties (COP) to the Convention on Biological Diversity (CBD), in its Decision VI/5, adopted in April 2002, invited the International Union for the Protection of New Varieties of Plants (UPOV) to examine, in the context of its work, the specific intellectual property implications of the genetic use restriction technologies (GURTs). This invitation was also made to other relevant organizations.
2. At the sixty-fourth session of the Consultative Committee ("the Committee"), on October 23, 2002, the Committee was informed, and took note, of the aforementioned invitation (see paragraph 6 of document CC/64/7). At the request of the Delegation of Mexico, the Vice Secretary-General reported that the Office of the Union would submit a paper on the issue of GURTs to the Secretariat of the CBD, in response to Decision VI/5 of the COP (see paragraph 56 of document CC/64/9 Prov.).
3. The Memorandum prepared by the Office of the Union on the genetic use restriction technologies was sent to the Secretariat of the CBD on January 10, 2003 (a copy of this Memorandum is reproduced in Annex I to this document).
4. At the request made by the Delegation of the United States of America and, in order to discuss this Memorandum, a new agenda item has been introduced to the draft Agenda of this meeting (CAJ/47/1 Rev.). The relevant correspondence on this matter between the Office of the Union and this Delegation is reproduced in Annex II of this document.

5. The Administrative and Legal Committee is invited to note and comment the content of this document and its Annexes.

[Annex I follows]

INTERNATIONALER VERBAND
ZUM SCHUTZ VON
PFLANZENZÜCHTUNGEN

GENÈVE, SUISSE



UNION INTERNATIONALE
POUR LA PROTECTION
DES OBTENTIONS VÉGÉTALES

GENÈVE, SUISSE

INTERNATIONAL UNION
FOR THE PROTECTION OF
NEW VARIETIES OF PLANTS

GENEVA, SWITZERLAND

January 10, 2003

MEMORANDUM PREPARED BY THE OFFICE OF UPOV
ON THE GENETIC USE RESTRICTION TECHNOLOGIES

submitted to the Secretariat of the CBD

Background

In their decision VI/5, adopted at their sixth session held in The Hague in April 2002, the Conference of the Parties of the Convention on Biological Diversity invited the International Union for the Protection of New Varieties of Plants (UPOV) to examine, in the context of its work, the specific intellectual property implications of genetic use restriction technologies (GURTs), particularly in respect of indigenous and local communities, and to further study their potential impacts on small farmers, indigenous and local communities and on Farmers' Rights. The Office of UPOV was also invited to study the applicability of existing, or the need to develop new legal mechanisms to address the application of GURTs.

In reply to this invitation, the Office of UPOV submits to the Secretariat of the Convention on Biological Diversity its comments. UPOV's comments are limited to the effect of GURTs on the sharing of benefits arising out of new plant varieties in comparison to the protection provided by the UPOV Convention and do not refer to other possible effects of GURTs.

Summary

Breeders need to recover their investment and to receive incentives in order to be able to continue their breeding activities. The introduction of a legal framework according to the UPOV Convention is a suitable approach to encourage the breeding of new varieties of plants for the benefit of society. Should a State fail to establish an effective and well balanced system for the protection of new plant varieties, breeders may need to resort to other mechanisms to assure their economic interests, such as GURTs, which may have considerable disadvantages for society.

1. The development of improved varieties demands a considerable investment in terms of human and financial resources. Sustainable breeding programs require a return of the investment through the commercialization of the resulting varieties. Protection of intellectual property rights on new plant varieties according to the UPOV Convention facilitates such a return by providing a legal basis to prevent, under well-defined conditions, unauthorized exploitation of plant varieties by others.

2. In the absence of a legal basis for effective plant variety protection certain biological systems may be developed and used as a substitute for protection. The use of hybrid varieties has proven to be an effective system for exercising control over the reproduction of plant varieties in some crops like maize where a considerable proportion of the commercial varieties are hybrid varieties. The use of GURTs provides a similar biological device for the control over the reproduction of plant varieties. Reproduction of both hybrid varieties and varieties containing GURTs is controlled through biological mechanisms which prevent the use of second-generation seeds.

