PLANT VARIETY PROTECTION ACT AMENDMENTS OF 1993

HEARING

BEFORE THE

SUBCOMMITTEE ON DEPARTMENT OPERATIONS AND NUTRITION

OF THE

COMMITTEE ON AGRICULTURE HOUSE OF REPRESENTATIVES

ONE HUNDRED THIRD CONGRESS

SECOND SESSION

ON

H.R. 2927

MAY 24, 1994

Serial No. 103–70

Printed for the use of the Committee on Agriculture

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PLANT VARIETY PROTECTION ACT AMENDMENTS OF 1993

TUESDAY, MAY 24, 1994

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON DEPARTMENT
OPERATIONS AND NUTRITION,
COMMITTEE ON AGRICULTURE,
Washington, DC.

The subcommittee met, pursuant to call, at 2:05 p.m., in room 1300, Longworth House Office Building, Hon. Charles W. Stenholm (chairman of the subcommittee) presiding.

Present: Representatives Sarpalius, Dooley, Inslee, Volkmer, Holden, Pomeroy, Smith of Oregon, Emerson, Gunderson, Allard, Barrett, Ewing, Kingston, and Canady.

Also present: Representative Roberts, ranking minority member of the committee.

Staff present: Joseph Muldoon, associate counsel; Gary R. Mitchell, minority staff director; John E. Hogan, minority counsel; Dale Moore, minority legislative coordinator; Glenda L. Temple, clerk; Stan Ray, James A. Davis, Xavier Equihua, and Pete Thomson.

OPENING STATEMENT OF HON. CHARLES W. STENHOLM, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Mr. STENHOLM. The subcommittee will come to order.

Today's hearing focuses on H.R. 2927, the Plant Variety Protection Act Amendments of 1993, which would amend our domestic law to implement the 1991 international agreement to provide uniform protection to plant varieties.

The United States is a member of the 24-nation Union—the International Union for the Protection of New Varieties of Plants, better known as UPOV—which includes Canada, Australia, New Zealand, Japan, South America and many European countries.

At issue is who has rights to a particular seed, genetic trait or combination of genetic traits and how far breeders' rights should extend. The Plant Variety Protection Act was passed in 1970 to protect seed varieties without infringing on the farmer's traditional right to save and sell seed. Under the international agreement, however, there is only an exception for the farmer to save his own seed but not to sell any without the permission of the breeder. Striking a balance between the two is a difficult proposition.

I look forward to the testimony from today's witnesses and trust it will help this subcommittee better understand these issues as we consider this important legislation.

[H.R. 2927 follows:]

I

103D CONGRESS
1ST SESSION

H. R. 2927

To amend the Plant Variety Protection Act to make such Act consistent with the International Convention for the Protection of New Varieties of Plants of March 19, 1991, to which the United States is a signatory, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

AUGUST 6, 1993

Mr. DE LA GARZA (for himself, Mr. ROBERTS, and Mr. BROWN of California) introduced the following bill; which was referred to the Committee on Agriculture

---

A BILL

To amend the Plant Variety Protection Act to make such Act consistent with the International Convention for the Protection of New Varieties of Plants of March 19, 1991, to which the United States is a signatory, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE; REFERENCES.

(a) SHORT TITLE.—This Act may be cited as the "Plant Variety Protection Act Amendments of 1993".

(b) REFERENCES TO PLANT VARIETY PROTECTION ACT.—Except as otherwise expressly provided, whenever

in this Act an amendment or repeal is expressed in terms of an amendment to, or repeal of, a section or other provision, the reference shall be considered to be made to a section or other provision of the Plant Variety Protection Act (7 U.S.C. 2321 et seq.).

SEC. 2. DEFINITIONS AND RULES OF CONSTRUCTION.

Section 41 (7 U.S.C. 2401) is amended to read as follows:

"SEC. 41. DEFINITIONS AND RULES OF CONSTRUCTION.

"(a) DEFINITIONS.—As used in this Act:

"(1) BASIC SEED.—The term 'basic seed' means the seed planted to produce certified or commercial seed.

"(2) BREEDER.—The term 'breeder' means the person who directs the final breeding creating a variety or who discovers and develops a variety. If the actions are conducted by an agent on behalf of a principal, the principal, rather than the agent, shall be considered the breeder. The term does not include a person who redevelops or rediscovers a variety the existence of which is publicly known or a matter of common knowledge.

"(3) ESSENTIALLY DERIVED VARIETY.—

"(A) IN GENERAL.—The term 'essentially derived variety' means a variety that—

"(i) is predominantly derived from another variety (referred to in this paragraph as the 'initial variety') or from a variety that is predominantly derived from the initial variety, while retaining the expression of the essential characteristics that result from the genotype or combination of genotypes of the initial variety;

"(ii) is clearly distinguishable from the initial variety; and

"(iii) except for differences that result from the act of derivation, conforms to the initial variety in the expression of the essential characteristics that result from the genotype or combination of genotypes of the initial variety.

"(B) METHODS.—An essentially derived variety may be obtained by the selection of a natural or induced mutant or of a somaclonal variant, the selection of a variant individual from plants of the initial variety, backcrossing, transformation by genetic engineering, or other method.

"(4) KIND.—The term 'kind' means one or more related species or subspecies singly or collec-

tively known by one common name, such as soybean, flax, or radish.

"(5) SEXUALLY REPRODUCED.—The term 'sexually reproduced' includes any production of a variety by seed.

"(6) UNITED STATES.—The terms 'United States' and 'this country' mean the United States, territories and possessions of the United States, and the Commonwealth of Puerto Rico.

"(7) VARIETY.—The term 'variety' means a plant grouping within a single botanical taxon of the lowest known rank, that, without regard to whether the conditions for plant variety protection are fully met, can be 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 characteristic and considered as a unit with regard to the suitability of the plant grouping for being propagated unchanged. A variety may be represented by seed, transplants, plants, and other matter.

"(b) RULES OF CONSTRUCTION.—For the purposes of this Act:

"(1) SALE OR DISPOSITION FOR NONREPRODUCTIVE PURPOSES.—The sale or disposition, for other than reproductive purposes, of harvested material produced as a result of experimentation or testing of a variety to ascertain the characteristics of the variety, or as a by-product of increasing a variety, shall not be considered to be a sale or disposition for purposes of exploitation of the variety.

"(2) SALE OR DISPOSITION FOR REPRODUCTIVE PURPOSES.—The sale or disposition of a variety for reproductive purposes shall not be considered to be a sale or disposition for the purposes of exploitation of the variety if the sale or disposition is done as an integral part of a program of experimentation or testing to ascertain the characteristics of the variety, or to increase the variety on behalf of the breeder or the successor in interest of the breeder.

"(3) SALE OR DISPOSITION OF HYBRID SEED.—The sale or disposition of hybrid seed shall be considered to be a sale or disposition of harvested material of the varieties from which the seed was produced.

"(4) APPLICATION FOR PROTECTION OR ENTERING INTO A REGISTER OF VARIETIES.—The fil-

ing of an application for the protection or for the entering of a variety in an official register of varieties, in any country, shall be considered to render the variety a matter of common knowledge from the date of the application, if the application leads to the granting of protection or to the entering of the variety in the official register of varieties, as the case may be.

"(5) DISTINCTNESS.—The distinctness of one variety from another may be based on one or more identifiable morphological, physiological, or other characteristics (including any characteristics evidenced by processing or product characteristics, such as milling and baking characteristics in the case of wheat) with respect to which a difference in genealogy may contribute evidence.

"(6) PUBLICLY KNOWN VARIETIES.—

"(A) IN GENERAL.—A variety that is adequately described by a publication reasonably considered to be a part of the public technical knowledge in the United States shall be considered to be publicly known and a matter of common knowledge.

"(B) DESCRIPTION.—A description that meets the requirements of subparagraph (A)

shall include a disclosure of the principal characteristics by which a variety is distinguished.

"(C) OTHER MEANS.—A variety may become publicly known and a matter of common knowledge by other means.".

SEC. 3. RIGHT TO PLANT VARIETY PROTECTION; PLANT VARIETIES PROTECTABLE.

Section 42 (7 U.S.C. 2402) is amended to read as follows:

"SEC. 42. RIGHT TO PLANT VARIETY PROTECTION; PLANT VARIETIES PROTECTABLE.

"(a) IN GENERAL.—The breeder of any sexually reproduced plant variety (other than fungi or bacteria) who has so reproduced the variety, or the successor in interest of the breeder, shall be entitled to plant variety protection for the variety, subject to the conditions and requirements of this Act, if the variety is—

"(1) new, in the sense that, on the date of filing of the application for plant variety protection, propagating or harvested material of the variety has not been sold or otherwise disposed of to other persons, by or with the consent of the breeder, or the successor in interest of the breeder, for purposes of exploitation of the variety—

"(A) in the United States, more than 1 year prior to the date of filing; or

"(B) in any area outside of the United States—

"(i) more than 4 years prior to the date of filing; or

"(ii) in the case of a tree or vine, more than 6 years prior to the date of filing;

"(2) distinct, in the sense that the variety is clearly distinguishable from any other variety the existence of which is publicly known or a matter of common knowledge at the time of the filing of the application;

"(3) uniform, in the sense that any variations are describable, predictable, and commercially acceptable; and

"(4) stable, in the sense that the variety, when sexually reproduced, will remain unchanged with regard to the essential and distinctive characteristics of the variety with a reasonable degree of reliability commensurate with that of varieties of the same category in which the same breeding method is employed.

"(b) MULTIPLE APPLICANTS.—

"(1) IN GENERAL.—If 2 or more applicants submit applications on the same effective filing date for varieties that cannot be clearly distinguished from one another, but that fulfill all other requirements of subsection (a), the applicant who first complies with all requirements of this Act shall be entitled to a certificate of plant variety protection, to the exclusion of any other applicant.

"(2) REQUIREMENTS COMPLETED ON SAME DATE.—

"(A) IN GENERAL.—Except as provided in subparagraph (B), if 2 or more applicants comply with all requirements for protection on the same date, a certificate shall be issued for each variety.

"(B) VARIETIES INDISTINGUISHABLE.—If the varieties that are the subject of the applications cannot be distinguished in any manner, a single certificate shall be issued jointly to the applicants.".

SEC. 4. APPLICATIONS.

Section 52 (7 U.S.C. 2422) is amended—

(1) in paragraph (1), by adding at the end the following new sentence: "The variety shall be named

in accordance with regulations issued by the Secretary.";

(2) in the first sentence of paragraph (2), by striking "novelty" and inserting "distinctiveness, uniformity, and stability";

(3) by redesignating paragraphs (3) and (4) as paragraphs (4) and (5), respectively; and

(4) by inserting after paragraph (2) the following new paragraph:

"(3) A statement of the basis of the claim of the applicant that the variety is new.".

SEC. 5. BENEFIT OF EARLIER FILING DATE.

Section 55(a) (7 U.S.C. 2425(a)) is amended—

(1) by redesignating the first and second sentences as paragraphs (1) and (2), respectively;

(2) in paragraph (1) (as so designated), by inserting before the period at the end the following: ", not including the date on which the application is filed in the foreign country"; and

(3) by adding at the end the following new paragraph:

"(3)(A) An applicant entitled to a right of priority under this subsection shall be allowed to furnish any necessary information, document, or material required for the purpose of the examination of the application during—

"(i) the 2–year period beginning on the date of the expiration of the period of priority ; or

"(ii) if the first application is rejected or withdrawn, an appropriate period after the rejection or withdrawal, to be determined by the Secretary.

"(B) An event occurring within the period of priority (such as the filing of another application or use of the variety that is the subject of the first application) shall not constitute a ground for rejecting the application or give rise to any third party right.".

SEC. 6. CONTENTS AND TERM OF PLANT VARIETY PROTECTION.

Section 83 (7 U.S.C. 2483) is amended—

(1) in the second sentence of subsection (a), by striking "by variety name";

(2) in the first sentence of subsection (b)—

(A) by striking "eighteen" and inserting "20"; and

(B) by inserting before the period at the end the following: ", except that, in the case of a tree or vine, the term of the plant variety protection shall expire 25 years from the date of issue of the certificate"; and

(3) in subsection (c), by striking "repository: *Provided, however,* That" and inserting "repository,

or requiring the submission of a different name for the variety, except that".

SEC. 7. PRIORITY CONTEST.

(a) PRIORITY CONTEST; EFFECT OF ADVERSE FINAL JUDGMENT OR INACTION.—Sections 92 and 93 (7 U.S.C. 2502 and 2503) are repealed.

(b) INTERFERING PLANT; VARIETY PROTECTION.—

(1) REDESIGNATION.—Chapter 9 of title II (7 U.S.C. 2501 et seq.) is amended by redesignating section 94 (7 U.S.C. 2504) as section 92.

(2) AMENDMENTS.—Section 92 (as so redesignated) is amended—

(A) by striking "The owner" and inserting "(a) The owner"; and

(B) by striking the second sentence.

(c) APPEAL OR CIVIL ACTION IN CONTESTED CASES.—

(1) TRANSFER.—Section 73 (7 U.S.C. 2463) is amended by transferring subsection (b) to the end of section 92 (as redesignated by subsection (b)(1)).

(2) REPEAL.—Section 73 (as amended by paragraph (1)) is repealed.

(d) CONFORMING AMENDMENT.—Section 71 (7 U.S.C. 2461) is amended by striking "92,".

SEC. 8. INFRINGEMENT OF PLANT VARIETY PROTECTION.

Section 111 (7 U.S.C. 2541) is amended—

(1) in subsection (a)—

(A) by striking "novel" the first two places it appears and inserting "protected";

(B) in paragraph (1), by striking "the novel" and inserting "or market the protected";

(C) by striking "novel" each place it appears in paragraphs (2) through (7);

(D) by striking "or" each place it appears at the end of paragraphs (3) through (6);

(E) by redesignating paragraphs (7) and (8) as paragraphs (9) and (10), respectively; and

(F) by inserting after paragraph (6) the following new paragraphs:

"(7) condition the variety for the purpose of propagation;

"(8) stock the variety for any of the purposes referred to in paragraphs (1) through (7);";

(2) by redesignating subsection (b) as subsection (f); and

(3) by inserting after subsection (a) the following new subsections:

"(b) The owner of a protected variety may authorize the use of the variety under this section subject to conditions and limitations specified by the owner.

"(c) This section shall apply equally to—

"(1) any variety that is essentially derived from a protected variety, unless the protected variety is an essentially derived variety;

"(2) any variety that is not clearly distinguishable from a protected variety;

"(3) any variety whose production requires the repeated use of a protected variety; and

"(4) harvested material (including entire plants and parts of plants) obtained through the unauthorized use of propagating material of a protected variety, unless the owner of the variety has had a reasonable opportunity to exercise the rights provided by this Act with respect to the propagating material.

"(d) It shall not be an infringement of the rights of the owner of a variety to perform any act concerning propagating material of any kind, or harvested material, including entire plants and parts of plants, of a protected variety that has been sold or otherwise marketed with the consent of the owner in the United States, unless the act involves further propagation of the variety or involves an export of material of the variety, that enables the propaga-

tion of the variety, into a country that does not protect varieties of the plant genus or species to which the variety belongs, unless the exported material is for final consumption purposes.

"(e) It shall not be an infringement of the rights of the owner of a variety to perform any act done privately and for noncommercial purposes.".

SEC. 9. RIGHT TO SAVE SEED; CROP EXEMPTION.

The first sentence of section 113 (7 U.S.C. 2543) is amended by striking "section: *Provided,* That" and all that follows through the period and inserting "section.".

SEC. 10. LIMITATION OF DAMAGES; MARKING AND NOTICE.

Section 127 (7 U.S.C. 2567) is amended by striking "novel" each place it appears.

SEC. 11. OBLIGATION TO USE VARIETY NAME.

Section 128(a) (7 U.S.C. 2568(a)) is amended by adding at the end the following new paragraph:

"(4) Failure to use the name of a variety for which a certificate of protection has been issued under this Act, even after the expiration of the certificate.".

SEC. 12. TRANSITIONAL PROVISIONS.

(a) IN GENERAL.—Except as provided in subsection (b), any variety for which a certificate of plant variety protection has been issued prior to the effective date of this

Act, and any variety for which an application is pending on the effective date of this Act, shall continue to be governed by the Plant Variety Protection Act (7 U.S.C. 2321 et seq.), as in effect on the day before the effective date of this Act.

(b) APPLICATIONS WITHDRAWN AND REFILED.—If a pending application is withdrawn and refiled after the effective date of this Act, eligibility for protection and the terms of protection shall be governed by the Plant Variety Protection Act, as amended by this Act.

SEC. 13. EFFECTIVE DATE.

This Act and the amendments made by this Act shall become effective 180 days after the date of enactment of this Act.

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Mr. STENHOLM. I would now like to recognize Mr. Roberts. I understand you have a schedule problem, and we recognize the ranking minority member of the full committee, Mr. Roberts of Kansas.

OPENING STATEMENT OF HON. PAT ROBERTS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF KANSAS

Mr. ROBERTS. Thank you, Mr. Chairman, and thank you for your indulgence, and my apologies to the rest of the subcommittee.

I want to thank you for convening today's hearing on H.R. 2927. This bill was introduced by the chairman of the full committee, Mr. de la Garza, Chairman Brown, and myself at the request of the administration. The purpose of the bill, as you have indicated, is to make the necessary amendments to the Plant Variety Protection Act to bring it into conformity with its updated international sibling, the Union for the Protection of New Varieties of Plants.

I think, with the exception of a few concerns that some of today's witnesses are certain to highlight, it is my understanding that this legislation has the general approval of all interested parties. In addition, I also understand that many of the concerns have already been addressed in regard to the companion bill, S. 1406.

The chairman has indicated the background of the bill. I have several paragraphs that essentially also say that. I ask permission to revise and extend my remarks, Mr. Chairman, and at this juncture have my full statement entered in the record.

But I want to underscore the importance of ensuring the ability of a farmer to save back seed for the planting of his or her next crop. I think this legislation will do that. That leaves the issue of selling excess saved seed—and excess meaning that seed beyond the farmer's needs for his own plantings. That is a tough question. I know it is a tough question. It is one that I am hoping today's witnesses can help shed some light on in regards to both sides of the issue, but I think it can be resolved.

And, finally, saving the most important point for last, it is a privilege for me to introduce and welcome to the subcommittee one of my constituents who will be testifying on the second panel, Mr. Chairman, Mr. Lawrence Strouts of Wilsey, Kansas, America. Lawrence is a Morris County farmer, a certified Kansas seed wheat dealer, and a man who has spent 30 years trying to teach science to Solomon High School students. Now there is a reason for all of this—and I say "trying" to teach science because my staff director, Mr. Gary Mitchell, was a student of Mr. Strouts, and we are continuing his efforts to educate Mr. Mitchell and to bring salient and productive answers to the challenges we face in agriculture.

So I look forward to the grassroots perspective that Lawrence will obviously bring to today's hearing as well as the comments and counsel of other witnesses. And, again, Mr. Chairman, thank you for letting me proceed out of order.