3. As far as the applicability of these biological devices for protection of the breeders' interest is concerned, the following features can be noted:

- (1) Theoretically, GURTs can prevent unauthorized reproduction of all seed-propagated plant species, whereas the hybrid approach is limited to certain plant species, which allow, technically and economically, the production of hybrid seeds.
- (2) Neither GURTs nor hybrid varieties can prevent unauthorized reproduction of vegetatively propagated plant species/varieties.

In general GURTs has a wider range of application in comparison to the use of hybrid varieties.

4. The UPOV Convention provides for a legal system for the protection of new plant varieties. The UPOV Convention also provides for a *sui generis* system for plant variety protection tailored for this purpose reflecting the specific features of the subject of protection, which is a new plant variety, and the circumstances under which this plant variety is used. The scope of protection under the UPOV Convention has been carefully defined to ensure incentives to create new varieties of plants, which are more profitable for farmers and beneficial to consumers. Protected varieties, as most important plant genetic resources, remain freely accessible by the worldwide community of breeders for further breeding. The UPOV Convention, furthermore, provides for an option to regulate on the saving of seed by farmers. The protection given under the UPOV Convention can be analyzed under the following parameters:

- subject of the protection/extension of the protection,
- acts covered by the protection (1991 Act),
- materials covered by the protection,
- duration of the protection,
- exceptions,
- restriction to protection/compulsory licensing.

5. In the following paragraphs, the nature of GURTs is compared with the protection given by a plant variety protection system under the UPOV Convention by using the parameters mentioned-above.

Subject of the Protection/Extension of the Protection

6. Under the UPOV Convention a protection title is granted to a single plant variety which is defined by the expression of the characteristics resulting from a given genotype or combination of genotypes, distinguished from any other plant grouping by the expression of at least one of the said characteristics and considered as a unit with regard to its suitability for being propagated unchanged. The protection granted to the initial variety does not extend to other varieties, except in the case of varieties derived essentially from the initial protected variety. In the case of GURTs, plant varieties are affected in so far as they retain GUR genes.

Acts Covered by the Protection (1991 Act)

7. The nature of the right granted by the UPOV Convention is that the following acts with respect to the propagating material (and under certain conditions also in respect of harvested material) of the protected variety require the authorization of the breeder:

- (i) production or reproduction (multiplication),
- (ii) conditioning for the purpose of propagation,
- (iii) offering for sale,
- (iv) selling or other marketing,
- (v) exporting,
- (vi) importing,
- (vii) stocking for any of the purposes mentioned in (i) to (vi) above.

The effect of GURTs is to prevent any sexual production of seeds (reproduction). Asexual production cannot be hindered by GURTs.

Materials Covered by the Protection

8. As stated in paragraph 7 above, plant variety protection covers the propagating material of the protected varieties, such as seeds, bulbs, tubers, seedlings, etc.

9. Protection given by plant variety protection is extended to cover some additional materials under carefully defined conditions. In the case of GURTs, no particular care is given to specific plant material, as a variety with GUR genes never reproduces through seeds.

Duration of the Protection

10. Under the plant variety protection system, the breeder's right is granted for a fixed period. Under the UPOV Convention (1991 Act) the said period shall not be shorter than 20 years from the date of the grant of the breeder's right. For trees and vines, the said period shall not be shorter than 25 years from the said date. After the expiration of the protection period, the variety shall enter into the public domain; namely the variety becomes freely

available. In the case of GURTs, there is no such a limitation in the duration of the effect. A variety may never become freely available.

Exceptions

11. Under the UPOV Convention, the breeder's right shall not extend to:

- (i) acts done privately and for non-commercial purposes,
- (ii) acts done for experimental purposes, and
- (iii) acts done for the purpose of breeding other varieties.