[The prepared statement of Mr. Roberts follows:]

The Honorable Pat Roberts
Hearing Statement:
Dept. Operations Subcommittee
May 24, 1994

HR 2927: Plant Variety Protection Act Amendments

Mr. Chairman, Mr. Smith: Thank you for convening today's hearing on H.R. 2927, a bill introduced by Chairman de la Garza, our colleague Chairman Brown, and me at the request of the Administration. The purpose of this bill is to make the necessary amendments to the Plant Variety Protection Act (PVPA) to bring it into conformity with its updated international sibling, the Union for the Protection of New Varieties of Plants -- UPOV for short.

With the exception of a few concerns that some of today's witnesses are certain to highlight, it is my understanding that this legislation has the general approval of all interested parties. In addition, I also understand that many of the concerns have been addressed through actions on the companion bill, S. 1406.

The PVPA was first enacted in 1970, and was intended to encourage the research and development of new varieties of plants. Obviously, a key interest of this Committee is to make certain the law continues to serve as an encouragement -- rather than an impediment -- to the plant geneticists working to provide our agricultural producers with new and improved plant varieties to help them meet the economic and management challenges of modern agriculture.

This encouragement is particularly critical for self-propagating species of plants, such as wheat, soybeans and cotton. Over the past few years, the farm sector has witnessed a the phase-down or pull-out by some private-sector plant breeders in these three important crops -- a very troubling development.

At the same time, we need to ensure that we reconfirm the ability of a farmer to save back seed for the planting of his or her next crop. And, I believe this legislation will do that. That leaves the issue of selling excess saved seed -- "excess" meaning that seed beyond the farmer's needs for his own plantings. That is the tough question, and one I'm hoping today's witnesses can help shed some light on relative to both sides of the issue.

Finally, saving the most important point for last, I want to introduce and welcome to the Committee one of my constituents -- Mr. Lawrence Strouts of Solomon, Kansas. Lawrence is a Morris County farmer, a certified Kansas seed wheat dealer, and a man who spent 30 years trying to teach science to Solomon High School students -- I say "trying" because my staff director on the Committee was a student of Lawrence's.

I look forward to the grassroots perspective Lawrence will bring to today's hearing, as well as the comments and counsel of the other witnesses.

Mr. STENHOLM. Mr. Smith.

Mr. SMITH of Oregon. Mr. Chairman, I have a statement for the record. Thank you.

Mr. STENHOLM. Without objection, it will be made a part of the record.

[The prepared statement of Mr. Smith follows:]

STATEMENT OF
ROBERT F. SMITH
BEFORE THE SUBCOMMITTEE ON
DEPARTMENT OPERATIONS AND NUTRITION
MAY 24, 1992

Mr. Chairman, thank you for calling this hearing today to take testimony regarding HR 2927, the Plant Variety Protection Act Amendments of 1993. This legislation is an important step towards fulfilling the obligation incurred by the United States as a result of our participation in the International Convention for the Protection of New Varieties.

The development of new plant varieties is important to production agriculture. Not only to increase production of agricultural commodities, but to develop other qualities as well, such as pest and disease resistance. However, the development of these new varieties is time-consuming and costly.

The underlying concept of the International Convention for the Protection of New Varieties and this enabling legislation is simple enough. It maintains that by granting the owner of a variety the right to prevent unauthorized use or sale of the seed of that variety, the owner will have the opportunity to recover the cost of development and profit from their work. This profit then encourages the production of new varieties.

I am particularly interested in three subjects with respect to this legislation. The potato industry has expressed an interest in amending HR 2927 to include potatoes within the patent protection offered by the Plant Variety Protection Act. The potato is

the leading vegetable crop in the U.S. and currently has no effective form of patent protection.

The potato, being an asexually propagated crop, was not protected through the Plant Patent Act of 1930. An amendment to include potatoes here would give that commodity the protection equivalent to most every other country in the world. Appropriate language has been adopted to the Senate bill, S 1406, and I urge this Committee to examine the merits of doing the same when the appropriate time comes.

The grass seed industry, which plays a prominent role in the agricultural industry in the Pacific Northwest, has long relied on marketing practices associated with surplus production. These practices represent an amiable understanding and agreement between breeders which own the patent of a particular variety and farmers growing it under contract.

When released by the contracting company, these arrangements have allowed the grass seed growers to market their seed and recover some of their investment. By all accounts, this practice favors both parties, as well as consumers. Another amendment adopted in the Senate would preserve this situation and I believe this Committee will see the wisdom of that provision.

Finally, Mr. Chairman, I look forward with great interest to testimony regarding the subject of selling saved seed. Saved seed defines the complexity of this issue more

that any other aspect of this legislation. This Committee has always focused its attention on helping farmers market what they grow.

At the same time, we must ensure that breeders continue to have economic incentives to the produce new varieties necessary to address the constantly emerging challenges facing farmers today. It is my experience that the agriculture industry is a close knit community that understands the value of working together for the long term benefit of everyone. I am confident that the final package will serve the goals of all interested parties.

Again, Mr. Chairman, thank you for conducting this hearing today. I look forward to the testimony and the responses to Committee Members' questions.

Mr. STENHOLM. Mr. Sarpalius.

Mr. SARPALIUS. Mr. Chairman, I have a statement, too, to submit.

[The prepared statement of Mr. Sarpalius follows:]

Statement of the Honorable Bill Sarpalius
Subcommittee on Department Operations and Nutrition
Review of the Plant Variety Protection Act Amendments
Tuesday, May 24, 1994

Mr. Chairman, I want to thank you for taking the time to address the issue of intellectual property rights with regard to seed varieties. I commend Chairman de la Garza for introducing legislation which encourages private sector seed research and development. The development of novel varieties of sexually reproduced plants for the public, providing protection to those who breed, develop, and discover them, promotes progress in agriculture in the public interest.

I do share the concern of many farmers who wish to save seed for the land he or she farms as well as dispose of incidental amounts of seed. I believe that a balance can be reached between all parties on this issue and I certainly look forward to working with my colleagues on the committee to achieve necessary protection for breeders of seed varieties.

Thank you, Mr. Chairman. I look forward to hearing the testimony presented by the witnesses today on H.R. 2927.

Mr. STENHOLM. Does any member have anything other than a statement for the record?

[No response.]

Mr. STENHOLM. Then we shall proceed with the first witness, Dr. Kenneth C. Clayton, Acting Deputy Assistant Secretary, Marketing and Inspection Services, accompanied by Dr. Kenneth Evans and Mr. Dieter Hoinkes.

STATEMENT OF KENNETH C. CLAYTON, ACTING DEPUTY ASSISTANT SECRETARY, MARKETING AND INSPECTION SERVICES, U.S. DEPARTMENT OF AGRICULTURE, ACCOMPANIED BY KENNETH EVANS, COMMISSIONER, PLANT VARIETY PROTECTION OFFICE, MARKETING AND INSPECTION SERVICES, AND H. DIETER HOINKES, PATENT AND TRADEMARK OFFICE, U.S. DEPARTMENT OF COMMERCE

Mr. CLAYTON. Thank you, Mr. Chairman, and good afternoon to you and to members of the subcommittee. I very much appreciate the invitation to present the administration's views on H.R. 2927, the bill to conform the Plant Variety Protection Act to the articles of the 1991 act of the International Convention for the Protection of New Varieties of Plants, also known as the UPOV convention.

Accompanying me today are Dr. Kenneth Evans, Commissioner of the Plant Variety Protection Office, and H. Dieter Hoinkes of the Patent and Trademark Office, Department of Commerce.

Mr. Chairman, I will briefly summarize my written testimony which has been submitted for the record.

Also, Mr. Chairman, let me state at the outset that the administration supports the enactment of H.R. 2927.

In the United States, one effective form of protecting new plant varieties that are reproduced by seed is by means of the Plant Variety Protection Act, otherwise referred to as the PVPA. The PVPA was passed by Congress in 1970. To afford our plant breeders protection in other countries as well, the United States became a member of the UPOV convention in 1981. After several years of extended negotiations, the convention was significantly revised in 1991 to provide plant breeders with improved protection for innovative plant varieties.

Although the United States is a signatory to the 1991 act of the UPOV convention, the PVPA must be amended to enable the United States to adhere or become party to the 1991 version.

The continuous development of new plant varieties is important to the production of food and fiber. The PVPA and UPOV are important to the development of new plant varieties.

Mr. Chairman, given the limited time available today, I would like to briefly address the more important changes to the PVPA that H.R. 2927 would bring about. Turning first to the farmers' exemption provisions, H.R. 2927 would continue to safeguard the privilege of farmers to save seed of a protected variety for planting on their own holdings. Sale of seed by the farmer to others would be prohibited under H.R. 2927.

However—and I must underscore this—the privilege of farmers to sell saved seed protected under present law would not be diminished. Rather, the sale of saved seed would be subject to authorization by the breeder only for varieties receiving protection after the

date of enactment of H.R. 2927. This change in the farmers' exemption is necessary in order for the United States to comply with the 1991 convention.

Without encouragement for investment in the development of new varieties, the whole farming community will gradually be put at a competitive disadvantage. Fewer plant varieties with improved characteristics will be developed, leaving farmers to plant outmoded varieties which give lower yields and which succumb to new strains of pests and diseases, thus giving farmers in other countries a clear competitive advantage.

Another major change to be made by H.R. 2927 is the establishment of a category of essentially derived varieties. This change, which would be applicable only to varieties protected under H.R. 2927 and would not apply retroactively, would enable the owner of an initial variety to exclude the selling or marketing of varieties that differ only slightly from the initial variety. This concept is the most striking innovation in the 1991 revision of the UPOV convention. It is anticipated that this change will end the practice of altering just slightly the successful varieties of others and escaping infringement charges under present law.

Other changes necessary to bring the PVPA into conformance with the 1991 convention are more limited in scope.

For example, the use of date of determination would be replaced by the use of date of filing for protection as the basis for determining eligibility for protection.

Eligibility for protection would also be extended to first generation hybrid varieties.

Also, to conform to the 1991 act of the UPOV convention, provision is made for protected varieties to be sold by a variety name only. Breeders would no longer be able to market seed of a protected variety labeled as variety not stated.

In the infringement area, the list of actions that constitute infringement would be expanded by H.R. 2927, namely by adding conditioning of protected variety for purposes of propagation. This would not, however, apply to the conditioning of saved seed by farmers for planting on their own holdings. Stocking a variety for purposes which would constitute infringement would also be prohibited.

Infringement would also be extended to include acts involving harvested material if such material is obtained through unauthorized use of propagating material.

Under H.R. 2927 the period of protection would be increased from 18 to 20 years for most crops and to 25 years for trees and vines.

Finally, Mr. Chairman, the provisions of H.R. 2927 would not take effect until 6 months after enactment and would apply only to varieties protected after that 6 months.

In closing, Mr. Chairman, we believe that H.R. 2927, if enacted into law, would enable the United States to ratify the 1991 act of the UPOV convention and thereby continue its leadership role as a proponent of effective protection of intellectual property. At the same time, these changes in the PVPA will greatly encourage the development of new varieties of plants, to the benefit of our farmers, the seed industry, and the American consumer.

Mr. Chairman, this concludes my statement. My associates and I will be pleased to respond to any questions that you or the committee might have.

[The prepared statement of Mr. Clayton appears at the conclusion of the hearing.]

Mr. STENHOLM. Thank you very much.

One scenario that has come to my attention would be a company has contracted with a group of growers to produce seed. The company doing the contracting for the variety either through a guess of the market, a change in the market, weather, et cetera, suddenly finds that they have way more seed than they have a market for and, therefore, default on certain contracts. Under the bill what would happen to the individual producer?

Mr. CLAYTON. I think, Mr. Chairman, if I understand the scenario you have laid out, the——

Mr. STENHOLM. Let me say I am company *x*. I have contracted with you to produce seed for me, and I have agreed to buy your seed, but for circumstances beyond anyone's control there is no longer a market, and, therefore, I cannot honor my contract. I would like then to take the seed and sell it, but under the bill, as proposed, that would be illegal, would it not?

Mr. EVANS. The Senate has proposed an amendment which would allow you, the grower—if the company refused to accept it, would allow the grower to take possession of that seed and sell it.

Mr. STENHOLM. I don't believe the Senate amendment quite specifically says that. But what I am asking, would the administration be amenable to an amendment that would provide that, under the circumstance that I have described in which there is a default of a contract, that an individual grower could then in turn sell the seed without breaking the law?

Mr. CLAYTON. Mr. Chairman, I think if we move too far in that direction we do run some risk of being inconsistent with the UPOV convention.

One way that you might play out your scenario, of course, is that in that circumstance, if the grower were to receive permission from the owner of the variety, then certainly the grower would be able to sell that seed. We are assuming here, of course, we are talking about a protected variety of seed, I would guess.

Mr. STENHOLM. We are assuming a protected variety, and we are assuming only one assumption. And that is I, as a grower, have had a contract to sell which has been defaulted, and, therefore, I cannot receive compensation for whatever reasons. I cannot receive compensation for my contract. I still have the seed.

Under that narrowly defined scenario—and perhaps you don't want to answer it any further today, but as we move to markup of the bill I think this is something that we do need to consider making some clarifying statements even regarding the Senate-passed language.

Mr. CLAYTON. Well, certainly, we would be happy to work with the committee as you look at possible language.

I would just observe, I think there probably are two issues inherent in the question or the scenario that you have laid out. One is an issue of breach of contract, and certainly there are remedies available in situations where contracts have been breached.

The Plant Variety Protection Act, on the other hand, really deals pretty straightforwardly with a breeder's rights, and that, obviously, is another dimension of the issue that you raise. How one brings those together in a way that remains consistent with the UPOV convention would be something we would have to try to work with you on.

Clearly, we do need to stay as consistent as we can, though, with the UPOV convention.

Mr. STENHOLM. Yes, I just think that is an interesting scenario where you have the breeder defaulting on a contract. Perhaps there is bankruptcy, perhaps there is no way you can receive payment. I mean, you can build all kind of scenarios into it. But I raise that question, and it is something not only for you but for other witnesses today who may want to comment.

So far, that is the only question that has been called to my attention.

Mr. Dooley.

Mr. DOOLEY. Dr. Clayton, I just am not as familiar with this legislation as I should be nor the existing situation, but in your written statement as well as your oral statement you stated that, however, the privilege of farmers to sell saved seed protected under the present law would not be diminished. Can you elaborate on that a little bit?

Mr. CLAYTON. Congressman Dooley, I would be happy to do that.

In the process of trying to bring our domestic Plant Variety Protection Act into conformance with the international UPOV, while at the same time recognizing that there have been existing privileges in particular that the farm community has enjoyed with respect to the use of seed, we have tried to fashion a middle ground, basically, which in the simplest terms says that varieties currently protected, the current rules would apply in terms of farmers' right to save and sell seed.

However, henceforth, once we have modified our legislation to bring it into conformance with the 1991 UPOV convention, which is very explicit on its prohibition of sale of saved seed, any varieties which would be protected under the amended statute would basically have to play by those new rules. And so for a period of time we will likely have two classes of protected varieties, one where the current rules prevail and another which, henceforth, where the new rules would prevail.

Mr. DOOLEY. So the article that was in the Wall Street Journal earlier this week that talked about the court case—I think it is at the Supreme Court now—that depending on what the Court's interpretation is, whether or not it is half of their acreage or whatever it is, is that that practice, if the Court allows—or agreed with the farmers in this case, that would then allow that practice to continue if that variety was licensed prior to this act being enacted?

Mr. CLAYTON. Only for those varieties which are protected under the law, up to the time when the Congress would amend it.

Mr. DOOLEY. So we will not be able to prevent that practice for already, prior-licensed varieties from continuing under the proposed legislation?

Mr. CLAYTON. That is correct, for varieties which would be protected under the current legislation.

However, the amended legislation will be a new situation, and any varieties protected under amended legislation, the case at issue that you described would not pertain.

Mr. DOOLEY. Did the administration consider, especially in light of some of these court challenges, that perhaps we ought to provide some direction or clarification for the courts on this? And, basically, what we are saying is status quo there. And we are not saying anything other than letting the courts basically make the determination. I just wondered what the internal discussion was on that.

Mr. CLAYTON. Well, of course the Government did file an amicus principally motivated by a desire just to have the issue settled.

Mr. DOOLEY. So the administration did file a brief consistent with what the seed company was, yet didn't choose to clarify that in the legislation? That would be consistent with the brief that they filed?

Mr. CLAYTON. I think our view was that, in trying to put together a legislative package which would create the amendments that were necessary to bring us into conformance with the revised UPOV, we had to fashion a package that would bring everyone to the table. And one of the issues which had to be dealt with was the farmer's exemption issue. And through extensive consultations with all interested parties it seemed to us that the only reasonable way forward was to basically draw a line of demarcation, kind of preamendment and postamendment of the Plant Variety Protection Act.

Mr. DOOLEY. I appreciate your comments.

Mr. SARPALIUS [assuming chair]. Any other questions?

We have a vote going on. Let me go ahead and call up the next panel if there is not any other questions on this panel. Thank you very much.

The next panel is Mr. Schmidt, Mr. Keeling, Mr. Strouts, and Mr. Clemons.

Mr. Schmidt.

STATEMENT OF DIETRICH SCHMIDT, PRESIDENT, PETOSEED CO., INC., ON BEHALF OF THE AMERICAN SEED TRADE ASSOCIATION

Mr. SCHMIDT. Thank you very much.

Good afternoon, my name is Dietrich Schmidt, president of the American Seed Trade Association. I am also president of Petoseed Company in California. We are specializing in vegetable seeds worldwide.

I would like to thank the distinguished chairman, of course, Mr. Stenholm, for calling this hearing, and I also wanted to thank Mr. Roberts, who just left, for his leadership.

I would be remiss not to also recognize the distinguished chairman of the full committee, Mr. (Kika) de la Garza, for his continued support and willingness to move this important legislation forward.

I certainly want to thank this committee for giving us the opportunity and letting us present our testimony.

I am very pleased to be here today to offer strong support for H.R. 2927 on behalf of the entire membership of ASTA, which comprises approximately 750 seed companies, large and small,

throughout the United States. Seed selection, the first decision a farmer makes each season, is a foundation for the ASTA and American agriculture. In fact, our motto is "first the seed." That is how important it is to us.

This important choice further reinforces our mission as an industry to foster and maintain a strong commitment to providing the best germplasm in the way of improved varieties for the American farmers. ASTA and the plant breeding community take this responsibility very seriously. ASTA members invest millions of dollars each year in research programs and spend countless hours developing and bringing to the market new and improved seed varieties to the farmer.

I also would like to say that H.R. 2927 offers a real opportunity for the United States to continue a strong move forward in recognizing intellectual property rights. ASTA is fully aware that the Congress has been involved in other agreements and treaties, and I would like to name the Biodiversity Treaty, NAFTA, and GATT. Those are treaties we signed and we stand behind.

American plant breeders have for the first time a significant blueprint for protection. ASTA members and those who develop and bring to the market improved seed cultivars are cognizant of the investment of time, financial resources, and commitment to agriculture.

Just as the Congress back in 1970 determined that the private sector could best position and serve the American farmer with new and improved varieties, H.R. 2927 builds on that vision and will further position and reinforce plant breeders today with a sustained and certain ability to develop and protect the new varieties that our farmers are demanding to remain competitive here at home and certainly abroad.