The exclusion of acts done privately and for non-commercial purposes is essential for subsistence farmers who use plant varieties for their own food production. The research exemption and the breeders' exemption, as mentioned in (ii) and (iii) above, are essential in plant variety protection in order to ensure the established practices among breeders where all breeders should have access to materials of varieties released by other breeders. GURTs does not provide these exceptions, affecting subsistence farmers. It prevents access to germplasm, hampers research and breeding progress and sustainability, and limits benefits to society.

12. Under the UPOV Convention, each member may, within reasonable limits and subject to the safeguarding of the legitimate interests of the breeder, restrict the breeder's right in relation to any protected variety in order to permit farmers to use, for propagating purposes, on their own holdings, the product of the harvest, which they have obtained by planting on their own holdings. This provision enables each member of UPOV to decide, according to its own national circumstances, on whether or not, and to what extent, to recognize the practice of farmers to use a part of the harvest derived from the protected variety for the next year's planting, known as "farmers' privilege." Under GURTs there is no such option for farm-saved seed.

Restriction to Protection/Compulsory Licensing

13. The UPOV Convention provides that a member may restrict the free exercise of a breeder's right for public interest. This provision allows the Government, for example in the case of an unforeseeable disaster in a country, to take a quick maneuver to provide farmers with planting material, which is necessary to reestablish the agricultural production, by limiting the exercise of the breeder's right. The fact that the material of the variety protected by the breeder's right remains biologically viable for further reproduction enables this maneuver. Under GURTs there is no such possibility in the case of public interest.

Other Consideration

14. Transparency: Users of a variety protected by the breeder's right are normally informed of the fact that that variety is legally protected. The owner of the breeder's right undertakes to make every effort to provide such information to protect his own variety. The variety denomination plays an essential role in this respect (the use of the variety denomination is compulsory under the UPOV Convention). To the contrary, the owner of a variety containing GURTs does not need to make such an effort. Consequently there may arise the possibility for

farmers to use varieties with GURTs without knowing their biological nature. This may lead to the sowing of seeds, which are sterile for the subsequent growing cycle.

Conclusions

15. As examined above, GURTs may be used for the protection of the breeders' economic interest. There are considerable disadvantages for society as compared to the benefits of a legal basis for the protection of the breeders' rights as provided by the UPOV Convention, as follows:

- (1) GURTs may not be limited to one specific variety. Restrictions on reproduction could be extended as far as GUR genes are retained (see paragraph 6).
- (2) GURTs does not allow any exception for farmers saving seeds (see paragraphs 11 and 12).
- (3) GURTs does not provide for research and breeder's exemptions, thus cannot ensure sustained breeding. Plant material of varieties containing GURTs cannot be used as genetic material for further breeding; free access to genetic resources will be hindered by GURTs (see paragraph 11). GURTs does not provide any benefit sharing.
- (4) Varieties containing GURTs may never become freely available for reproduction and breeding (see paragraph 10).
- (5) Under GURTs there is no provision for public interest, allowing Government access to varieties under particular circumstances (see paragraph 13).
- (6) GURTs may lack transparency, in the sense that the users can be left uninformed of the biological nature of the variety in use (see paragraph 14).

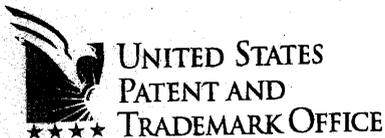
16. The best choice for the protection of the rights of breeders is to introduce a legal framework according to the UPOV Convention. The establishment of a robust legal system to enforce the provisions of the UPOV Convention is essential. Should a State fail to establish an effective and well balanced system for the protection of plant varieties as foreseen by the UPOV Convention, breeders might wish to resort to other mechanisms, such as GURTs, to assure their economic interests.

[Annex II follows]

ANNEX II / ANNEXE II / ANLAGE II / ANEXO II

[In English only / En anglais seulement / Nur in Englisch / Solamente en inglés]

Correspondence Between the United States Patent and Trademark Office
and the Office of the Union



Under Secretary of Commerce For Intellectual Property and
Director of the United States Patent and Trademark Office
Washington, DC 20231
www.uspto.gov

MAR 13 2003

Mr. Rolf Jördens
Vice Secretary-General
International Union for the Protection of Plant Varieties
34 chemin des Colombettes
CH-1211 Geneva 20
Switzerland

Dear Mr. Jördens:

It has recently come to our attention that a document entitled "Memorandum Prepared by the Office of the UPOV on the Genetic Use Restriction Technologies" was submitted to the Secretariat of the Convention on Biological Diversity (CBD) on January 10, 2003. Because we are unaware of any discussion by the UPOV Council regarding the preparation of a document examining the impact of genetic use restriction technologies (GURTs), we are surprised to see a document submitted on behalf of UPOV on this subject matter.

Even more troubling, the document submitted to the CBD is not a neutral presentation of facts and prevailing opinions; instead, it presents a one-sided negative view of GURTs technology. As a result, the prevailing conclusion is that all Members of UPOV do not support any GURTs technologies. We have serious concerns as to whether this accurately reflects the positions of all of the UPOV Members.

Moreover, our preliminary review reveals that the document contains several presumptions, which are either speculative or flawed. As a general matter, to make any conclusions with respect to GURTs technologies seems questionable given the lack of reliable scientific, economic and social data currently available.

For these reasons, we respectfully request that you withdraw the UPOV document on GURTs technologies until the Council has been able to discuss the nature and substance of this document. We further suggest that the issue be placed on the agenda for the upcoming Administrative and Legal Committee meeting to be held on April 10, 2003.

Sincerely,



Lois E. Boland
Administrator for External Affairs

UPOV

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GENÈVE, SCHWEIZ

UNION INTERNATIONALE
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UNIÓN INTERNACIONAL
PARA LA PROTECCIÓN
DE LAS OBTENCIONES
VEGETALES
GINEBRA, SUIZA

INTERNATIONAL UNION
FOR THE PROTECTION
OF NEW VARIETIES
OF PLANTS
GENEVA, SWITZERLAND

614 US 03

March 17, 2003

Dear Mrs. Boland,

Thank you for your letter of March 12, 2003, in which you refer to a memorandum submitted by the Office of the International Union for the Protection of New Varieties of Plants (UPOV) to the Secretariat of the Convention on Biological Diversity (CBD) on specific effects of Genetic Use Restriction Technologies (GURTs).

By submitting this memorandum on January 10, 2003, the Office of UPOV was responding to a request by the Conference of the Parties of the CBD of which the Office informed UPOV's Consultative Committee (CC) during its sixty-fourth session (cf. document CC/64/7). The Office has commented on the specific intellectual property implications of GURTs in relation to the protection provided by the UPOV Convention. The memorandum, in particular, highlights the comparative advantages of the UPOV system with regard to availability and accessibility of plant genetic resources in the form of protected varieties. The Office of UPOV made it clear at the outset that it had refrained from comments on any other aspects of GURTs.

/...

Mrs. Lois E. Boland
Administrator for External Affairs
United States Patent and Trademark Office
Washington, DC 20231
United States of America

Fax 001 - 703 - 305-8885 (2 pages)

Mrs. Lois E. Boland, Administrator for External Affairs, United States Patent and Trademark Office, Washington – March 17, 2003

Under draft Agenda item 8 of the upcoming sixty-fifth session of the CC, on April 11, 2003, there will be an opportunity for members to consider the memorandum on GURTs. In the introductory document to draft Agenda item 8 (document CC/65/6 is currently under preparation), reference to the memorandum of the Office will be made and the memorandum will be attached as an Annex to document CC/65/6. Of course, if the CC sees a need to discuss the matter further, it can do so and, if considered appropriate, may refer the issue to the Administrative and Legal Committee (CAJ). Developments or corrections of the memorandum, which the CC may deem to be necessary, could then be introduced and transmitted to the CBD Secretariat.

Please let me know whether you agree with this approach.