H.R. 2927 does more than bring the us into compliance with an international intergovernmental treaty. It reaffirms our commitment as a nation to the unconditional and consistent recognition of intellectual property rights.

ASTA members and the plant breeding community, however, must know that their risk in investment of capital and human resources is one that will enjoy the rights and privileges associated with all other forms of intellectual property. H.R. 2927 provides that incentive and guarantees that right.

ASTA has taken considerable time and effort in reaching out to the commodity groups and farmer organizations, and we have commitments from major commodity groups such as the corn, soybean, wheat, cotton growers supporting the PVPA amendment.

ASTA strongly endorses the concepts and spirit of H.R. 2927. We firmly believe that by fully adopting the provisions of the 1991 UPOV convention, American farmers, agriculture in general, and certainly the plant breeding community will all benefit.

H.R. 2927 includes important provisions that safeguard rights for the farmer as well. These include the unconditional ability for a farmer to save protected varieties of seed for use on their own holdings. ASTA fully supports this provision.

Another very important component that is unique to H.R. 2927 is the introduction of the concept of essential derivation. Mr. Chairman, the term essential derivation is one that is unique to the

plant breeding community and one that is quite new. For the plant breeder, essential derivation is the cornerstone for establishing the parameters and thresholds of research. It is, most simply, the difference between my variety and your variety in cases where the genetic blueprints are very close.

In dealing with essential derivation it is important to point out that H.R. 2927 reinforces the existing research exemption and that ASTA fully supports the free exchange of germplasm.

Thank you, Mr. Chairman, for inviting the ASTA to this hearing. On behalf of the entire ASTA membership I look forward to working with you and the full committee on this issue, and I believe that we are well on our way to securing, protecting, advancing American agriculture, and I certainly would be ready to answer any further questions, provide any details. I have submitted a full report in writing.

Thank you very much.

[The prepared statement of Mr. Schmidt appears at the conclusion of the hearing.]

Mr. STENHOLM [resuming chair]. Thank you. Next, Mr. Keeling.

STATEMENT OF JOHN KEELING, DIRECTOR, GOVERNMENTAL RELATIONS, AMERICAN FARM BUREAU FEDERATION

Mr. KEELING. Thank you, Mr. Chairman and members of the subcommittee. I thank you for the opportunity to be here.

My name is John Keeling. I am director of governmental relations for the American Farm Bureau. I look forward to the opportunity to continue working with members of the committee and the staff as we move forward to see that this legislation is enacted in a form that is beneficial for all of agriculture.

We have submitted a statement, and I would assume it would be made a part of the record.

I will briefly discuss a few of what we believe to be the key issues that remain to be resolved and try to give a little background about how Farm Bureau arrived at our policy in this area.

We spent a considerable time looking at this issue, and as Mr. Roberts alluded to, it is a complex and difficult issue, and it is necessary to balance many competing interests when you start to try to resolve a policy like this.

As you know, Farm Bureau has very strong policy on property rights. We believe strongly in the protection of intellectual property rights. We also believe in the need to protect farmers from being put in a situation where they are forced to violate the law in what is essentially normal practices of farming, so we had to balance all those concerns.

We looked at State farm bureaus, quite frankly, who wanted to be able to save and sell any quantity they wanted to and some that wanted no sales, so we had to work through much of the same process that the committee has had to look at to resolve those issues.

Let me talk a little bit about a couple of key issues, and they have been mentioned before. One is the conditioning issue. We believe that the language in the House bill right now creates an ambiguous situation that a farmer or a custom conditioner might face

if you as a farmer, instead of conditioning your own seed, took it to someone else.

The Senate language, we believe, is an improvement. It basically says it is not a violation if you are doing things that are consistent with other parts of the act. But in our statement we have proposed some language that we believe would clarify that more completely and would ask the committee to take a look at that.

We also have concerns about the broken contract issue and believe that, in fact, the Senate bill, although it makes some clarifications in that area, still leaves it where the producer could be left holding the bag, so to speak, if, in fact, the contract is broken.

Now for the final issue—and we appreciate the fact that the bill does continue to allow farmers to save seed for their own use. We believe, however, that regardless of what form this bill is passed in, incidental sales between farmers, between neighbors will continue to take place. It is not our intent to protect any farmer who is actively competing with the seed companies.

We strongly believe that both the seed companies and the farmers have both been put at a very awkward and untenable situation by the ambiguity of the current law. We believe that a bright line standard needs to be introduced. We do not, however, believe that that bright line standard ought to be set at zero amount of allowed sales.

We believe that a farmer ought to be able to save enough seed to plant his own holdings, probably twice so in the case of this—Mr. Roberts would appreciate this. If you are hailed out on your wheat, you would have a chance to go back on it with your own seed that you saved.

The situation will evolve where a farmer saves what we believe to be an incidental amount—which we understand is difficult to define. We are ready to work with the committee and with the other members at this table to try to define that amount. Where a farmer is left with that small amount of seed that has been conditioned, he has no options of anything to do with that seed except to possibly save it for another year where it runs the risk of not being as good, also of contaminating other seed or seed sources due to its treatment. So we believe that the farmer ought to have the ability to put that seed back into commerce by selling it to a neighbor.

So one of the ideas that we have talked about would be, basically, an automatic licensing provision where, for small amounts of sales—and I want to make it very clear we are looking at extremely small amounts incidental to any business activity the farmer might take, strictly to allow him to get rid of that seed where he would, upon notifying the seed company of his intent, receive effectively an automatic license to dispose of that small amount of seed.

The quid pro quo there is that the seed company knows of the farmer's activity, knows of the amounts of the sales, knows of the timing of these sales and the place he sells and the type of variety. If there is any bag of seed moving out there for which a farmer has not notified the seed company, he would be in violation of the act regardless of the amount of seed that he was selling.

So we believe that it is a balanced approach. It acknowledges the fact that the farmer we wish to protect is not competing with the

seed company. We hate to see a law written where the day the law takes effect we know in fact members of your agricultural community within your district are going to be made into violators of the law just in doing what it is that they normally do. We hate to see that take place.

We believe strongly that the person we wish to protect, the farmer we wish to protect and the person that the seed companies would want to pursue for violation of this act are not the same person. So we think that we can identify an amount of sales that would allow the farmer to be protected through an automatic licensing agreement, and the seed companies would be done no harm because it is strictly not the person who is out there moving the large amounts of brown bag seed and causing the problem.

So we believe it is a balanced approach. It acknowledges the realities of what happens out there in the real world as well as the need to reward the seed companies for their activities. I am ready for any questions that anyone has.

[The prepared statement of Mr. Keeling appears at the conclusion of the hearing.]

Mr. STENHOLM. Next, Mr. Strouts.

STATEMENT OF LAWRENCE STROUTS, FARMER AND CERTIFIED SEED DEALER, STROUTS SEEDS, INC.

Mr. STROUTS. Mr. Chairman, good afternoon.

My name is Lawrence Strouts. I am from Wilsey, Kansas, and I am pleased to be here today to discuss H.R. 2927, the Plant Variety Protection Act Amendments of 1993.

I would like to thank Congressman Roberts for inviting me here to Washington to talk about these important changes to the PVPA. I appreciate his hard work, and I am glad that I have a chance to talk directly to you and the subcommittee about my concern as a farmer and a seedsman.

I am very concerned about the content and enforcement of some parts of the Plant Variety Protection Act.

I wear two hats. One is that of a seedsman who observes that many farmers grow and sell PVPA seeds with little or no regard to the consequences. This is the cap of the Kansas Crop Improvement Association. It is the official certifying agency of the State of Kansas for which I produce seed.

The other hat is that of a farmer who sees fewer new varieties and less research being conducted toward producing new varieties that will ward off diseases and insects that attack our wheat crops. The results are lower yields and reduced profits.

I would comment that when our new varieties come out—and we are introducing two or three this year in Kansas—they only last about five years. They are good when they first hit. I doubt that we will be producing them in the year 2000. They don't run out, but the insects and the diseases mutate and just take care of them.

As a seedsman, I grow registered and certified wheat seed as it is released from Kansas State University. Generally, these releases are to category I seedsmen on a county-by-county basis and oftentimes in rather small amounts. I feel it is my responsibility to propagate wheat by PVPA rules and provide my farmer customers with the best available seed.

As a for instance, a year ago K-State released Karl 92. Morris County, my home county, received seven bushel. I propagated it last year, again this year. If all goes well, I expect to have roughly 1,000 bushels to provide to my farmer seed customers.

I am also an AgriPro associate and follow a similar procedure, but pay a royalty usually $1 to $1.50 on each 50-pound unit sold which goes back to AgriPro for their research programs. I understand from them that it takes about 10 years and about $1 million to produce a new cultivar.

On the surface, the PVPA system looks good. It is not working, though, because of widespread disregard for the rules and regulations.

For instance, Pioneer built a good reputation in grain sorghum and corn, then decided to enter the wheat seed business. They built a state-of-the-art research facility at Hutchinson, Kansas, and from there they started to market wheat seed through their dealers, hoping for a good return on their investment.

They released some excellent varieties, but it didn't work out because farmers would buy a few bushels, raise a crop, and then sell seed illegally to their neighbors. Even some of their trusted Pioneer dealers got into the act, selling out of two bins. Pioneer finally realized what was happening and closed their research facility at a considerable loss to everyone involved—and by everyone involved I mean seed dealers and farmers.

AgriPro observes that about 30 percent of Kansas wheat is planted to their varieties, yet they only collect royalties on about 5 percent. Think what they could do with a sixfold increase in research money.

For instance, they release usually one new variety each year. If they had the money coming back from the royalties on the seed that is sold under the AgriPro banner—or I should say used under the AgriPro banner—they could be releasing perhaps as many as six new varieties each fall.

As a seedsman, I have farmer customers brag to me that they made good money illegally by selling their production which came from seed they purchased from me the year before. You may ask, why do I sell to them? If I don't, they would buy from somebody else.

The consequences to me as a seedsman can be serious. If I start with a $3 bushel of wheat, it costs about another $3 to make it into a bag of wheat seed. I add about $1 of profit and expect to sell it for $7.

If my neighbors saturate the market illegally, I have to dump the bags, and my certified seed becomes just grain going to the elevator. I lose my profit, and I have to liquidate my certification expense against the value of the grain. In other words, $3 minus $3 leaves me with nothing.

Now this really doesn't happen because I know better than to overproduce. I have loyal customers who will buy from me knowing the value of certified seed. But if I dump, shall we say, just 100 bags, I have to sell 600 or 700 more just to get back to the break-even point.

As a farmer, I can't do much to increase production by increasing rainfall, and in my area there is very little irrigation so that is a

moot point. I have about reached the limit on fertilizer and pesticides. Possibly, we are going to see those limits decrease.

I have seen an increase of about one-half bushel per acre per year from using the improved varieties, meaning that we have gained about a 10 bushel yield advantage over the last 20 years, which is solely attributable to better varieties. So this gain only requires a minimum increase in the cost of seed.

It costs me about $100 to plant an acre of wheat. It wouldn't take very much more to use certified seed. In other words, there isn't much difference considering the total cost of planting that acre.

I also note that the K-State drill box survey shows about a 5 bushel per acre increase when a farmer plants certified seed as compared to bin-run.

Both the Kansas Association of Wheat Growers and the National Association of Wheat Growers have passed resolutions stating that they support the provisions of the Plant Variety Protection Act.

As the Government continues to get out of agriculture, the variety improvements coupled with gains from planting certified seed will make a very real difference.

I believe it behooves all of us to work with seedsmen and farmers to make the principles of the Plant Variety Protection Act effective and better for all concerned. In other words, we need to be working together.

I urge the subcommittee and the entire Congress to move ahead on these important amendments. As a farmer, I depend on the development of new and improved varieties. I want to know that I will keep having a good selection and the improved seed that I need to make a living.

Exactly the same thing would I state as a seedsman. We need these new varieties. We need them protected.

I thank you for this experience. I will try to answer any questions that you or the subcommittee might have for me. Thank you, Mr. Chairman.

[The prepared statement of Mr. Strouts appears at the conclusion of the hearing.]

Mr. STENHOLM. Thank you, Mr. Strouts. Next, Mr. Clemons.

STATEMENT OF LESTER CLEMONS, PRESIDENT, WASHINGTON SEED COUNCIL

Mr. CLEMONS. Thank you, Mr. Chairman and members of the subcommittee. It is indeed an honor for me to appear before you today to discuss our position on the Plant Variety Protection Act Amendments of 1993. The Washington seed industry wishes to thank you and your committee for allowing us to offer our comments for your consideration.

H.R. 2927 is of great importance to our Nation's agriculture, to the plant breeding community, and especially Washington State's seed industry.

The seed producer, the farmer, must be able to successfully compete, especially on price, with seeds imported from Third World nations and/or nations which subsidize, to varying degrees, seeds moving into the United States. Our farmers find, due to a constant escalation of production costs, that they must borrow operating capital.

All lending agencies look at cash flow and the security as a basis for their loans. For decades, a seed contract was considered bankable paper because it provided security and a cash-flow schedule. Not anymore. For the past 2 to 3 years, any grower contract for PVP varieties are suspect due to the inability or refusal by some breeder/contractors to meet the contract payment terms.

Lending agencies are now requiring additional security even to the point of refusing loans. It is sad and discouraging to see your friend and neighbor selling his equipment and farm. This farmer produced a quality crop, it was conditioned, carries a State certificate attesting to its contents and quality, all of which meets the contract terms, yet the breeder/contractor refuses to pay or take delivery and prevents the farmer from marketing the seed produced because it is a PVP variety.

We see H.R. 2927 having the possibility of correcting this glaring inequity without affecting in any way those breeder/contractors who meet the payment terms of their contracts. We urge you to consider and adopt the few additional words which, before reading, I would refer back to the words utmost necessity. We firmly support the three objectives as set forth in H.R. 2927, Plant Variety Protection Act Amendment of 1993 and as basically endorsed by ASTA.

We believe H.R. 2927 is important to the plant breeding community, the seed industry, as well as all of American agriculture. We believe H.R. 2927 reinforces the free flow of germplasm, an essential component to genetic diversity.

We also believe H.R. 2927 will specifically ensure: One, that first generation hybrids are protected; two, protection is extended to 20 years; three, protection to harvested plant parts is included; and, four, a farmer's ability to save protected varieties for usage on their own holdings.

We strongly urge the adoption of changes agreed to in S. 1406 which are: One, extending protection to potatoes and tubers; two, clarifying the ability to condition legitimate farm-saved seed; three, VNS labeling allowance for grasses, alfalfa, and clover; and, as well, that portion of S. 1406, section 93, titled "Prompt Payment." Which reads as follows:

> If a seed grower contracts with the holder of a certificate of plant variety protection issued under this act, or a licensee of the holder, to produce lawn, turf, or forage grass seed, alfalfa or clover seed, protected under this act, payments due the grower under the contract shall be completed not later than the earlier of—one, 30 days after the contract payment date; or, two, May 1 of the year following the production of the seed.

For the reasons earlier stated, it is an utmost necessity the following be added:

> Three, and if the breeder/contractor certificate holder or licensee should fail to make payment and/or take delivery of the seed produced by the grower pursuant to the contract, the grower and all subsequent purchasers shall have the authority of the owner of the plant variety protection certificate to market the seed as the variety or variety not stated.

We wish to thank you and appreciate your consideration of industry as you work through this amendment. I will try to answer any questions you may have. Thank you.

[The prepared statement of Mr. Clemons appears at the conclusion of the hearing.]

Mr. STENHOLM. Thank you very much. All of your statements in their entirety will be made a part of the record.

Any questions?

Mr. Dooley.

Mr. DOOLEY. Mr. Keeling, on your statement to continue to allow for the incidental sale of seeds. My concern on that account is do we basically give tacit approval to continued sales of a product that should have some level of protection under the property rights? I don't have a problem if we could tighten down the restriction with incidental, but I do have a problem if we are going to basically allow for the incidental sale of seeds when that was the intent of that person who was saving that seed.

Mr. KEELING. Well, our intention is that the amount of incidental sales are going to be so insignificant and, as was alluded to here, the profits from that are going to be so marginal that it is just not going to be worth it. We are not wanting to continue the situations that exist today where the line is drawn so ambiguously that nobody knows where they are. We want it drawn in a hard way at a very low level, but not to put that person who ends up with some extra seed in a position where they are forced to violate the law because those sales are going to take place, and it is not, in our opinion, the person that the seed company wants to get after anyway.

Mr. DOOLEY. It is not of a magnitude that is going to have that——

Mr. KEELING. No, and we would be glad to sit down with everybody and work out what it is. It is very difficult to define how to do it. I mean, a number is a very rough way to do it because celery seed is very different from wheat or cotton seed, but we feel like that the expertise exists within the seed industry to help us define that point that is of no harm to them.

Mr. DOOLEY. Mr. Strouts, would you concur with that?

Mr. STROUTS. Yes, I think the problem is where to draw the line, so to speak, and I would certainly agree that the great amount of the damage is done by those who intend to skirt the provisions of PVPA, yes.

I have neighbors who purposely grow thousands of bushels intending to set themselves up as seedsmen, and they pay little or no attention to the rules. In fact, they ignore the rules. They just do it.

Mr. DOOLEY. Mr. Schmidt, I am sorry I wasn't here for your testimony. I had a chance to read it. But just on this specific topic and issue, then, you believe the legislation, as presently drafted, provides for the level of protection for seed developers?

Mr. SCHMIDT. The way it is drafted right now, it will protect the farmer for the right to save his own seed for use on his own holdings. There is report language right now that was drafted by the Senate which I think takes care of that issue regarding the incidental sales. Because if you allow incidental sales without describing what it means, that can mean a lot for somebody and very little for somebody else. So I think it has to be laid out in some report language, which has been done, and I believe satisfactorily for the ASTA.

Mr. DOOLEY. Thank you.

Mr. STENHOLM. Mr. Allard.

Mr. ALLARD. Thank you, Mr. Chairman.

I would like to ask permission to submit for the record an article that was in the Wall Street Journal dated May 23, 1994, under Legal Beat. It is about this particular piece of legislation, a court case surrounding, if I might.

Mr. STENHOLM. Without objection.

[The information follows:]

LEGAL BEAT 5.23.94

High-Court Battle Sprouts From Clash Between Farmers and the Seed Industry

By PAUL M. BARRETT
Staff Reporter of THE WALL STREET JOURNAL

Any way you look at it, Denny and Becky Winterboer sold soybean seed to the wrong man.

They thought he was just another northwest Iowa farmer, like them, when he bought the seed a few years ago. But it turned out that he was working undercover for Upjohn Co.'s Asgrow Seed unit. "Next thing we knew, the sheriff was at the door, saying we were being sued by Upjohn Co.," recalls Ms. Winterboer. "We were flabbergasted."

From Minnesota to Mississippi, the seed industry complains, farmers like the Winterboers are violating a federal law that gives patent-like protection to inventors of new seed varieties. The industry says it is losing millions of dollars in business annually to farmers-turned-dealers who plant crops using proprietary seeds and then sell part of the crops for use as seeds by others. Since the farmers don't have to invest in research and development, they can sell the second-generation seed at discount prices. In 1990, for example, the Winterboers sold their recycled Asgrow seed for $8.70 a bushel; Asgrow's agents charged more than $16 a bushel.