Sincerely yours,

[Original signed by]
Rolf Jördens
Vice Secretary-General



Under Secretary of Commerce For Intellectual Property and
Director of the United States Patent and Trademark Office
MAR 28 2003 Washington, DC 20231
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Mr. Rolf Jördens
Vice Secretary-General
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34 chemin des Colombettes
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Switzerland

Dear Mr. Jördens:

Thank you for your recent response to our concerns regarding the Genetics Use Restriction Technologies (GURTs) memorandum. We truly appreciate your prompt and immediate attention to this important matter. While we have carefully considered your recommendation for the Consultative Committee (CC) to consider this matter, we are unable to agree with your approach.

In particular, the United States is not satisfied that the issue of the GURTs memorandum is adequately addressed by its mere mention in CC/65/6, paragraph 37. It is our understanding that the proper forum for addressing the procedural and substantive issues surrounding this memorandum is the Administrative and Legal Committee (CAJ), not the CC. Of course, we do not mind if the issue remains on the CC agenda as proposed, as well.

The distribution of the GURTs memorandum prior to review and approval by the CAJ or the Council raises serious concerns. The United States strongly believes that an open discussion by the CAJ is necessary at the upcoming UPOV meeting in order to seek Member State consensus on procedural and substantive issues relating to this document.

Accordingly, we request that issues surrounding the GURTs memorandum be placed on the upcoming agenda for the April CAJ meeting. Enclosed for your review is a paper that sets forth United States positions and proposals for consideration by the CAJ.

Given the time-sensitive nature of our request, please do not hesitate to contact me or Ms. Karen Hauda, our UPOV representative, at 703-305-9300.

Sincerely,



Lois E. Boland
Administrator for External Affairs

Enclosure

**PROPOSAL OF THE UNITED STATES OF AMERICA REGARDING
PROCEDURAL AND SUBSTANTIVE ISSUES ON THE GURTS MEMORANDUM
SUBMITTED BY THE OFFICE OF THE UNION TO THE CONVENTION ON
BIOLOGICAL DIVERSITY**

Background

In April 2002, the Conference of the Parties (COP) of the Convention on Biological Diversity (CBD) invited the Office UPOV to “examine, in the context of its work, the specific intellectual property implications of Genetic Use Restriction Technologies (GURTs), particularly in respect of indigenous and local communities, and to further study their potential impacts on smallholder farmers, indigenous and local communities and on Farmers’ Rights.”¹ The Office of UPOV was also invited to study the applicability of existing mechanisms, or the need to develop a new legal mechanism, to address the application of GURTs. This request by the CBD was noted to the Consultative Committee (CC) on October 23, 2002, in document CC/64/7, paragraph 6. On January 10, 2003, the Office responded by submitting the document entitled, “Memorandum Prepared by the Office of UPOV on the Genetic Use Restriction Technologies,” (hereinafter referred to as Memorandum). In document CC/65/6, the CC is requested to note the reply in paragraph 37.

Issues

The circumstances surrounding the preparation and dissemination of the Memorandum raise serious concerns. The United States respectfully requests the Administrative and Legal Committee (CAJ) to consider two distinct issues.

First, the United States would like the CAJ to affirm that the CAJ is the proper forum for initial discussions and deliberations on position papers by UPOV Members. Specifically, the CAJ should make initial determinations about the preparation and submission of all position papers with subsequent approval by the Council prior to any formal submission. Furthermore, upon Council approval to prepare and submit a position paper, the contents of any paper shall be considered by the CAJ and approved by the Council.

Second, the United States would like the CAJ to direct the UPOV Office to issue a letter to the CBD Secretariat requesting that the document be retracted. Given that it is unlikely that a consensus opinion of Member States on the substance of the paper will be forthcoming in the immediate future, a letter to the CBD Secretariat indicating that the Memorandum was submitted in error and does not reflect a consensus view of the UPOV Members would be appropriate.