The Winterboers see their seed sideline as "farmers helping farmers." Asgrow sees it as farmers stealing intellectual property – namely, the company's federally registered soybean varieties. "The Winterboers got into the seed-dealing business to capitalize on new genetics produced by Asgrow," charges the company's marketing director, Steven Hawkins. "They became our competitors," he contends, selling more Asgrow seed in the Clay County area in 1990 than the company's own dealers.

No one disputes that for years farmers

Becky and Denny Winterboer

have bought proprietary soybean, wheat and cotton seed and then sold part of the resulting crops as cut-rate seed. (Even at discount prices, soybeans are more valuable when sold as seed than as grain or animal feed.) At issue in dozens of lawsuits filed recently by seed companies has been whether the sales are allowed under a controversial "farmers exemption" in the Plant Variety Protection Act of 1970.

Most farmers faced with legal action have surrendered and settled out of court. The Winterboers decided to fight. After losing the first round in a federal district court in Iowa, they won a reprieve from a special appeals court in Washington, D.C. Then, last month, the Supreme Court agreed to hear Asgrow's appeal, giving the seed war new visibility.

And not a minute too soon, says the industry. "Brown-bag" sales—a reference to farmers' rudimentary packaging – are prompting big seed companies to drop expensive research programs and thus give foreign competitors an advantage, the industry claims.

Pioneer Hi-Bred International Inc. says that brown-bagging of its version of hard red winter wheat got so prevalent in grain-belt states that the company simply ceased doing research and dropped out of the market. Northrup King Co. says it abandoned research programs for cotton in Texas and soybeans in South Carolina for the same reason.

"It's difficult to quantify" the total amount of brown-bagging, explains Garren Benson, an extension agronomist at Iowa State University. The industry's real fear, he adds, "isn't so much what the problem is now, but what it could become" if it goes unchecked.

The plant-protection act gives inventors the exclusive right to market new

varieties of sexually reproducing crops such as soybeans. Even these sorts of self-generating crops begin to lose such qualities as disease resistance after several generations, however, and that forces farmers to go back to a seed company or to someone selling second-generation seed. (By contrast, hybrid crops, such as corn, aren't self-generating, and new seed is needed for each planting.)

In one ambiguous passage, the plant-protection act provides an exemption to farmers, who may save seed from their crops and sell some of it as long as the buyers are also farmers. The dispute before the Supreme Court is over how much may be sold.

The industry's answer is that farmers may sell no more than the equivalent of the amount it would take to replant their own crop. To illustrate: It takes about one bushel of soybean seed to plant an acre; each acre yields about 45 bushels of the same soybean. Asgrow argues, therefore, that the Winterboers should be allowed to sell no more than 1/45th of their soybean harvest as seed.

The U.S. Court of Appeals for the Federal Circuit, which specializes in intellectual-property matters, disagreed. Reversing the district-court ruling favoring Asgrow, the appeals court interpreted the plant-protection act as allowing farmers to sell up to half of their harvest as seed.

According to the Winterboers' district-court testimony, they appear to have gone beyond even the Federal Circuit's more generous limit. In 1990, they used Asgrow seed to produce 12,000 bushels of soybeans on 265 of their 800 acres. They sold 10,500 bushels – or 88% – of that crop as seed, according to the testimony. But their lawyer, William Bode, now says that the testimony was mistaken and that his clients never sold more than half of their soybean crop as seed. Having folded their seed business, the Winterboers stress that it never brought in more than 20% of their overall annual revenue.

John Simmons, another farmer in the area, says he occasionally bought seed from the Winterboers because of the convenience and lower cost. He fears that "if the Winterboers lose this case, the cost of seed beans will probably double."

The farmers have reason to worry. The Clinton administration has filed a brief with the Supreme Court backing Asgrow. What's more, the seed industry has been pushing plant-protection amendments in Congress will move, the administration would ban most brown-bag sales altogether. A House subcommittee has scheduled hearings on the measure for tomorrow. But since it isn't certain how quickly Congress will move, the adminstration said in its brief, the justices need to intervene in the seed fracas. Arguments before the high court are expected next fall.

Mr. ALLARD. I would like to have a little explanation to me, from the panel, how you go about enforcing this provision, were it to pass. How do you go about measuring as to whether it is your own variety that somebody else—can you do that? That somebody else raised? Is there a genetic way of doing a tracer? Would you enlighten me a little bit on that?

Mr. SCHMIDT. I will be happy to.

Under the new technology, you can identify today and certainly within very few years exactly through fingerprinting the difference from one variety from the other. That is also necessary between breeders to identify if that breeder has the same variety coming out with a new variety. So there has to be some differences. So that is definitely possible.

But, on the other side, like every law, especially the PVPA amendment here or the PVPA in general, it is the breeder who has to police his own rights, and so it is certainly not the Government or any other entity, but the possibility is there.

Mr. ALLARD. He does that through a civil court action?

Mr. SCHMIDT. I would assume.

Mr. ALLARD. Is it very difficult to run these tests?

Mr. SCHMIDT. No.

Mr. ALLARD. Are they expensive?

Mr. SCHMIDT. Not too expensive. It depends on what the situation is.

Mr. ALLARD. Are we talking about a $1,000 or $10,000?

Mr. SCHMIDT. Per test, less than that.

Mr. STROUTS. If I may comment, it is my understanding that these tests can determine wheat varieties according to the protein analysis, and the figure I heard was roughly $100 to $150.

I would agree with you, as I stated earlier, that, yes, the problem is enforcement. Do we go around sampling everybody's drill box and then ask them to prove the source of their seed? To me, that is the problem.

Mr. ALLARD. Thank you very much, Mr. Chairman.

Mr. STENHOLM. Mr. Inslee.

Mr. INSLEE. Mr. Clemons, perhaps this is clear to others, but are folks suggesting that we change the statute as far as the definition of incidental sales or are we talking just about report language?

Mr. KEELING. We are advocating a change in the statute, yes. Not to belittle report language, but we need to set out in a very clear way that small amounts of sales are allowed and define what that is, and we would believe that incidental should be defined in a way that is acceptable to the seed companies as well as the farmers, but it should be done statutorily.

Mr. INSLEE. Has language been proposed in that regard?

Mr. KEELING. No, we have no particular language at this point.

To be honest with you, I went to the same science class Gary Mitchell did, maybe some of the members of the committee did, also. But the real expertise in terms of defining that minimal level of sales that is not a problem for the seed companies and also creates the needed help for the farmer really exists within the seed companies, and so we need the political will for them to want to help us on that somewhat.

Mr. INSLEE. Thank you.

Mr. STENHOLM. Mr. Pomeroy.
Mr. POMEROY. No questions.
Mr. STENHOLM. Mr. Volkmer.
Mr. VOLKMER. No questions.
Mr. STENHOLM. Now we are talking basically about protecting the breeder of a new variety or an established variety that is covered under the Plant Variety Protection Act, correct? Where do seed cleaners, treaters fit in that equation?
Let's say that I am in the business of providing a service of cleaning and treating seed. Where do I fit?
Mr. SCHMIDT. If I may, the seed cleaner is still dependent on the certificate holder. It is the certificate holder who is responsible. His seed is out there if it is violated through the PVPA.
Mr. STENHOLM. Is there any problem in the industry regarding seed cleaners and how they are dealing with whatever payments or certificates or royalties or whatever we call them?
Mr. SCHMIDT. That is provided in the law as it is presently written.
Mr. STENHOLM. Is there a problem with the law as presently written concerning those who are in the commercial business of providing a service of cleaning, treating, and sacking seed for purposes of commercial sales by variety?
Mr. SCHMIDT. No.
Mr. STENHOLM. There is not? So whatever royalties, charges, etc., they are being paid and collected and there is no problem?
Mr. SCHMIDT. Correct.
Mr. STROUTS. With AgriPro, my contract states that, as the grower, it is my responsibility to pay those royalties, and the seed cleaner is not involved in that at all. I should say seed conditioner. In Kansas, the seed conditioners, of course, are licensed and certified by the Kansas Crop Improvement Association, so they would become involved, but they do not really assume the responsibility. It is up to the grower.
Mr. STENHOLM. But if you have a situation in which the cleaner, treater, et cetera, is also in the sales business, then they would be in the same position you are in, the seed company.
Mr. STROUTS. To me, it still falls back on the grower to see that the royalties are paid and to see that the seed is what it is supposed to be.
Mr. STENHOLM. All right, I am a grower. I am growing variety *x*. I am doing it on contract for someone else, a cleaner/treater. They take the seed from me. They pay me a little bit of a bonus for growing it. It goes in and then it is sacked and sold as variety *x* by company *x*.
That is not the breeder of the seed. Who is responsible for seeing that the breeder is, in fact, paid? Me, the grower or the treater/sacker under current law?
I am asking for my own information.
Mr. STROUTS. My only comment is that in Kansas the seed conditioner is not involved.
Mr. STENHOLM. Mr. Schmidt.
Mr. SCHMIDT. Well, yes, because the conditioner conditions the seed for someone else. He is not the breeder. He is not the certificate holder. So he conditions that seed, let's say, for a seed com-

pany, that the seed company is responsible for where that seed is sold and collecting if there are royalties involved.

On the other side, if a cleaner or conditioner would run an amount of seed for a single grower, he is not allowed to—he would violate the law if we would take that seed and label it under that certified name, since the grower or the farmer who gave him the seed for the work is not licensed. That would be a violation.

Mr. STROUTS. You would have to sign a bulk transfer certificate to that cleaner/conditioner, and this is difficult. It is discouraged. We try to keep this from happening. We try to keep control back with the grower, with the breeder.

Mr. STENHOLM. All right. I was kind of leading up, Mr. Keeling, to your question where you are talking about automatic licensing for, "small amounts of seed." Does that include the provision for automatically forwarding the royalty on that seed?

Mr. KEELING. We certainly would take a look at that. It is not our intention to take anything away from the seed companies. It is just a facilitation thing. So, I mean, it would have to be set up in a way that was easy enough to do for the producer so that it wasn't a pain in the neck. I mean, maybe a tag on the seed bag or something that he could submit or that sort of thing. But, no, we are not adverse to anything. Our desire is not to take anything away from the seed company.

Mr. STENHOLM. So as I heard what you were trying to say is we all agree that a producer may retain ownership of that volume of seed that he intends to use for planting his next year's crop, and whatever other amount, if he wants to retain enough to take care of replanting, that is perfectly legal.

Mr. KEELING. He could retain his whole crop.

Mr. STENHOLM. He could retain his whole crop. So long as he doesn't sell it there is no problem?

Mr. KEELING. Correct.

Mr. STENHOLM. But the moment he sells the first bag to someone else there begins a potential problem?

Mr. KEELING. Correct.

Mr. STENHOLM. A 1-bag sale to assist a neighbor who is short one bag is not a problem and would not be legally pursued by anyone, but a 2,000-bag sale to that same neighbor would become a problem. So somewhere between 1 and 2,000 is what you, Mr. Keeling, were saying that we should have language to, in fact, define. That becomes difficult.

So somewhere between that 1 and 2,000 is where we got a potential problem. But if, through our educational process, all of us as producers understand that whenever we sell something that belongs to somebody else we owe them for that which we have sold. I mean, that is just plain old law.

We all believe in private property rights. And if I know that I am selling something that belongs to somebody else, then there is an obligation on me to see that they get paid.

But, at some point, it is up to individual honesty as to whether you are going to do it or not. You have to live with your own conscience. At some point, it becomes a legal matter because all of us as producers now, I believe, are of the mind that if we continue to have the brown bagging that we have, we are going to run out of

varieties because no one can afford the research and development of the new products that we are going to need unless they are able to receive compensation for their trouble. That is just a matter of fact.

So that is why we all come to the table now agreeing that there has to be some changes. And some folks are going to be reluctant to make those changes because some folks have been making some pretty good money by doing that at the expense of everyone else, and they have been breaking the law. So now we are trying to clarify that.

That was the source of my question, and maybe I am not even asking the question correctly, but it is my understanding that the only problem we really have today is between producers, not necessarily baggers or treaters or what have you, because they are usually checked by the State associations, et cetera, et cetera. And if you are in the commercial business of selling you are not going to be in business long if you are, in fact, breaking the law. That is my understanding.

I was probably stating the obvious, but I wanted to be sure that there are not folks other than producers that perhaps we need to be a little more diligent regarding the law or the enforcement thereof. And you have answered me that that is not the case, if I have understood you correctly.

Mr. VOLKMER. Mr. Chairman.

Mr. STENHOLM. Mr. Volkmer.

Mr. VOLKMER. In that regard, I notice in the original statement, Mr. Keeling, you mentioned something like 10 percent of production would be one way of doing it. And I agree that that is just one way of doing it, but are we talking there of the producer who has to save seed, 10 percent of his production?

Mr. KEELING. When we referred to the 10 percent, we were talking about the producer. But let me also say, in the spirit of fair play and honesty and everything else, we are not wedded to 10 percent. We want to generate something that is workable for the seed companies as well as the producer, but it is difficult to define a situation.

Mr. VOLKMER. I agree, but I think we ought to try to tie it somewhere to the—I agree, to the producer that wants to sell the seed, not to the person who wants to buy, not to the neighbor who wants to buy it, but I think we ought to tie the limit to—we agree on that?

Mr. KEELING. Yes, sir. We are talking about protecting the producers.

Mr. VOLKMER. The gentleman from Texas talks about the royalties. I don't know, my farmers out there aren't going to be able to tell you, I don't care what seed company it is, how much he is going to have to pay in royalties to that seed company, and I don't know how you are going to find out.

Mr. KEELING. You would certainly have to work with them. They have a system now for establishing and collecting royalties, and you would have to weigh the difficulty of bringing that system to bear on a diverse group of small farmers as opposed to would it be worth it to the seed companies to collect it and all that. I can't tell you that, but what I am saying is we are not opposed to the con-

cept. It is not our goal to allow the guy to sell the seed to make money. It is to allow him to move the seed if he ends up with it.

Mr. VOLKMER. I understand. In other words, he has an overage. He saves some for himself, and then he finds out I have 5 bushels left over.

Mr. KEELING. It has been treated or something, and he can't use it for——

Mr. VOLKMER. It has been conditioned.

Mr. STROUTS. I am comfortable with that. If somebody has 1,000 bushels and he is moving 10 percent of it, that is only 100 bushels. But if you go to western Kansas we have producers out there who are harvesting 100,000 bushels. Now we are dumping 10,000 bushels of uncertified seed on the market. That gets to be a problem.

Mr. VOLKMER. I can understand that is a problem.

Mr. STROUTS. So the 10 percent, I don't know.

Mr. KEELING. Mr. Volkmer, one of the reasons that we also talked about the producer being required to notify the seed company was to create some responsibility on the producer's part and also knowledge on the seed company's part so that it was an equitable situation. I mean, then the seed company is going to know how much is being moved and when it is being moved. And if there is any seed out there that is moving for which they have not been notified, regardless of the amount, then that producer is in violation. So we believe it is equitable. It is responsible to both parties.

Mr. VOLKMER. If the producer notifies the seed company he is going to sell so many bushels to such and such a person, I guess the seed company could tell him, OK, you go ahead and sell it and send us a check for $1,000 or $1,500 or $500 or whatever.

Mr. KEELING. They could do that the way the law is written.

What we are trying to set up is for the small amount of sales, that that would be automatic that the company would have to grant that licensure.

Mr. VOLKMER. Right, I understand that, but they could also say you send us so much.

Mr. KEELING. You could call the seed company and say, I want to sell 100,000 bushels, and they could agree to help you do that.

Mr. VOLKMER. The seed company can always let you sell it all at once.

Mr. STENHOLM. Mr. Schmidt.

Mr. SCHMIDT. I would like to mention one thing. I think it is very dangerous to use the word incidental sales in this legislation. As you explained to the chairman, it is almost impossible to identify what is an incidental sale. We all know what it is. That is why I submit that it should be part of the report language and clarified more for whenever this happens.

I just want to cite an example. In celery seed—somebody mentioned that earlier. Celery seed is such a tiny seed that from 1 pound you can plant several hundred acres. So what means 10 percent in one crop here may be nothing, but a lot for another crop.

That is why I strongly recommend not to use the word incidental sales in the actual PVP law. Thank you.

Mr. STENHOLM. In Mr. Keeling's testimony, when he talked about the potential automatic licensing, is there a problem to the breeder if you have a situation in which at any given time a pro-

ducer would have x volume of potential seed sales? A producer that is not in the seed business, has no intention of being in the seed business, but suddenly there is a market opportunity, let's say, for the sale of seed?

If that producer contacted the breeder, the certificate holder of that particular seed, and said, hey, I have this. I want to sell it. What do I owe you if I sell it and make the contract with the owner of the certificate of that seed? Is that OK?

Mr. SCHMIDT. I would think that is happening today. We have that example in several cases where a seed company will make a contract with someone else to grow the seed. In most cases, if there is a chance to sell that seed, the seed company will most likely be the one that sells it because they know the markets quite well, and they will in certain instances probably arrange a royalty payment. I don't think that is unusual.

Mr. STENHOLM. That is routine. But I am saying with an automatic licensing idea—I mean, here we have somebody that didn't plant their crop, didn't plant the seed with any idea of selling seed, but suddenly there is a market opportunity that he wants to avail himself to as a producer. If he then decides to do that, it is not a problem?

Mr. SCHMIDT. I wouldn't say it is not a problem because it could be a problem.

First of all, you have to start with certified seed or foundation seed.

Mr. STENHOLM. We have done all that. He is qualified all the way through to sell maybe not certified seed, but we are not talking about necessarily selling certified seed which is variety protection, isn't it?

Mr. SCHMIDT. We should also understand that the new law provides for any farmer to still grow any kind of seed that is not a certified seed after the enactment. He can continue to do whatever he did before, but if a breeder company has developed this variety he must be certainly asked if that seed can be sold by a farmer through a licensing agreement, and I am sure those examples exist.

Mr. STENHOLM. Then that is not a problem? So long as the breeder received compensation for the certificate value of that variety, it is not a problem?

Mr. SCHMIDT. Correct.

Mr. ALLARD. Mr. Chairman.

Mr. STENHOLM. Mr. Allard.

Mr. ALLARD. On this issue of certifiable seed, the grower grows the seed on his place. A company isn't going to certify that seed unless they have supervised the growing of it to assure that it is of proper quality and standards. Otherwise, they would become personally liable, I would think.

So it wouldn't be a simple matter of just letting them know that you are going to sell the seed and that you are going to send them a check. It seems to me like there is some certification issues that come up at that particular point in time. And if they have done that, then what happens to the—if they haven't done the certifiable part of it, then what happens to the value of the seed?

Mr. STROUTS. That is exactly right. It is a truth in labeling sort of thing inasmuch as the breeder—and I am referring mostly to wheat seed because that is the only thing I am familiar with.

But if AgriPro has a contract with one of their associates to produce AgriPro seed—this meets certification standards in the State of Kansas which are rather strict. They are rather detailed. It must be grown on clean ground. It must be rogued. It must be inspected two or three times and all sorts of things to meet the truth in labeling requirements, so to speak. So it is going to be certified, to answer your question.

Mr. ALLARD. So that if somebody buys the cheaper seed, they are not buying certified seed so it is sort of a let-the-buyer-beware situation. You get exactly what you pay for. So, in a way, the market tends to protect those who have a higher quality seed in this instance to some degree, doesn't it?

Mr. SCHMIDT. Correct.

Mr. STROUTS. To some degree, yes.

Mr. KEELING. The brown bagging issue tends to be a bigger problem in more marginal production areas than it does primaries where your yield variability is higher, as I understand it, so that is somewhat what you are saying.

Mr. ALLARD. So a farmer that goes out and buys from his neighbor runs a risk—he probably has some risk of being next to his neighbor. But say he was 30 miles away, it may not be true. But he does have a risk of introducing some other contamination in that seed that could have an impact on the ability of his farm to produce maybe at some later date, I would assume.

So it seems to me that you have a farmer who goes out and buys a cheaper grain does assume a certain amount of risk that he wouldn't from a legitimate source. And it seems to me there are some farmers who would say that the real good farm manager would say, listen, I don't want to risk my farm in getting into some weed problems or something that I don't have to deal with now, so I am going to stay with a certifiable seed and pay more.

Would you respond to that?

Mr. SCHMIDT. Well, let me try, at least.

I think we have to understand that a breeder coming out with a new variety, has made improvements in the variety, and for that improvement he asks to be paid for it. And that seed is only available under his name, under his brand most likely or some other brands, but under that certification. That is the only way it can be sold, and that is the improvement he has made, and he has a right to obtain the license or the price for it.

Another grower who does not want to buy that improved variety from that breeder, he may obtain it elsewhere. There is plenty of seed available of noncertified varieties that he may continue to buy at a lower price. That is still possible, and it will always be possible.

Mr. ALLARD. In which case he is assuming more risk than if he had bought the certified seed?

Mr. SCHMIDT. That is correct.

Mr. ALLARD. Thank you, Mr. Chairman.

Mr. VOLKMER. Mr. Chairman.

Mr. STENHOLM. Excuse me. Let me follow up on that to make sure I understand current law. Is the protection there for the varietal name or for certified seed and the process under which that is grown?

Mr. SCHMIDT. It is for the variety name, that specific variety.

Mr. STENHOLM. So if, as a producer, I am in a region that has a crop failure for whatever reason except my crop is pretty good, it is not certifiable, but it is what I have always called first year after certified which is good enough for me. And if my neighbors know that it has been grown clean, then it is first year after certified.

Now, that is the example I was using about a producer that didn't intend to have that for seed, but all of a sudden that becomes a very valuable commodity because there is no other certifiable seed in the area at a price that is comparable. And other producers would say, hey, I am interested in that. I will take my chances. I know where it came from.

Now, that is permissible, but I would still owe a royalty to the owner of the varietal name if I did that, if I chose to go into seed business that year as a producer.

Mr. SCHMIDT. Not only that, I first have to ask permission to sell that seed from the owner of the certificate of that variety, and then I may do so after I make an agreement under the royalty.

Mr. STENHOLM. What is the chances of him saying, no, you can't sell that?

Mr. SCHMIDT. I am not in that business myself. I would think that the chances are quite positive if there is no seed available. Why would the producer not want his variety to be sold?

Mr. STENHOLM. Let me just play the devil's advocate for just a moment. Let's say the seed is available in the next State that could be shipped in but for a very substantial increase in price because of a shortage of the market. And let's just hypothetically say that it is $20 a bag, where this seed I am talking about would be $10.

Mr. SCHMIDT. That would be tough for me to answer that question, but it is still up to the holder of that seed license.

Mr. STENHOLM. To allow me to sell it under the law.

Mr. SCHMIDT. Correct.

Mr. STROUTS. Mr. Chairman, if I might respond to that question there and be personal about it.

Last year in my area we did have this total failure. It was not too difficult for me to meet the needs of my customers by shipping it in, so, as a case in point, this did happen, and we did not have to result to anything other than within the normal rules and regulations of PVP.

Mr. STENHOLM. But it would have been possible for a producer to become a competitor with you if he had the seed and could get the agreement of the breeder varietal owner, could have?

Mr. STROUTS. Could have, yes.

Mr. STENHOLM. Could have, and that is acceptable under current law, and there is no change in the bill before us in that scenario.

Mr. Volkmer.

Mr. VOLKMER. Yes. Just get on a different subject matter.

I think as long as we are discussing all of this we should discuss it, too, not a lot. But we have some seed corn producers in my dis-

trict. Let's assume that producer has a contract with xyz company, and for some reason or another xyz company decides they won't take my product after harvest. What do I do with my seed under the new agreement? What do I do with it? Speaking for myself.

Mr. CLEMONS. Unless there is something changed, and I alluded to it the last portion of my testimony, there is nothing that can be done with what has transpired in the Senate. There is no teeth in the law to cause anyone to do anything that would—he does not have to pay for that seed. And as long as it is PVP, currently he can sit on that until it rots, and the farmer is bankrupt or whatever the case may be.

I have a little statement here that I think would probably clarify that, and that is that in section 93 the prompt payment accomplishes—what it accomplishes is to specifically name lawn turf or forage grass seed and alfalfa and clover grass seed, and other than naming those seeds there is no change from grower contracts used for decades on all crops. All grower conditioning, packaging, et cetera, that contract must also carry a basis for payment if it is going to be a contract, and that one thing is the date that the payment must be made. Without a payment date it is not a contract.

In view of this, the overriding question is simply how do we propose to put teeth in the amendment? How and with what do you enforce those teeth that have been put in place?

Those who meet the contract terms should not have to pay enforcement costs. Neither should the grower have to pay. This then puts the monkey on the back of the breeder/contractor who has defaulted his contract. Conversely, he keeps the monkey off his back by simply meeting payment terms of the contract.

Mr. VOLKMER. Are you telling me that, basically, the grower is going to just have to sue the breeder?

Mr. CLEMONS. No, sir. If this is enacted into law, 30 days after the due date on that contract the breeder/contractor says I am not going to pay and that enables the grower then to market that seed on whatever market he can find.

Mr. VOLKMER. That is fine.

Mr. STENHOLM. But go ahead and pay the breeder the royalty or whatever.

Mr. VOLKMER. You had a contract. I am a grower, and I have a contract with a breeder to produce for them. But because, for whatever reason, whether it is they got too much seed and they don't need it, they don't want it any more, and so they are not going to pay me for it. So I am stuck with it. I think, basically, you ought to be able to just go out and sell it, get rid of it.

Mr. CLEMONS. You are correct.

Mr. VOLKMER. The legislation——

Mr. STENHOLM. Let the record show that all the heads are nodding affirmatively with one exception.

Mr. SCHMIDT. I would like to have someone else, if you give me permission, to answer that question. Mr. Owen Newlin is here who might have some more expertise on this from the seed industry. Is that permitted, Mr. Chairman?

Mr. STENHOLM. Surely.

Identify yourself for the record.

Mr. NEWLIN. Yes, my name is Owen Newlin with Pioneer Hi-Bred in Des Moines. I am retired, but I am still doing some consulting work for them, Mr. Chairman.

Mr. Volkmer, I am pleased to say in the hybrid seed corn industry that is not an issue.

Mr. VOLKMER. I am not—I agree with that.

Mr. NEWLIN. It has not occurred, and it is not something we need to deal with with respect to this particular act. So the seed corn companies, fortunately, and when they make contracts with the grower have paid, and there have been no defaults, and the seed that they are producing they are producing under a service contract probably, and the seed belongs then to the company, and they are obligated to pay it.

Mr. VOLKMER. What is wrong with having it in the law if it doesn't hurt anything?

Mr. NEWLIN. Excuse me?

Mr. VOLKMER. It doesn't hurt anything then to have it in the law?

Mr. NEWLIN. If there has been no problem——

Mr. STENHOLM. But there has been a problem in other seed varieties.

Mr. NEWLIN. I am talking now specifically about seed corn.

Mr. STENHOLM. But I guess the question Mr. Volkmer is asking is generic.

Mr. VOLKMER. I was just using the corn because that is mostly what I understand. We do have some clover seed produced in my district also, but most of it is corn.

Mr. SCHMIDT. Let me answer that question because it is in regard to grasses specifically that we are talking about here, and this has come up within the American Seed Trade Association members. We had several discussions on this because several members were very unhappy with the way some of the contracts were written in the grass seed and I believe clover seed business up in the Northwest. That is where it started.

And they are probably correct that many contracts—I have talked to many people—have not been completed, and breeders have walked out from these contracts. It is my personal opinion, an issue that I think belongs in contract law. It belongs in a State contract law that exists or should exist in regards to contracts and payments legislation.

It is really not a plant variety protection issue here, but I would further submit that if a grower finds himself in that situation, he is then, based on what we have put into the law now as an amendment, allowed to sell that seed specifically for grasses and clover as VNS since the breeder refused to take that seed. There is certainly a market for VNS as it has been in the past, and that doesn't change.

Mr. CLEMONS. I would like to tell you that that is a brilliant idea except that VNS is not worth what that seed is by variety, and so what you are doing is allowing that plant breeder to take that seed at VNS prices. In other words, his idea is not to price down. He cares not who it hurts, what it hurts as long as he can get it for a lesser price. And I know. I can give you shining examples.

Mr. VOLKMER. Let's hear it. Give me one example.

Mr. CLEMONS. OK. There is—and I won't use names. There is a company who has contracted in the State of Washington, who did contract in the State of Washington for 1,000 acres of alfalfa seed. They contracted over 1,200 acres in Idaho, and I do not know the acres in Canada. Those varieties were harvested 3 years ago, 2 years ago, and in 1993. That seed is still sitting there. The breeder will not allow it to be sold by variety.

Mr. VOLKMER. He will not allow it to be sold by variety, and he will not pay the growers for producing and taking it?

Mr. CLEMONS. That is correct. And that amounts to some——

Mr. VOLKMER. So they are basically stuck with all that?

Mr. CLEMONS. It is darn poor breakfast food.

Mr. VOLKMER. So their only option right now is to use it to produce more alfalfa on their own farms—basically, that is within the law—and save seed. They could basically consider it that, but they have a lot more seed probably to last them for years and years?

Mr. CLEMONS. I guess so. Right. There is over 3 million dollars' worth of seed sitting out there.

Mr. VOLKMER. I think it is a little bit of a problem, Mr. Chairman.

Mr. STENHOLM. I think when we get into the markup this is a subject that needs to be looked at carefully, and we will appreciate you all's input and help in that process further.

Thank you very much for your testimony and your answering the questions today. We appreciate it very much.

Mr. STROUTS. Thank you, Mr. Chairman.

Mr. CLEMONS. Thank you.

Mr. STENHOLM. Call panel 3.

The first witness, Mr. Fred Flieler, director of potato purchasing, Frito-Lay.

STATEMENT OF FRED FLIELER, DIRECTOR, POTATO PURCHASING, FRITO-LAY, INC.

Mr. FLIELER. Good afternoon. I am Fred Flieler, the director of potato purchasing for Frito-Lay, the Nation's leading snack food company with 26,000 employees nationwide.

Thank you for this opportunity to comment on the proposed amendment to the Plant Variety Protection Act that will extend coverage to potatoes.

Two of our most successful products are Lay's and Ruffles brand potato chips. These brands utilize approximately 2.5 billion pounds of potatoes on an annual basis. We purchase directly from our growers in 35 States across the country to meet the needs of our consumers.

Since 1958, Frito-Lay has maintained a research program, and it has been dedicated to the development of new varieties suitable for the manufacture of potato chips. The development of new varieties requires significant monetary investment, and we believe that protection should be afforded under the Plant Variety Protection Act to protect and encourage investment.

Virtually all plants grown in the United States are protected if a new variety is developed. Sexually produced plants are subject to breeder's rights under the PVPA, and asexually produced plants,

with the specific exception of potatoes, are eligible to be patented under the Plant Patent Act. Potatoes are afforded no coverage under the Plant Variety Protection Act because they are not sexually reproduced and are specifically excluded from the Plant Patent Act.

This denial of ownership rights for the developer of a new potato variety must be questioned. The Plant Patent Act was passed in 1939 and fulfilled its objective of encouraging the development of new varieties of ornamental plants and other nursery stock. However, no rights existed for the protection of a plant variety that was a source of food.

By 1970, recognition of breeder's rights in food crops was acknowledged, and the United States became a signatory to the International Convention for the Protection of New Varieties of Plants. Our participation in the UPOV treaty resulted in the Plant Variety Protection Act that is the subject of today's hearing and which now provides breeder's rights for virtually all of our present food crops with the exception of potatoes. The Plant Variety Protection Act has provided the incentive to make tremendous strides in improving such crops as corn, wheat, and soy. This same incentive should exist for potatoes.

Development of a new plant variety is important. Improved varieties of potatoes will result in economic and quality benefits to growers, producers, and consumers. There is, however, little incentive for plant breeders to seek these improvements in potatoes because new varieties are not protected.

Growers benefit when we develop new varieties that adapt to specific geographic areas. Frito-Lay has a breeding program and Frito-Lay has produced some good examples of varieties that have provided geographic value. For example, we developed a variety called FL795, which produces high-quality, dependable potatoes and is particularly adapted to the South. We know of no other commercial variety that has the consistent yield and quality to grow in south Texas year after year. Without this variety, it would not be economical to grow chipping potatoes in south Texas.

Another example of a successful varietal development benefiting growers is the FL1533. This is a drought tolerant variety, and through the drought years of the late 1980's we returned near normal yields for our Red River Valley growers of North Dakota and Minnesota.

While such a program requires a sizable investment, its returns are worthwhile when a new variety reduces processing costs through traits such as higher solids, reduced internal defects, improved color, and extended storage life.

Another trait sought through potato breeding programs is inherent pesticide resistance that will enable the growers to reduce or eliminate chemical pesticides, which is a saving to the grower and an obvious benefit to the environment. As you can see, variety development is a benefit to growers, processors, and consumers.

We believe that protection under the Plant Variety Protection Act should be available to developers of potato varieties as a means of supporting and encouraging investments in potato research. We urge you to amend H.R. 2927 to include an amendment from Sen-

ator Kerrey and the U.S. Department of Agriculture covering tuber propagated varieties.

Thank you for holding this hearing. I will be happy to answer any of your questions.

[The prepared statement of Mr. Flieler appears at the conclusion of the hearing.]

Mr. STENHOLM. Thank you.

Next, Dr. David Douches, research geneticist and potato breeder.

STATEMENT OF DAVID S. DOUCHES, RESEARCH GENETICIST AND POTATO BREEDER, DEPARTMENT OF CROP AND SOIL SCIENCES, MICHIGAN STATE UNIVERSITY

Mr. DOUCHES. Thank you, Mr. Chairman.

My name is Dr. David Douches, and I am a research geneticist and potato breeder at Michigan State University.

I would request that my full testimony be included in the record.

Mr. STENHOLM. Without objection.

Mr. DOUCHES. Thank you.

Today I am testifying on behalf of the National Potato Council which is the only trade association representing 10,500 commercial potato growers in 50 States.

The Potato Association of America also supports my testimony, and I ask that a letter attached to my prepared statement, from its president, T. Richard Tarn, be included for the record.

Mr. STENHOLM. Without objection.

Mr. DOUCHES. Thank you.

S. 1406 has been amended to include language which brings tuber propagated plants under the Plant Variety Protection Act. The Plant Patent Act currently specifically excludes tuber propagated plants.

This amendment to S. 1406 was developed in conjunction with the administration which supports the amendment. We urge that H.R. 2927 be amended to include the identical language.

So we ask the question why do we need to have an economically important crop like potato included in a Plant Variety Protection Act? Well, first of all, we have seen Canada institute plant breeder rights on potato cultivars in a form similar to the UPOV convention and also recommend that the United States have a similar form of protection to unify North American intellectual property rights for the potato.

This equivalent form of protection in the United States is the PVPA. A common form of protection for potatoes among UPOV countries would allow the United States to compete in a global market.

Second, since the 1920's, potato breeding and germplasm research in the United States has been the primary responsibility of the public institutions, such as the USDA and land-grant universities. In some States there has been a reduction in funding of public breeding efforts and also a loss of public potato breeding programs in the past few years. The reduction in funding has led the public institutions to find alternate means of funding programs and to explore various avenues to achieve program viability.

One means of program support is royalty collection via the protection of varieties. PVPA could provide the protection needed.

Third, the private sector has invested in biotechnology-based research to develop new potato germplasm for the industry based upon publicly released varieties. The influx of the private sector variety development requires that public breeders collaborate with the sector of researchers so that the best germplasm reaches the growers.

The high investment costs of this biotechnology research requires that the private sector recoup their investment, and to seek means to protect their invention or innovation. Moreover, this relationship requires both breeders and genetic engineers to have equivalent levels of intellectual property protection.

The United States was the first country to make specific provisions to protect new plant varieties. Today, we have four forms of protection available for plant material. They are trade secrecy, the Plant Patent Act of 1930, the Plant Variety Protection Act of 1970, and utility patents.

The potato, being an asexually propagated crop, should have been protected through the Plant Patent Act of 1930. It was not included in that statute. However, now the PPA or the Plant Patent Act is a 60-year-old legislation that does not address the technological advances that have been made in plant breeding, propagation and biotechnology in the potato.

One major weakness of the Plant Patent Act and utility patents is the lack of the research exemption. Germplasm exchange is a key to further genetic advances. Statutes that sequester this exchange would have a negative impact upon genetic advances in the potato.

Another key issue is essential derivation. With advances in biotechnology, essential derivation puts the plant breeders on par with the genetic engineers. The 1991 UPOV convention specifically addresses this issue as being considered a part of the PVPA revisions. The Plant Patent Act and utility patents do not address essential derivation.

Last, the PVP application can be submitted by the breeders themselves, whereas the PPA claim requires lawyers for submission.

The UPOV convention, in effect, is an agreement between countries, approximately 23 or 24, to grant a minimum level of protection for plant varieties on the basis of standard criteria. The Plant Variety Protection Act of 1970 provides the statute that most closely resembles the plant breeder's rights by UPOV. Interestingly, other than the United States or the Republic of Korea, there is no distinction made between the form of protection and the mode of reproduction.

To the potato breeders, essential derivation is a critical concept in the revision of the breeder's rights defined by the UPOV 1991 revision. With the 1991 UPOV agreement, it is possible that a genetically engineered variety will be defined as essentially derived and fall within the scope of protection of the protected variety. It is envisioned that this new balance established between the two systems will facilitate the exchange of technology which could be germplasm between plant breeders and biotechnologists.

A major concern of potato breeders is the maintenance of free exchange of germplasm. To maintain the free exchange of germplasm,

each patent should contain a specific clause allowing use of crossing. However, this clause is not legislated, thus difficult to enforce. The PVPA is the only form of intellectual property rights that explicitly provides a research exemption, hence, germplasm exchange.

In conclusion, we have intellectual property rights for the potato cultivars today. However, utility patents are not an adequate form of protection in most cases. Besides the cost to submit a claim, there is no research exemption clause. Therefore, by default, utility patents sequester germplasm exchange.

The inclusion of the potato into the Plant Patent Act is not the best protection, either, for potato breeding. It does not provide an adequate level of protection, lacks the essential derivation concept, requires lawyers for submission of a claim, and has no research exemption.