¹ UNEP/CBD/COP/6/20/Part2, Decision VI/5, Agricultural Biological Diversity

First Issue

With respect to the procedural nature of the Memorandum, Article 27 of the UPOV Convention clearly specifies that the Office “shall carry out all the duties and tasks entrusted to it by the Council” and to carry out the “decisions” of the Council. Article 26 of the UPOV Convention further specifies that the tasks of the Council are to give to the Secretary-General all necessary directions for the accomplishment of the tasks of the Union (Art. 26(v)) and to take all necessary decisions to ensure the efficient functioning of the Union (Art. 26(x)).

The functions of the Office are those functions entrusted to it by the decisions of the Council. The United States is unaware of any discussion or recommendation made by the Council that requested the Office to prepare the Memorandum or to examine the impact of genetic use restriction technologies (GURTs) on small farmers, indigenous and local communities, or on Farmers’ Rights for the CBD. Additionally, given that the Memorandum takes a position on the effects of GURTs in relation to the UPOV Convention rather than being a neutral presentation of facts and all prevailing opinions, it seems that Council approval of the substance of the paper is absolutely necessary under the Convention.

Based on the historical proceedings of the UPOV, it is clear that the proper procedure to be conducted by the Office for preparation of position documents of any kind, including the referenced Memorandum, is to seek approval of the CAJ prior to such preparation. All substantive documents prepared by the Secretariat are to undergo consideration and, if necessary, deliberation by the CAJ prior to consideration by the UPOV Council. After the CAJ has fully considered the document, the document should be considered by the CC prior to consideration by the Council. This permits Member States to address any issues of concern outside the presence of observer groups. Finally, after CC approval of the document, the Council shall consider the document for final approval. The Memorandum submitted to the CBD did not follow this procedure. For these reasons, the Memorandum, as drafted, does not represent the viewpoints of the UPOV Members.

The United States would like the CAJ to affirm the procedures set forth above as the appropriate procedural measures that should be taken before the Office issues any correspondence on behalf of UPOV Members.

Second Issue

With respect to the substance of the paper, the position and tone taken in this paper do not reflect the viewpoint of the United States.

The Memorandum makes a number of unsupported assumptions and conclusory statements without analysis or substantiation. Furthermore, to make any conclusions with respect to GURTs technology seems unwarranted given the overall lack of reliable scientific, economic and social data currently available on this technology.

The Memorandum prepared by the office has already been widely disseminated and is presumed by readers to reflect the views of UPOV Members. Any action taken by UPOV should be rapidly invoked. The Memorandum is not a neutral presentation of facts and prevailing opinions; instead, it presents a one-sided negative view of GURTs technology. As a result, the prevailing conclusion is that all Members of UPOV do not support any GURTs technologies. We have serious concerns as to whether this accurately reflects the positions of all of the UPOV Members. Therefore, we propose that the CAJ recommend that the CC direct the Office to draft a letter of retraction for the Memorandum that clearly indicates the

Memorandum was submitted in error and should not be attributed as a consensus view of UPOV Members. The CAJ may wish further to consider distributing additional consensus materials for clarification.

Some of the specific issues identified by the United States are addressed below:

- **Conclusions Are Unsupported**

Each of Paragraphs 10, 11, 12, 14 and 15 makes conclusions that are not supported by any factual or empirical evidence.

In paragraph 10, the fact that GURTs may prevent the use of second-generation seeds is irrelevant to the term of protection provided by UPOV. For example, just because hybrids cannot be sexually reproduced does not mean they are not subject to protection under UPOV.

Paragraph 11 concludes that the use of GURTs “prevents access to germplasm, hampers research and breeding progress and sustainability, and limits benefits to society,” without providing any factual or empirical evidence to support this conclusion. There is no support for the conclusion that not being able to save seed is negative for society as a whole. Users of hybrid seeds do not save seed, but society has gained tremendously from hybrids due to increased yields of the crop. Also, research can still be conducted on the GURTs variety through asexual reproduction, single or multiple cell cultivation, etc. Finally, small farmers may benefit greatly if the invention stimulates the extension of biotechnology to “minor crops” such as tomatoes. Many so-called “minor crops” (i.e., crops that do not occupy a large share of the crop acreage in the U.S. or elsewhere, even if high value) are limited by lack of technology to manage pests or produce and harvest the crop efficiently. The private sector often sees too low a return to justify the plant breeding research investment in varietal improvement in such crops. As a result, growers' productivity and crop quality may be lower than their potential. But GURTs could change the equation.