The Potato Association of America and the National Potato Council support the form of intellectual property rights for plants outlined in the 1991 UPOV convention. The Potato Association of America and National Potato Council also advocate the inclusion of the potato in the PVPA under the revisions required by the 1991 UPOV treaty. This form of protection does not require the use of lawyers to obtain protection, is less costly and affords an adequate level of breeder's rights while explicitly legislating a research exemption for breeding.

If potatoes are included in the Plant Variety Protection Act, potato breeders then have adequate protection for potato germplasm which is comparable to other UPOV countries which conduct potato breeding. Moreover, we will have a form of protection that puts us on par with biotechnologists' means to protect their product, which should promote germplasm exchange between these two groups.

Thank you.

[The prepared statement of Mr. Douches appears at the conclusion of the hearing.]

Mr. STENHOLM. Thank you.

Next Ms. Hope Shand, director of research, Rural Advancement Foundation International, Pittsboro, North Carolina.

STATEMENT OF HOPE J. SHAND, DIRECTOR, RESEARCH, RURAL ADVANCEMENT FOUNDATION INTERNATIONAL-USA

Ms. SHAND. Thank you, Mr. Chairman.

My name is Hope Shand. I represent the Rural Advancement Foundation International—RAFI—based in Pittsboro, North Carolina.

RAFI is a private, nonprofit organization that works on the problem of the loss of genetic diversity in agriculture. We are concerned about the impact of plant intellectual property rights on U.S. agriculture and world food security.

I will abbreviate my comments, but I request that my full statement be submitted for the record.

Mr. STENHOLM. Without objection.

Ms. SHAND. RAFI believes that the newly revised UPOV convention strengthens the right of plant breeders at the expense of farmers. The PVPA was designed to give plant breeders adequate incentives to conduct research and develop new plant varieties by granting them limited monopoly rights.

Amendments to the PVPA now seek a disproportionate set of benefits for commercial plant breeders without corresponding benefits for farmers and society. The farmer's exemption or farmer's right has always been a prominent feature of the PVPA. The fundamental right of the farmer to save or sell protected seed was so important that, when PVPA law was passed back in 1970, the assurance of the farmer's right was part of the bargain made to gain passage of the legislation.

But times have changed. For one thing, there has been tremendous consolidation in the U.S. seed industry. Plant breeding and seed sales are now dominated by multinational pharmaceutical and chemical corporations. These companies now refer to the farmer's right to save seed as the farmer's privilege.

We do not support illegal brown bagging. We acknowledge that there have been abuses, especially in niche markets. However, we feel that the proposed amendments are too restrictive in dealing with the problem. RAFI believes that attempts to restrict the farmer's exemption under PVPA will take us one step closer to total elimination of the farmer's right to save seed.

The seed industry acknowledges that it is both the practice of brown bagging proprietary seeds as well as farmers saving their seeds for replanting on their own holdings that erodes seed industry sales.

If it becomes illegal for farmers to sell proprietary seed to their neighbor, will the seed industry return to Congress 1 year or 2 from now to argue that the real infringement is due to farmers saving proprietary seed for replanting on their own land? We predict that this is precisely what will happen.

The 1991 UPOV convention makes it optional for member countries to allow farmers to save patented seed for replanting on their own holdings. If the U.S. Congress ratifies the new UPOV convention, we believe that this language leaves the door wide open for a future ban on all farm-saved seed.

We are also concerned that the PVPA fosters seed industry concentration and contributes to genetic erosion. A 1985 study on the PVPA concluded that the passage of this law in 1970 contributed to the large number of mergers and acquisitions in the U.S. seed industry.

Kent Whealy of the Seed Savers Exchange in Decorah, Iowa, monitors the impact of seed industry consolidation in the garden seed sector and its impact on genetic erosion. Here is what he found. Between 1984 and 1987, 23 percent of the mail order seed companies in the United States and Canada—that is 54 out of 230 companies—either went out of business or were taken over.

Large corporations are buying out smaller family-owned seed companies and replacing their regionally adapted collections with more profitable hybrids and patented varieties. The collections being dropped sometimes represent the life's work of several generations of seedsmen and are often well adapted to regional climates and resistant to local diseases and pests.

The new corporate owners usually switch to generalized varieties that grow reasonably well in all areas, thus assuring the greatest sales in the broadest market. In the process, irreplaceable genetic resources are being destroyed.

Proposed amendments to the PVPA have implications far beyond our borders. Internationally, there is a great deal of controversy over control and ownership of plant genetic resources. Plant genetic diversity found mainly in the tropics and subtropics of the developing world is vital for the maintenance and improvement of new crop varieties. Without continuous access to new exotic germplasm, commercial plant breeding would grind to a halt.

Unfortunately, in the rush to promote exclusive mechanisms for rewarding plant breeders, there has been little or no consideration for the impact of plant intellectual property rights on the future conservation and exchange of genetic resources. In the wake of new plant patenting proposals and strengthening of breeder's rights, developing nations are questioning the notion of full and free access to their biological resources. They are asking why is it that patented seeds, ultimately, of Third World origin are bringing profits to seed companies without corresponding compensation for the developing world?

The ultimate danger is that the exchange of genetic material and information which is so vital for food security as well as commercial plant breeding and new biotechnologies will be severely constricted, undermining efforts to conserve plant genetic diversity and guarantee access to it.

We don't hear much about this issue here in the United States, but it is an extremely hot topic in the rest of the world. Consider recent events in India where over 500,000 farmers have demonstrated to protest plant intellectual property rights. These farmers are angry because they don't want to pay royalties on seeds that they believe were developed using their own genetic resources and knowledge.

We believe that international tension over ownership and control of genetic resources will intensify if the United States ratifies an international treaty that does not guarantee the right of farmers to save seed. Again, the danger is that developing nations will restrict future access to genetic resources, the cornerstone of modern plant breeding.

In conclusion, RAFI urges Members of this subcommittee to postpone action on H.R. 2927. We urge you to preserve the farmer's exemption. We believe that the United States should decline to ratify the 1991 UPOV treaty pending further study and a comprehensive review of these issues.

Thank you very much for your consideration.

[The prepared statement of Ms. Shand appears at the conclusion of the hearing.]

Mr. STENHOLM. Thank you. Next, Dr. Richard Lower, University of Wisconsin.

STATEMENT OF RICHARD L. LOWER, ASSOCIATE DEAN, COLLEGE OF AGRICULTURAL LIFE SCIENCES, UNIVERSITY OF WISCONSIN-MADISON, ON BEHALF OF THE EXPERIMENT STATION COMMITTEE, OPERATIONS PLANNING, NATIONAL ASSOCIATION OF STATE UNIVERSITIES AND LAND-GRANT COLLEGES

Mr. LOWER. Thank you, Mr. Chairman. Good afternoon.

My name is Dick Lower. I am an associate dean of the college of agricultural and life sciences at the University of Wisconsin-Madison and also associate director of the Wisconsin Agricultural Experiment Station.

Currently, I serve as chair of the national experiment station subcommittee on plant germplasm and the steering committee for the workshop on intellectual property rights and protection of plant materials, which was held here in Washington in 1993.

This workshop was developed to answer questions regarding protection of plant germplasm. I would like to further define that as seed and vegetatively propagated genetic material, cell and tissue culture lines, DNA fragments and pollen.

Mr. Chairman, thank you very much for the invitation to take part in this hearing.

Public germplasm research has been conducted for over a century, and it is a primary responsibility of the State agricultural experiment stations. These stations employ approximately 6,000 faculty throughout the United States, and about 350 of our scientists are plant breeders. They are directly involved in the development of improved germplasm for food, fiber, and ornamental crops.

In many crops, the role of variety development has been very successfully transferred from the public to private industry. However, contributions from public germplasm programs continue to result in improved pest resistance, product quality, and profitability as well as new knowledge.

The successes of State agricultural experiment stations include cooperation with public agencies as well as private industry in germplasm research. Much of this success can be attributed to two things: First, the free exchange of information and the free exchange of germplasm; and, second, the development of a cooperative infrastructure that allows new germplasm to be acquired, maintained, shared, developed, enhanced and ultimately accepted by both science and commerce.

Equally important are the contributions of the State agricultural experiment stations in the instruction, education, and training of the next generation of scientists involved in germplasm-related activities.

The experiment stations developed and released plant germplasm guidelines in 1989. They espoused the philosophy that these stations may protect plant germplasm through any number of mechanisms. Plant variety protection certificates, plant patents, utility patents and other forms of protection, including restrictive releases and restricted use agreements, are presently practiced.

The research exemption authorized under the Plant Variety Protection Act which allows use of protected material in research in plant improvement programs has contributed positively to the exchange of information in germplasm.

We support the essentially derived provision of H.R. 2927 that allows recompense to the initial inventor when a new germplasm development is released that utilizes the initial protected germplasm and is competitive with the initial inventor's property. Our successes in developing food and fiber germplasm have obviously been based on the sharing of genetic resources.

The public, as well as university governing bodies, expects products of tax-dollar-supported research to be protected. After all, compensation for research accomplishments is one way to support future endeavors.

Until the 1980's, public universities and agricultural experiment stations usually gave germplasm away. It was available as public domain. Today, the motivation to protect germplasm has increased. Tighter university budgets and escalating research costs have caused administrators and researchers to think more carefully about cost containment and cost recovery. Germplasm exchanges are still taking place but are frequently accompanied by material transfer agreements that may place limits or restrictions on the usage of the germplasm and may generate revenues.

Hopefully, germplasm research programs are not directed with the sole intent of making dollars or generating support via royalty from releases. This is a treadmill we must avoid. Remember that our biggest contribution and primary mission is that of training students or human resource development.

In addition to developing policies that assure widespread and rapid use of new technology, public institutions must also assure that protection of intellectual property does not, in any way, impede further research. Scientists in both public and private institutions should be able to use information and research materials, whether protected or not, to further their investigations and to speed the acquisition of new knowledge and new discovery.

The new molecular technologies that are an important part of the plant genome projects are also important tools in plant breeding and related plant germplasm programs. These technologies contribute to the mapping, sequencing, and identification of new genes that will contribute to both biology and agriculture. This information could serve to increase genetic diversity, to reduce genetic vulnerability and to broaden the genetic base of important cultivated crops.

The advancing molecular technologies also will enhance our abilities to fingerprint, to measure genetic distance and to take part in international discussions on the concept of essentially derived varieties.

One of the recommendations of the 1993 Workshop on Intellectual Property Rights for Plants was that the Plant Variety Protection Act be revised to conform with the 1991 revision of UPOV. ESCOP supports this action.

Additionally, we support the provisions on essentially derived varieties. They provide protection for developers of important basic genetic materials.

We also support the amendment that brings potatoes and tubers under the Plant Variety Protection Act.

I have submitted a complete statement and would be pleased to have that shown as part of the record and to address your questions.

On behalf of ESCOP and NASULGC and the American Society for Horticultural Science, thank you for this opportunity.

[The prepared statement of Mr. Lower appears at the conclusion of the hearing.]

Mr. STENHOLM. Thank you.

Additionally, we have statements from the National Farmers Union, Pioneer Hi-Bred International, Inc., and the National Council of Commercial Plant Breeders, to be inserted into the record.

[The prepared statements appear at the conclusion of the hearing.]

Mr. STENHOLM. Ms. Shand, if I understand your statement, you do not support illegal brown bagging but you also do not believe that the farmer's exemption in H.R. 2927 is sufficient? Or do you believe that it is sufficient but that, if we pass this, the legislation will be back in a short period of time to overturn the farmer's exemption?

Ms. SHAND. I think at present in the amendments the attempts to restrict the farmers' right are too restrictive. I feel that whatever happens that it is opening the door for total elimination of the farmers' right to save seed for replanting on their own holdings. I say that because of the language in the 1991 UPOV that makes it optional for signatory States to allow farmers to save seed.

Mr. STENHOLM. But if we pass a bill that preserves the right of an individual farmer to catch his own seed and utilize his own seed for his own purposes, you would be in favor of that?

Ms. SHAND. I would. I would like to see the farmer maintain the ability to sell limited quantities of seed.

Mr. STENHOLM. How limited?

Ms. SHAND. I think that needs to be defined. And I did not come today prepared with a definition. I agree with the Farm Bureau that a definition could be constructed that would preserve the farmer's right.

Mr. STENHOLM. Do you believe that an individual farmer would have an obligation to pay the royalty on 1 bushel, a small amount of seed as well as a large amount?

Ms. SHAND. I think that, in actuality, that is not very workable, and I think it could be an administrative nightmare for both farmers and for the seed companies.

Mr. STENHOLM. What about the individual farmer's responsibility? Was it the farmer's responsibility to pay that royalty?

I agree with you that it could get very unworkable as far as enforcing. Is it an individual farmer's responsibility to pay it regardless of how small it is? Morally?

Ms. SHAND. I am not sure that there is morally. I think if we are talking about incidental sales, I am not sure that I would agree with that.

Mr. STENHOLM. So you really do not believe that the breeder of a seed has the rights to that product that that breeder has, in fact, developed?

Ms. SHAND. I believe that those breeders need to have adequate incentives to continue their work, and they need to be rewarded for their contribution in developing new varieties. But I think that in many cases the whole notion of plant intellectual property rights is out of control, that we are seeing—what is happening is that we are not just supporting innovation in plant breeding, that at this point, in many cases, as these things become more restrictive, as the rights of the breeders become much stronger, that historic balance between the right of farmers and the right of breeders is no

longer there, and I think that is dangerous for American agriculture.

Mr. STENHOLM. I really don't have any additional questions for any of these witnesses.

I would say, regarding the potato issue, I am inclined to include potatoes with any other crop and would be inclined to consider any varietal protection.

Ms. Shand, you are going to have to convince me that agriculture can afford to move further away from protecting individuals as well as companies from developing new varieties with a cost that is associated with development of new varieties and with the cost associated with developing of varieties that are insect resistant that can help us with pesticide usage, et cetera.

That you and—I believe, if I read correctly—the National Farmers Union position is much the same, as you have indicated today. So we have two testifying of some caution in this area. And I share the caution, but I also see economic realities.

I am seeing it all over the State of Texas. Smaller companies that were in the business of developing regionally attractive varieties are out of the business. They cannot afford the researchers and all of that which goes into it, and we are losing tremendous amounts of environmentally friendly varieties, and I don't see how anything other than that continuing, unless we allow the individual that develops that right reasonable protection. If we don't, I don't see where anybody is going to be in the business. That is the fundamental problem.

You have acknowledged that in your testimony, also, your concerns about it, and I share the concerns because I don't want to see monopolies created, and I don't want to see our producers unfairly taken advantage of, which can happen very easily.

I thank each of you for your testimony.

As we get into markup, which will occur after the Memorial Day break, as soon as we can schedule. There seems to be some discussion as to whether we will mark up in subcommittee or in full committee, but, either way, we intend to promptly move in regard to addressing this legislation with the questions that have been raised today.

And so as each of you have heard all of the witnesses today, if you have suggestions for improvement in H.R. 2927, which we have had suggestions, we will certainly welcome them, and appreciate your input and thank you for being here and being a constructive part of this hearing today.

With no further business to come before the subcommittee, we will stand adjourned.

[Whereupon, at 4:15 p.m., the subcommittee was adjourned, to reconvene subject to the call of the Chair.]

[Material submitted for inclusion in the record follows:]

Statement of Kenneth C. Clayton,
Acting Deputy Assistant Secretary
Marketing and Inspection Services
United States Department of Agriculture
before the
Subcommittee on Department Operations and Nutrition
Committee on Agriculture
U.S. House of Representatives
on
H.R. 2927, the Plant Variety Protection Act
Amendments of 1993
May 24, 1994

Good afternoon, Mr. Chairman and Members of the Committee. I very much appreciate the invitation to present the Administration's views on H.R. 2927, a bill to conform the Plant Variety Protection Act to the articles of the 1991 Act of the International Convention for the Protection of New Varieties of Plants, also known as the UPOV Convention. Accompanying me today are Dr. Kenneth Evans, Commissioner of the Plant Variety Protection Office, and H. Dieter Hoinkes, of the Patent and Trademark Office, Department of Commerce.

The Administration supports the enactment of H.R. 2927.

The Administration is supportive of the effective protection of all forms of intellectual property. This includes new plant varieties, which are a form of invention. In the United States, one effective form of protecting new plant varieties that are reproduced by seed, is by means of the Plant Variety Protection Act (PVPA). To afford our plant breeders protection in other countries as well, the United States became a member of the International Union for the Protection of New Varieties of Plants (UPOV). That Union was established by the UPOV Convention in 1961. In 1978, the UPOV Convention was revised and in 1981 the

United States became a party to that Act by Executive Agreement. UPOV presently has 24 member countries, including most of our important trading partners. The Convention was again significantly revised in 1991 to provide plant breeders with improved protection for innovative plant varieties. Representatives of the Departments of Agriculture, Commerce and State participated in the negotiations that resulted in the 1991 UPOV Act of the Convention. Although the United States is a signatory to that Act, the PVPA must be amended to enable the United States to adhere or become party to the 1991 version.

Development of new plant varieties is important for reasons beyond increasing the production of food and fiber. The ever-changing picture of plant pests and diseases is a frightening one. New pests, like the Russian wheat aphid, are sometimes introduced into this country despite our best efforts at quarantine. New strains of fungus, like the newest forms of barley stem rust and leaf rust, evolve and threaten cereal production. The most environmentally-sound method of coping with these threats is to develop new resistant varieties of crop plants.

Increasing pressure on the environment also necessitates the development of new plant varieties which are more efficient consumers of resources and producers of food and fiber. Drought-tolerant varieties of buffalograss, for example, may hold out promise of turf that needs less watering than more conventional grass. Increased production per acre remains a goal

of the plant breeder in these days, of course, when more and more agricultural land is being converted from agriculture to housing and industry.

The development of new plant varieties is arduous, time-consuming and costly. Many years must be spent in the development of a single new variety, with no guarantee of its success or profit. By granting to the owner of a variety the right to prevent unauthorized sale of seed of that variety, the PVPA provides the owner with the opportunity to recover the costs of development. This encourages investment in new varieties that respond to the changing needs of American agriculture.

The UPOV Convention provides for uniform practice in construction and administration of plant variety protection laws in the various member states. If the United States is to ratify the 1991 Act of the UPOV Convention, the Plant Variety Protection Act will need to be amended to conform to its provisions.

Should the amendments be adopted, they will serve American agriculture and the American consumer in several ways:

First. They will encourage the development of new varieties for American growers by strengthening the rights of those who develop the varieties in order to ensure an adequate return on their investment.

Second. They will encourage other countries to follow suit, thereby increasing markets abroad for the products of American agriculture by assuring that American originators of new varieties could apply for effective protection available in other

Convention countries.

Third. They will increase access by American growers to high quality varieties of seeds developed outside the United States that might not otherwise be available in this country. Foreign breeders will have the confidence that adequate and effective protection is available to them in the United States. As a consequence, American consumers will benefit from a wider and more secure food and fiber supply and American plant breeders will be able to use these varieties in their own breeding programs.

Mr. Chairman, we commend you and the Committee for holding this hearing. We hope that with the collective efforts and wisdom of the Congress, the Executive Branch, consumers, the seed trade industry, the agricultural production sector, public interest groups, and plant breeders, we may be able to improve our PVPA, thus permitting the United States to become party to the 1991 Version of the UPOV Convention and thereby better serve American agriculture and the American consumer. The Administration supports amendments which make the following changes in the PVPA.

The American tradition of encouraging farming by private individuals goes back to the founding of our nation. Under H.R. 2927 a provision is included which would continue to safeguard the privilege of farmers to save seed of a protected variety for planting on their own holdings. The sale of seed by farmers to others would be prohibited under H.R. 2927. However,

the privilege of farmers to sell saved seed protected under present law would not be diminished. Rather, sale of saved seed would be subject to authorization by the breeder only for varieties receiving protection after the date of enactment of H.R. 2927. This change in the farmer's exemption is necessary to comply with the 1991 Convention.

I want to make it clear that this Administration wants to continue helping farmers. However, beyond the original purchase price of the seed, no payment is now made to the companies that developed the varieties by those selling saved seed. While this practice has been possible under the current PVPA, it is not compatible with the 1991 Act of the UPOV Convention.

Prohibiting sales of saved seed for replanting is not, however, simply a matter of protecting seed companies. Without encouragement for investment in the development of new varieties, the whole farming community will gradually be put at a disadvantage. Fewer plant varieties with improved characteristics will be developed, leaving farmers to plant outmoded varieties which give lower yields and which succumb to new strains of pests and diseases. Farmers in other countries where investment in new varieties has continued will enjoy a clear competitive advantage.

Another major change to be made by these amendments is the establishment of a category of "essentially derived varieties". This change, which would be applicable only to varieties protected under S. 1406 and would not apply retroactively, would

enable the owner of an "initial" variety to exclude the selling or marketing of varieties that differ only slightly from the initial variety. This concept is the most striking innovation in the 1991 revision of the UPOV Convention. It is anticipated that this change will end the practice of altering just slightly the successful varieties of others, and escaping infringement charges under present law while benefitting from the desirable characteristics of the initial variety. This concept redistributes the right to profit among the owners of varieties, recognizing those who discovered and developed the variety in the first place. It does not extend the rights of owners to the detriment of farmers and others.

Other changes necessary to bring the PVPA into conformance with the 1991 Convention are more limited in scope and I will now discuss them briefly.

The use of date of determination would be replaced by the use of date of filing for protection as the basis for determining eligibility for protection. The method of deciding when the filing in another country makes a variety a matter of common knowledge would be established. As the filing date will be a matter of record, the provisions in the current statute for adversarial proceedings relating to date of determination are superfluous and will be removed by these amendments. A provision would be made for determining eligibility for protection when applicants have the same filing date for varieties which cannot be clearly distinguished.

Eligibility for protection would also be extended to first generation hybrid varieties. This change would provide a certain amount of additional protection for the breeder.

Provision is made for protected varieties to be sold by variety name only, for as long as they exist, even after the term of protection has expired. Breeders would no longer be able to market seed of a protected variety labeled as "Variety Not Stated". H.R. 2927 also provides for the cancellation of protection if owners do not cooperate in providing an acceptable variety name.

The list of actions which constitute infringement would be expanded by H.R. 2927, namely, by adding conditioning a protected variety for purposes of propagation, and stocking a variety for any of the purposes which would constitute infringement. These changes would enable owners to take action at a much earlier stage, thereby minimizing the risk of damage to their interests. The provision against conditioning of a variety for planting would not apply to the conditioning of saved seed by farmers for planting on their own holdings.

Infringement would also be extended to include acts involving harvested material if such material is obtained through unauthorized use of propagating material (seeds).

Also, a number of terms and rules of construction would be changed or added, so that the PVPA would utilize the same terms and concepts as used throughout the member States which are party to the Convention.

Under H.R. 2927, the period of protection would be increased from 18 to 20 years for most crops, and to 25 years for trees and vines. All countries ratifying the 1991 Convention would grant protection for these same periods.

Finally, Mr. Chairman, the provisions of the amendments would not take effect until six months after enactment. Moreover, the provisions of H.R. 2927 would apply only to varieties protected after that six months.

CONCLUSION

Mr. Chairman, we believe that H.R. 2927, if enacted into law, would enable the United States to ratify the 1991 Act of the UPOV Convention, and thereby continue to play its leadership role as a proponent of effective protection of intellectual property. At the same time, these changes in the PVPA will greatly encourage the development of new varieties of plants, to the benefit of our farmers, the seed industry, and the American consumer.

We realize that there may be other ways to manage the transition from the present statute. We also recognize the need for improvements in the PVPA which are not related to achieving consistency with the 1991 UPOV Convention. While the purpose of my testimony today is to indicate our support for H.R. 2927, we are open to other beneficial modifications to the PVPA, provided those modifications are consistent with the 1991 Act of the UPOV Convention.

This concludes my statement. My associates and I will be pleased to respond to any questions the Committee may have.

Statement
by
Dietrich Schmidt, President
American Seed Trade Association

Good afternoon Mr. Chairman. My name is Dietrich Schmidt, president of Petoseed Company in Saticoy,California, and president of the American Seed Trade Association (ASTA). On behalf of the entire membership of the ASTA, I am pleased to be here today to lend support and reaffirm our endorsement of H.R. 2927, a bill to amend the Plant Variety Protection Act of 1970.

As you know, Mr. Chairman, the preamble to H.R. 2927 clearly outlines the intent of the legislation: "...to make such Act consistent with the International Convention for the Protection of New Varieties of Plants of March 19, 1991, to which the United States is a signatory, and for other purposes." ASTA recognizes and fully appreciates the efforts you and the committee have made in advancing this legislation for consideration and is grateful for your leadership. We are very pleased that the Administration has provided strong leadership, too.

Before I begin with my formal statement, I would like to take a moment to thank you, the members of the subcommittee and all those who support intellectual property rights, for your continued insight into this important area that challenges all of us committed to keeping American farmers on top and competitive in a world market. Many hours of discussions, research, and planning have gone into this implementing legislation, and our membership appreciates your willingness to bring this issue forward for a thoughtful discussion and, hopefully, a quick resolution.

As the national seed trade association charged with the responsibility and privilege of representing over 500 seed companies, state and regional seed organizations, and supportive service industries, the ASTA is firmly behind the intent and spirit of H.R. 2927. Collectively, and without hesitation, we wholeheartedly believe that it is in the best interest of American agriculture and U.S. policy to join the 1991 UPOV Convention. In doing so, the United States positions itself as a full partner in recognizing intellectual property rights for developers of novel varieties of plants. Most importantly, however, the reciprocity with other countries that is afforded with adoption of the 1991 UPOV Convention assures developers and users of protected varieties of clearly defined and internationally accepted standards.

JOINING THE UPOV CONVENTION STRENGTHENS AMERICAN AGRICULTURE

The supporters of H.R. 2927 recognize the importance of validating strong intellectual property rights protection. Indeed, the 1991 UPOV Convention outlines standards for protecting plant breeders' rights, while at the same time, helping to arm developers of novel varieties with the protection and incentive necessary to bring new and improved products to the markets. These new and improved varieties provide the necessary tools American farmers need to maintain a well recognized dominance of world agricultural markets.

As an advocate for H.R. 2927, ASTA members maintaining research programs fully understand their responsibility to the farmer. Providing enhanced seeds that incorporate characteristics of drought and pest resistance help the farmer to be a responsible steward, while

achieving higher yields and increased performance. New and improved varieties come about because of continued commitments to research programs. Finally, new varieties continue to promote a more environmentally sensitive and responsible agriculture by decreasing dependence on fertilizers and other inputs.

In becoming a full partner in the 1991 UPOV Convention, the United States prepares itself to continue building on a recognized and sustained superiority in agriculture. Most importantly, however, it assures reciprocal plant breeders' rights with other competitors and foreign developers. In turn, farmers continue their right and privilege to save seed for use on their own holdings. This practice is fully endorsed by the ASTA, and is one that every major farm and commodity group has highlighted in resolutions and supportive policy statements.

In debating the merits of H.R. 2927, it is clear that there are two compelling reasons why the United States should move formally to join the 1991 UPOV Convention. The first is: the newly revised UPOV Convention provides the means for the United States and other signatories to enjoy much needed reciprocity rights. The second is: American agriculture will clearly benefit from a treaty that outlines clear and recognized breeders' rights that result in choice, selection, and quality of improved seed varieties.

INTRODUCTION OF THE PRINCIPLE OF DEPENDENCE

One important component of the 1991 UPOV Convention centers on a new term, "essentially derived varieties," or the principle of dependence. A concept unique to the plant breeding community, ASTA views this new and evolving concept as one that will revolutionize the seed industry.

Currently, Mr. Chairman, the 1970 PVP Act qualifies a variety for protection if it varies in one or more characteristics from an existing variety. This allows a proliferation of new protected varieties which differ from an existing variety by only small differences, such as flower color. These varieties offer nothing extra to a producer, but may result in company riding into the market on the coattails of its competitors. In doing so, one company capitalizes on the research conducted by another company by plagiarizing that company's varieties.

The 1991 UPOV Convention takes special care in introducing this new concept. ASTA continues its own internal discussions through specific crop committees on the concept, and is working closely with the international seed community to coordinate discussions and to share insight and status. And, while ongoing discussions and debate on defining parameters for essentially derived varieties moves forward, American farmers can rest assured that the industry's commitment of providing new and improved varieties is unyielding and is and will remain apart from the issue of essentially derived.

PROMOTING AND MAINTAINING THE RESEARCH EXEMPTION

Regarding the issue of genetic diversity and the importance of promoting and maintaining a system of free exchange and continued research, I feel compelled to comment on the ASTA's position. ASTA believes that H.R. 2927 encompasses the necessary language to promote and protect the free exchange and spirit of research. As developers of new and improved seed cultivars, we fully know and appreciate the importance of germplasm exchange and genetic diversity.

As an example, a number of ASTA companies have first hand experience working with countries outside the United States, some of which are considered to be third world, to develop special varieties that are bred for unique conditions, like arid or tropical conditions. Because the varieties are specially developed for conditions differing from those found in the United States, these countries have benefitted from the expertise of breeders who have been able to "match" varieties to localities.

This illustration of germplasm exchange and unrestricted research reinforces our position of supporting genetic diversity. Here at home, we applaud the U.S. Department of Agriculture's annual expenditures related to the collection, storage, and distribution of germplasm. ASTA believes that the $20 million invested in these activities is good policy. In addition, the more than $63 million for genetic research and breeding research on major crops contributes much to American agriculture and is a strong indicator of the Department's commitment to the future of agriculture. It offers not only a good return for the farmer but for the American taxpayer, too.

ASTA remembers the discussions held back in September when S. 1406 was under consideration. At that time, I made a special attempt to state, for the record, that the protection and advancement of genetic research was a challenge to all of us in the plant breeding community and to those of us charged with serving the American farmer. We commend the Congress' and the Administration's continued leadership in this area, and in particular, we reference the successful hearings on the Biodiversity Treaty.

ASTA submitted written supportive statements on the Biodiversity Treaty, and we maintain our full support and pledge to advance a clear and consistent policy that builds on the free exchange of germplasm and continues a charge for genetic diversity.

We fully believe, Mr. Chairman, that H.R. 2927 follows that same course. We feel that the free exchange and opportunity for genetic research is adequately protected and promoted in a meaningful and positive way that benefits all parties without exception.

RECOGNITION OF THE EXISTENCE OF FARM-SAVED SEED

Although the current PVP Act contains a farm-saved seed provision, the existing UPOV Conventions have no such provision. The 1991 Convention does, however, include language that

allows a contracting party to permit a farmer the ability to save seed for use on his holdings. Because of the recognized tradition and accepted necessity of farmers to save seed, the Convention made special reference to this American practice as a means of insuring our farmers this important right.

It should be noted, Mr. Chairman, that the farm-saved seed provision in the new Convention does not permit the selling of farm-saved seed. In order to be in full compliance with the Convention, H.R. 2927 contains a provision that stipulates that sales of protected varieties of seed are dependent on permission granted by the owner of the protected variety.

Mr. Chairman, it has become increasingly apparent that of all the issues before this subcommittee, the most widely discussed component of H.R. 2927 has centered on this provision. While these discussions have enabled the ASTA a forum to reaffirm our strong support of farm-saved seed, it has served another important purpose. It has allowed the ASTA to work more closely with the farm organizations and commodity groups and to forge new alliances on a common theme -- advancing American agriculture.

Truly, the recognition of farm-saved seed is good for the plant breeders and for the farmer. The language outlined in H.R. 2927 speaks clearly to the ability of a farmer to save seed and utilize it on his own holdings. This allows all parties to know the rules and further confirms the partnership between the seed industry and the farming community.

Mr. Chairman, these changes, as reflected in H.R. 2927, are necessary for the continued health and stability of American agriculture. Acceptance and adherence to the 1991 UPOV Convention is in the best interest of all of us who are committed to the farmer and to the breeder.

Like any business, or area of intellectual property, though, protection and incentive go hand-in-hand. Risk of capital and market share is real and is measurable. An inability to protect runs contrary to the spirit of the UPOV Convention and our ability as an industry to foster a partnership with the farmer. Seed companies must know that their investment of time, research, and capital is truly protected without exception. We believe that H.R. 2927 accomplishes this.

SWIFT APPROVAL OF H.R. 2927 WILL BETTER POSITION AMERICAN AGRICULTURE

Yield and performance have always been the criteria a farmer uses in seed selection. Farmers know that many things go into that bag of seed. Within that bag is considerable research, marketing, development, and an expectation for performance. In developing new and improved cultivars, plant breeders plan for the future. And, as they seek protection, the concept of essentially derived will unfold, and the merits of H.R. 2927 will continue to be revealed.

H.R. 2927 provides meaningful protection and assurances to plant breeders and the American farmer. Its benefits are more easily measured in the long-term, but the short-term

offers a continued commitment of time and efforts by the seed industry to meet its mandate of providing new and improved seed varieties.

As a final note, Mr. Chairman, ASTA is mindful that the Senate conducted a similar hearing last September and appears to be moving forward with its own measure, S. 1406. Since September, however, a number of changes have occurred, and Senator Kerrey, by way of a substitute measure has consolidated a number of additions and clarifications which came about by way of continuing negotiations and dialogues with all affected parties. At this time, I would respectfully urge you and the members of the full committee to carefully review the substitute language and incorporate those changes into the final package. They reflect a good deal of hard work and honest discussions with affected parties.

Thank you very much for this opportunity to be with you today. The ASTA remains committed to offering insight and technical expertise to the Congress on measures that affect American agriculture and, in particular, the seed industry. Our mission as an Association is to foster relationships and to represent to the very best of our ability the intentions and historical success of seed companies belonging to the ASTA. Our contributions collectively have been many, and with the passage of S. 1406 and H.R. 2927, I believe our ability to serve American agriculture will be greatly enhanced. Our ability to continue this mission is made easier because the Administration and Congress believe in intellectual property rights and believe that American agriculture and U.S. policy, in general, is served well by the principles found in H.R. 2927 and the 1991 UPOV Convention.

I look forward to answering any questions that you and the subcommittee may care to pose.

STATEMENT OF THE AMERICAN FARM BUREAU FEDERATION
TO THE HOUSE AGRICULTURE SUBCOMMITTEE ON
DEPARTMENT OPERATIONS AND NUTRITION
REGARDING H.R. 2927, THE PLANT VARIETY PROTECTION ACT
AMENDMENTS

Presented by

John Keeling
Director, Governmental Relations

May 24, 1994

Mr. Chairman, members of the subcommittee, I am honored to appear before you today to discuss the American Farm Bureau Federation's position on proposed changes to the Plant Variety Protection Act (PVPA). My name is John Keeling. I am a Director of Governmental Relations with the American Farm Bureau Federation (AFBF). We look forward to working with the members of the subcommittee and staff to strengthen the protection of the rights of breeders and to guarantee farmers access to superior seed varieties.

Farm Bureau has spent considerable time developing a position on the proposed changes to the PVPA. As is often the case in the policy arena, this involved balancing competing interests. Farm Bureau policy reflects our member commitment to protecting private property rights, including intellectual property rights. That protection had to be balanced with the need to retain a workable system whereby farmers who wish to save, condition and utilize otherwise protected seed on their own holdings could do so with a minimum of disruption to normal operating practices.

Each of you have a copy of our statement which includes the following text of AFBF policy on the PVPA:

> "In order to strengthen the rights of plant breeders and maintain farmers's ability to save seed for the land he or she farms and dispose of incidental amounts of seed, we will:
>
> "(1) Support strong intellectual property rights protection to allow seed developers the ability to recover the costs of research and development of seeds;
>
> "(2) Support restricting the sales of protected varieties, except for incidental sales, without the permission of the owner;

"(3) Support the present provision which allows a farmer to save seed for use on all the land that he or she farms; and

"(4) Support a provision to allow growers of seed varieties protected under the Plant Variety Protection Act (PVPA) to sell the seed according to local commercial law if the seed company fails to abide by the grower contract.

"We oppose expansion of breeders' rights through incorporation of the concept of "essentially derived varieties" (as delineated by the 1991 International Union for the Protection of New Varieties of Plants) into the scope of protection afforded by the PVPA."

American farmers have a strong vested interest in the advancement of genetic development through traditional breeding programs and through new technologies including genetic engineering. Plagiaristic breeding practices and inequalities in the protection afforded breeders and geneticists have been detrimental to such genetic advancement. AFBF supports extension of intellectual property right protection through the concept of "essentially derived varieties", but is concerned that an inappropriate definition of what constitutes an "essentially derived variety" could hinder progress in genetic advancement.

The 1991 UPOV agreement incorporates a fairly vague, but potentially restrictive, definition of "essentially derived varieties." Dr. Bruce Hunter of Ciba Seeds, and a member of the "Minimum Distance Committee" of the American Seed Trade Association stated in a 1993 address to an intellectual property rights symposium on the protection of plant materials that:

"It should also be noted that the Convention (referring to the 1991 UPOV) has deliberately not defined in detail the concept of 'Essentially Derived' in order to allow countries and organizations the opportunity to have considerable input into the interpretation and operation of this new concept."

H.R. 2927 uses the 1991 UPOV language to define "essentially derived." We believe the proposed definition is sufficiently vague and undefined and may unduly limit second generation innovation. The current definition places no limit on the extent of expression of essential characteristics which are required for a variety to qualify as essentially derived. Neither does it define what is meant by essential characteristics.

AFBF suggests the following changes to H.R. 2927 regarding Section 41, Definitions and Rules Construction, specifically the definition of essentially derived variety (Section 41 Number (3) (A)).

Subparagraph (iii) would be amended to require virtually all "the essential characteristics that result from the genotype or combination of genotypes of the initial variety."

In addition, we would suggest adding to subparagraph (iii) the following language:

> Any otherwise protectable variety which does not express at least 90 percent of the essential characteristics of the initial variety (or from a variety that is predominately derived from the initial variety), not including the differences which result from the act of derivation, satisfies the requirements for minimum genetic distance such that it is not an essentially derived variety.
>
> Essential characteristics are defined as heritable, readily identifiable traits that contribute to economic value. Such traits may be qualitative or quantitative. Trivial or purely cosmetic traits which have no economic value are not considered essential characteristics.