Contrary to the suggestion in paragraph 12, the fact that GURTs technology exists does not affect a Member State from determining whether or not to implement the “farmers’ privilege.” Therefore, the conclusion of this paragraph has no basis. Farmers are not required to purchase or use GURTs seed. If saving seed is a necessary economic reality for agriculture in that Member State, then there will not be a market for GURTs within that Member State. Thus, the option of a “farmers’ privilege” could actually curb the use of GURTs technology in some territories.

Also, contrary to the conclusion in paragraph 13, GURTs does not restrict a Government from issuing a compulsory license. Furthermore, the conclusion presumes that GURTs varieties would be the only available varieties to alleviate a public interest crisis. Generally, however, GURTs plant varieties would not be the only options. The United States would argue, however, that if such varieties incorporating GURTs technology were the only tools available and would not have been developed in the absence of those technologies, they would be indispensable.

Paragraph 15 summarizes several issues based on unsupported presumptions as discussed below and then makes several conclusions that cannot be substantiated due to the inaccuracy of those presumptions. Furthermore, GURTs technology is so new

that there are very little reliable, relevant scientific, economic and social data. To make any conclusions of this nature is unfounded.

- **Only Negative Applications of GURTs Are Discussed**

Throughout the entire paper, only negative applications of GURTs technology are discussed (see paragraphs 3, 7 and 11, for example). The Memorandum only references the use of GURTs to theoretically prevent the unauthorized reproduction of all seed-propagated plant species (see paragraph 3). None of the important potential positive applications of GURTs, such as avoiding the dissemination of transgenes, increasing yields through modifications of gene switches, increasing adaptiveness to the environment, or assisting in hybrid seed production are discussed or even mentioned.

- **Evidence Supporting Presumptions Is Inaccurate**

Conclusions can only be accurate if the presumptions underlying the conclusions are accurate. The Memorandum makes numerous presumptions that do not seem to be factually supportable or, in some cases, even logically reasoned.

In paragraph 2, there is an initial presumption that “certain biological systems may be developed and used as a substitute for protection” in the absence of a legal basis for effective plant variety protection. The Memorandum implies that the driving force for the development of hybrids was due to the desire or need for intellectual property (IP) protection. This implication is probably not supportable because evidence suggests that other factors, such as economic and social benefits, also played a strong role in the development of hybrids. For example, hybrid maize was developed because public and private researchers found that this was the most effective method of raising yields on a farm. Publicly funded researchers at national research agencies such as the National Institute for Agricultural Research (INRA) in France, the centers of the Consultative Group on International Agricultural Research (CGIAR) system and various public universities in many nations are using inbred lines and hybrids today to increase yields of many crops. Hybrids have a 70-year history of providing sustained increased yields on farms (see Duvick articles).² Furthermore, while IP protection often drives research overall by permitting innovators to recoup their investment in research, social and economic factors typically are the driving forces for the specific type of research that is developed.

Paragraph 9 states that “a variety with GUR genes never reproduces through seeds,” and based on this statement makes the conclusion that “no particular care is given to specific plant material” when considering when to use a GUR gene. Since GUR genes can be reproduced through seeds, the basis for the conclusion is wrong. Moreover, even if the premise were correct, this conclusion would not follow from it.

² Duvick, D. N. 1977. Genetic rates of gain in hybrid maize yields during the past 40 years. *Maydica* XXII:187-196.

Duvick, D. N. 1984. Genetic Contributions to Yield Gains of U.S. Hybrid Maize, 1930 to 1980: 1-47.

Duvick, D. N. 1992. Genetic contributions to advances in yield of U.S. maize. *Maydica* 37:69-79.

Eyhéribide, G. H., A. L. Damilano and J. C. Colazo. 1994. Genetic gain for grain yield of maize in Argentina. *Maydica* 39:207-211.

The argument in paragraph 14 presumes that GURTs plant varieties will be developed even if they do not meet DUS standards. This type of presumption is unsupported and rests on a secondary presumption that GURTs technology has no other use except to prevent breeding. Contrary to the stated conclusion in the Memorandum, GURTs varieties could still be marketed even if they are not protected by UPOV, if the economic and social benefits of GURTs make them desirable. For example, raising the economic incentive for minor crop improvement and crop development may raise the rate of return for growers. Market forces will limit the spread GURTs in the seed market to levels that are cost effective. If the cost of the improved seeds does not result in greater value to the producer, there will be no market for the GURTs varieties. This paragraph also fails to provide any analysis on how the conclusion is derived.

- **Analysis Leading to the Conclusion Is Absent**

The final conclusion of the Memorandum, that implementation of a UPOV consistent legal framework is the “best” avenue for protecting the rights of breeders, is based on faulty reasoning and the numerous unjustified and erroneous statements.

Several times throughout the Memorandum the paper states a presumption and a conclusion, but fails to provide the analysis that leads the reader to deduce the conclusion from the presumption (for example, see paragraphs 6, 8 and 9).

Paragraph 6 concludes that plant varieties are “affected” under the UPOV Convention in so far as they retain GUR genes, but there is no analysis as to how or what effect GUR genes would have on those varieties. A plant variety containing a GUR gene would either meet new, distinct, uniform and stable (DUS) standards or not. Therefore, the effect of GURTs technology relevant to the UPOV Convention is unclear.

Again, in paragraphs 8 and 9, there is no analysis as to how the insertion of GUR genes into plant varieties would affect UPOV standards. The variety either meets the DUS standard or not. The paragraphs fail to explain how the insertion of GUR genes affects UPOV protection of various materials such as seeds, bulbs, tubers, seedlings, etc. and why this is a negative aspect of GURTs.

While we recognize that not all Member States would share our views on all of these issues, we do believe that the Memorandum reflects a specific position on GURTs that would not be shared by all Member States. Furthermore, we are concerned that reaching a consensus opinion by Member States on GURTs would require a considerable amount of deliberation and amendment to the Memorandum prepared by the Office.

UPOV

INTERNATIONALER
VERBAND
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GENÈVE, SCHWEIZ

UNION INTERNATIONALE
POUR LA PROTECTION
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DE LAS OBTENCIONES
VEGETALES
GINEBRA, SUIZA

INTERNATIONAL UNION
FOR THE PROTECTION
OF NEW VARIETIES
OF PLANTS
GENEVA, SWITZERLAND

738 US 03

March 31, 2003

Dear Mrs. Boland,

I acknowledge receipt of and thank you for your letter dated March 28, 2003, and its attached "Proposal of the United States of America regarding procedural and substantive issues on the GURTs memorandum submitted by the Office of the Union to the Convention on Biological Diversity."

As per your request, we have added a new item (Memorandum prepared by the Office of UPOV on the Genetic Use Restriction Technologies (document CAJ/47/7)) to the draft agenda of the forty-seventh session of the Administrative and Legal Committee (document CAJ/47/1 Rev.), which will be held in Geneva on April 10, 2003.

For your information, document CAJ/47/7 contains, in addition to the Memorandum of the Office of UPOV, the exchange of correspondence between our Offices, including your Proposal. The above documents will be sent to CAJ members and observers shortly.

Sincerely yours,

[Original signed by]
Rolf Jördens
Vice Secretary-General

Mrs. Lois E. Boland
Administrator for External Affairs
United States Patent and Trademark Office
Washington, DC 20231
United States of America

Fax 001-703-305-8885 (1 page)

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