These amendments provide the refinement of the UPOV definition of "essentially derived" needed to remove its inherent ambiguity. Our proposed amendments provide for more clarity of the rights of the owner of the initial variety and define succinctly the latitude that a second generation breeder has in making refinements in a protected variety and his ability to receive potential economic benefits for such efforts. Nevertheless, these amendments provide a substantial strengthening of the protection afforded to the initial breeder.

As currently drafted, H.R. 2927 could create difficulties for farmers desiring to have seed conditioned by a custom conditioner. In order to constitute a violation of the act, we believe a linkage needs to be established between conditioning of seed and direct knowledge of the intended use of the seed for propagation in violation of the act. We would suggest that Section 8, Infringement of Plant Variety Protection, (7) be amended as follows:

> "(7) condition the variety with knowledge that the variety is being conditioned for commercial seed sale or propagation for commercial seed sale."

Farm Bureau policy states that farmers should be able to save seed and sell "incidental" amounts of that saved seed. Neither the UPOV or H.R. 2927 allow that range of options. We would suggest that these important options can be maintained for farmers without creating problems for breeders of protected varieties. A balance of interests can be achieved by establishing a reasonable definition of incidental sales and an appropriate procedure to monitor those sales.

I should state from the outset that it is not Farm Bureau's intention to provide any protection to those individuals whose activities are clearly designed to compete with the sale of protected varieties. Farmers should be allowed to save an adequate amount of seed to plant their holdings twice. This allows for replanting in the event of failed germination. If the farmer does not utilize the full amount of his saved seed on his holdings, he should be allowed to sell the remaining conditioned seed since it is often not marketable as grain. A total prohibition on such sales could result in farmers having to try to store small quantities of treated seed for long periods of time and could lead to contamination of other grain and feed sources. These situations would create undue hardships for family farmers. In general, such conditions would only produce extremely limited sales, generally between neighbors.

We believe that these type of neighbor to neighbor sales will take place regardless of restrictions put in place by either UPOV or the PVPA. It seems pointless to pass legislation that will force farmers to violate the law.

AFBF believes that inclusion in the PVPA of an automatic licensing provision for incidental sales would adequately protect farmers who need to sell small amounts of seed. We believe such a provision would be legal under UPOV. AFBF would also support the requirement that farmers notify the seed company of their intention to make an incidental sale in order to receive the automatic license. Farmers not making a notification to the seed company would be in violation of PVPA for any sales of protected varieties. Those persons controlling a protected variety would have knowledge of the extent of incidental sales of these varieties.

We suggest the following language as a substitute for the deleted portion of § 113 (7 U.S.C. 2543):

> Provided, that automatic licensing shall be granted by the owner, upon request by the farmer, for the incidental sale of such saved seed (not to exceed 10 percent of production), provided such sale is in compliance and that the owner is notified of such sale.

There may be other ways to define incidental sales, and we would consider those ideas. Farm Bureau does believe that the individual farmers we seek to protect through a "save and sell incidental amounts" provision are not the farmers who have benefitted by the vagueness of the current "farmer exemption." A balanced approach can end extensive "brown bagging" while preserving farmer options.

Farmers who grow protected varieties of seed for breeders or seed companies should be protected in the event that the contracting party does not abide by the terms of the contract. Farm Bureau would support amendments to

H.R. 2927 to allow a farmer to sell protected varieties according to local commercial law, if the contract with the farmer is broken or delivery of seed under such contracts is refused. There has been particular concern that growers of grass and forage seed could be particularly hard hit if the contracting party fails to accept the seed.

The American Farm Bureau Federation supports amendments to the PVPA which are beneficial for all of U.S. agriculture. Some components of the UPOV treaty fall into that category, and some do not. We hope the committee and all the interested groups will, first, concentrate on workable amendments to the PVPA and, second, on how these amendments conform to UPOV.

I appreciate the opportunity to share the views of Farm Bureau with you today. We look forward to working with you to improve the PVPA.

Statement
by
Lawrence Strouts
Strouts Seeds, Inc.

Good afternoon. My name is Lawrence Strouts. I am from Wilsey, Kansas, and I am pleased to be here today to discuss H.R. 2927, the Plant Variety Protection Act Amendments of 1993. I'd like to thank Congressman Roberts for inviting me here to Washington to talk about these important changes to the PVP Act. I appreciate his hard work, and I am glad that I have a chance to talk directly to you and to the subcommittee about my concern as a farmer and a seedsman.

I am very concerned about the content and enforcement of some parts of the Plant Variety Protection Act.

I wear two hats: one is that of a seedsman who observes that many farmers grow and sell PVPA seeds with little or no regard to the consequences.

The other hat is that of a farmer who sees fewer new varieties and less research being conducted towards producing new varieties that will ward off diseases and insects that attack our wheat crops. The results are lower yields and reduced profits.

As a seedsman, I grow registered and certified wheat seed as it is released from Kansas State University. Generally, these releases are to category I seedsmen on a county basis. I feel it is my responsibility to propagate wheat by PVPA rules and provide my farmer customers with the best available seed.

I am also an AgriPro Associate and follow a similar procedure, but pay a royalty on each bushel sold to AgriPro which goes back into research programs. I understand that it takes about 10 years and a million dollars to release each new cultivar.

On the surface, the PVPA system looks good. It is not working, though, because of widespread disregard for the rules and regulations.

For instance:

Pioneer built a good reputation in grain sorghum and corn, then decided to enter the wheat seed business. They built a state-of-the-art research facility at Hutchinson, Kansas. From there, they started marketing wheat seed through their dealers, hoping for a good return on their investment.

They released some excellent varieties, but it didn't work out because farmers would buy a few bushels, raise a crop, and then sell seed illegally to their neighbors. Even some of their trusted dealers got into the act. Pioneer finally realized what was happening and closed their research facility at a considerable loss to everyone involved.

AgriPro observes that about 30 percent of Kansas wheat is planted to their varieties, yet they only collect royalties on about 5 percent. Think of what they could do with a six fold increase in research money!

As a seedsman, I have farmer customers brag to me that they made good money illegally by selling their production which came from seed they purchased from me the year before.

The consequences to me as a seedsman can be serious. If I start with a $3 bushel of wheat, it costs about another $3 to make it into a bag of wheat seed. I add about $1 of profit and expect to sell it for $7.

If my neighbors saturate the market illegally, I have to dump the bags and my certified seed becomes just grain going to the elevator. I lose my profit, and I have to liquidate my certification expense against the value of the grain.

$3.00 minus $3.00 equals = NOTHING

As a farmer, I can't do much to increase production by increasing rainfall.

I have about reached the limit on fertilizer and pesticides.

I have seen an increase of about 1/2 bushel per acre per year from using the improved varieties.

This gain requires only a minimum increase in the cost of seed.

I also note that the K-State drill box survey shows about a 5 bushel per acre increase when a farmer plants certified seed as compared to "bin-run."

As the government continues to get out of agriculture, the variety improvements coupled with gains from planting certified seed will make a very real difference.

I believe it behooves all of us to work with seedsmen and farmers to make the principles of the Plant Variety Protection Act effective and better for all concerned.

I urge the subcommittee and the entire Congress to move ahead on these important amendments. As a farmer, I depend on the development of new and improved varieties. I want to know that I will keep having a good selection and the improved seed that I need to make a living.

Thank you for this experience. I am ready to answer any questions that you or the subcommittee might have for me.

Members
Washington North Idaho Seed Association
Washington State Crop Improvement Association
Washington State Department of Agriculture
Washington Agricultural Research Center
Washington Cooperative Extension Service

Washington Seed Council

May 19, 1994

Honorable Charles W. Stenholm, Chairman
Subcommittee on Department Operations and Nutrition
Room 1301, Longworth House Office Building
Washington, D.C. 20515

Re: H.R. 2927
Plant Variety Protection Act Amendments of 1993

Dear Congressman Stenholm:

We wish to thank you and your committee for the opportunity to offer our comments for your consideration at the scheduled hearing on H.R. 2927 at 2:00 p.m., May 24.

H.R. 2927 is of great importance to our nation's agriculture, and especially important to Washington State's seed industry, as well as the plant breeding community. Washington's seed industry is unique in its ability to produce and is commercially producing some 83 kinds of top of the line seeds. The seed producer (farmer) must use the latest techniques and information available to successfully compete in both domestic and export markets. Those markets are highly competitive, specifically on price, since much imported seeds come from third world nations and/or nations which subsidize many of the seeds coming into the U.S.

All Washington seed producers find themselves facing a constant escalation of production costs. The most onerous of those inputs are; labor, taxes, tools (fertilizer and chemicals), equipment and, on many crops, pollinators, causing the producer to borrow operating capital. Any leading agency looks for security and the cash flow schedule, before lending. For decades--up to the past two-three years--lending institutions accepted the contract terms at face value. However, now due to the rapid escalation of new? PVP varieties and the inability or refusal by the breeder/contractor to meet the contract payment terms, lending agencies have become more wary and require additional security, even to the point of refusing loans. Just a couple 'bad apples' can ruin the whole box!

It is sad and discouraging to see your friend and neighbor selling his equipment and farm, when he has produced a quality crop, delivered it to the conditioner and has a certificate stating contents and quality, which meet all terms of the contract yet the breeder/contractor refuses to pay. Not only does he refuse to pay, but he prevents the grower from marketing the seed as the variety produced because it is a PVP variety!!

We see H.R. 2927 having the possibility of correcting this inequity without effecting in any way, the vast majority of the breeder/contractor certificate holders. We urge you to consider and adopt that which you will find in bold type near the end of these comments and statements.

We firmly support the three objectives as set forth regarding H.R. 2927, THE PLANT VARIETY PROTECTION ACT AMENDMENT OF 1993, and endorsed by ASTA.

We believe H.R. 2927 is important to the plant breeding community, the seed industry, as well as all of American agriculture.

We believe H.R. 2927 reinforces the free flow of germplasm, an essential component to genetic diversity.

We also believe H.R. 2927 will specifically insure: (1) first generation hybrids are protected (2) protection is extended to 20 years (3) protection to harvested plant parts is included (4) a farmer's ability to save protected varieties for use on their own holdings (5) a definition of the concept of "essentially derived".

We also urge you to adopt changes that have been agreed to in S. 1406 which are: (1) extending protection to potatoes and tubers (2) clarifying the ability to condition legitimate farm saved seed (3) VNS labelling allowance for grasses, alfalfa and clover, and that portion of S. 1406, Sec. 93. PROMPT PAYMENT. Which reads as follows:

"If a seed grower contracts with the holder of a certificate of plant variety protection issued under this Act, or a licensee of the holder, to produce lawn, turf, or forage grass seed, alfalfa, or clover seed, protected under this Act, payments due the grower under the contract shall be completed not later than the earlier of--

"(1) 30 days after the contract payment date; or
"(2) May 1 of the year following the production of the seed".

And for reasons set forth above, the following must be added:

"(3) And if the breeder/contractor certificate holder or licensee should fail to make payment and/or take delivery of the seed produced by the grower pursuant to the contract, the grower and all subsequent purchasers shall have the authority of the owner of the plant variety protection certificate to market the seed as the variety or Variety Not Stated, (VNS)."

Again, I wish to thank you and your committee for the opportunity to appear on a panel at the hearing. [redacted] All of U.S. agriculture, and especially the Washington Seed Producers, appreciates your consideration of our industry as this amendment moves forward under your guidance.

Sincerely

Washington Seed Council

Les Clemons/nc

Les Clemons
President

LC/nc

SUBCOMMITTEE ON DEPARTMENT OPERATIONS AND NUTRITION OF THE HOUSE COMMITTEE ON AGRICULTURE

HEARING ON PLANT VARIETY PROTECTION ACT AMENDMENTS H.R. 2927

MAY 24, 1994

FRED FLIELER
DIRECTOR OF POTATO PURCHASING
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Good afternoon, I'm Fred Flieler, the Director of Potato Purchasing for Frito-Lay, Inc., the nation's leading snack food company with 26,000 employees nation wide, manufacturing over 100 product lines. Thank you for this opportunity to comment on a proposed amendment to the Plant Variety Protection Act that will extend coverage to potatoes. Two of our most successful product lines are LAY'S and RUFFLES brand potato chips, which will use 2.5 billion pounds of potatoes in their manufacture this year. We purchase directly from nearly 200 potato growers in 35 states each year to meet our contract needs. Since 1958, Frito-Lay has maintained a research program dedicated to the development of new varieties suitable for the manufacture of potato chips, annually crossing 80,000 or more new potato plants, to select for improved traits.

The development of new varieties requires significant monetary investment. Frito-Lay attempts to control the availability of its proprietary varieties by entering into contracts with seed growers and then purchasing the seed potatoes grown. We believe that protection should be afforded under the Plant Variety Protection Act to control the propagation of proprietary varieties and to protect investments made in the development of new potato varieties.

Virtually all plants grown in the United States are granted certain protection if a new variety is developed. Sexually reproduced plants are subject to breeder's rights under the Plant Variety Protection Act, and asexually reproduced plants, with the specific exception of tuber-propagated plants, are eligible to be patented under the Plant Patent Act. Potatoes are afforded no coverage

under the Plant Variety Protection Act because they are not sexually reproduced, and are specifically excluded from the Plant Patent Act.

This denial of ownership rights for the developer of a new potato variety must be questioned. The Plant Patent Act was passed in 1939 and fulfilled its objective of enccuraging the development of new varieties of ornament plants and other nursery stock. In 1939, no rights existed for the private ownership of a plant variety that was a source of food. However, by 1970, recognition of breeder's rights in food crops was acknowledged and the United States became a signatory to the International Convention for the Protection of New Varieties of Plants (UPOV). Our participation in the UPOV Treaty resulted in the Plant Variety Protection Act that is the subject of today's hearing and which now provides breeder's

rights for sexually reproduced plants, virtually all of our present food crops with the exception of potatoes. The Plant Variety Protection Act has provided the incentive to make tremendous strides in improving such plants as corn, wheat and soy. This same incentive should exist for potatoes.

Potatoes are a significant food crop in the United States and throughout the world. In the United States, potatoes are the leading vegetable crop in terms of acreage and farm value, with more than 1.3 million acres planted in 1993, yielding nearly 42 billion pounds, and over $2.6 billion in sales. Worldwide, nearly 600 billion pounds are produced annually.

Development of new plant varieties is important. Improved varieties of potatoes can result in economic and quality benefits to

growers, processors and consumers alike. There is however, little incentive for plant breeders to seek these improvements in potatoes because any new potato variety can be propagated by others without the breeder's consent. Despite this, Frito-Lay pursued an intensive program for the development of improved potato varieties that has demonstrated real benefits to our growers and our customers.

Growers benefit when we develop new varieties that we can adapt to specific geographic areas. For example, we developed the FL795, which is a high quality, dependable variety adapted to the South. We know of no other commercial variety that has the consistent yield and quality to grow in South Texas year after year. Without this variety, it would not be economical to grow chip potatoes in South Texas. Another example of successful varietal

development benefiting growers is the FL1533. This is a drought tolerant variety and through the drought years of the late eighties, this variety returned near normal yields for our Red River Valley growers of North Dakota and Minnesota, while other commercial varieties were producing only 50 to 75% of normal yields.

Our breeding program includes conventional techniques as well as state-of-the-art bio-tech processes. While such a program requires a sizable investment, its returns are worthwhile when a new variety reduces processing costs through traits such as higher solids contents, reduced internal defects, improved color and extended storage characteristics. These reductions in cost can be passed on to our consumers who receive improved quality products.

Another trait sought through our potato breeding program is inherent pesticide resistance that will enable the grower to reduce or eliminate the application of chemical pesticides which is a savings to the grower and an obvious benefit to the environment. As you can see, variety development is a benefit to growers, and potato processors and consumers.

We believe that protection under the Plant Variety Protection Act should be available to developers of potato varieties to control the propagation of a variety and to protect and recoup their investment in its development. We also believe that protection should be afforded to developers as a means of supporting and encouraging investments in varietal development. The Plant Variety Protection Act protection would allow potatoes to receive

the same protection that is available to other crops and is important to the development of the domestic potato industry.

We urge you to amend H.R. 2927 to include an amendment from Senator Kerrey and the U.S. Department of Agriculture covering tuber propagated varieties, such as potatoes, that are not currently protected under the Plant Patent Act.

Thank you for holding this hearing. I'll be happy to answer any questions.

MMS040

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BEFORE THE SUBCOMMITTEE ON
DEPARTMENT OPERATIONS AND NUTRITION
HOUSE AGRICULTURE COMMITTEE

HEARING ON PLANT VARIETY PROTECTION ACT
AMENDMENTS OF 1993, H.R. 2927

STATEMENT OF THE NATIONAL POTATO COUNCIL REGARDING INTELLECTUAL PROPERTY RIGHTS FOR POTATOES

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Submitted: May 24, 1994

BEFORE THE SUBCOMMITTEE ON
DEPARTMENT OPERATIONS AND NUTRITION
HOUSE AGRICULTURE COMMITTEE

HEARING ON PLANT VARIETY PROTECTION ACT
AMENDMENTS OF 1993, H.R. 2927

STATEMENT OF THE NATIONAL POTATO COUNCIL REGARDING INTELLECTUAL PROPERTY RIGHTS FOR POTATOES

INTRODUCTION

The National Potato Council (NPC) and Potato Association of America (PAA), support the inclusion of the potato (Solanum tuberosum subsp. tuberosum) in the Plant Variety Protection Act (PVPA) under the revisions required by the 1991 UPOV Convention.

The National Potato Council is the only trade association representing 10,500 commercial growers in 50 states. Our growers produce both seed potatoes and potatoes for consumption in a variety of forms.

The PAA's main objective is the collection and dissemination of the best available technical and practicable information relating to all aspects of potato production and utilization, including breeding, genetics and certification.

The potato is the fourth most important food crop in the world following rice, wheat and corn. It is also one of the leading crops in productivity on a per acre basis. The potato is grown in almost all the countries in the world and forms the staple of many societies. Close to 300 million metric tons are produced annually worldwide. In the United States, it is the leading vegetable crop in acreage and farm value, with 1.3 million acres planted in 1993 yielding 420,000,000 cwt and over 2.6 billion dollars in sales. 133 pounds of potatoes are consumed per person per year. The potato is very amenable to biotechnology manipulations (i.e. genetic engineering) and is one of the leading crops in which genetically engineered plants, destined for commercial use, are being field-tested.

S. 1406 has been amended to include language which brings tuber propagated plants under the Plant Variety Protection Act. The Plant Patent Act currently specifically excludes tuber propagated plants. This amendment to S. 1406 was developed in conjunction with the Administration which supports the amendment. We urge that H.R. 2927 be amended to include identical language.

Why do we need to have an economically important crop like potato included in the PVPA?

A number of factors have contributed to this view by the PAA and NPC. First of all, we have seen Canada institute plant breeder's rights upon potato cultivars in a form similar to the UPOV Convention and also recommend that the U.S. have a similar form of protection to unify North American intellectual property rights. (The equivalent form of protection in the U.S. is the PVPA.) A common form of protection for potatoes among UPOV countries allows the U.S. to compete in a global market. Secondly, since the 1920's, potato breeding and germplasm research in the U.S. has been the primary responsibility of the public institutions (USDA and Land Grant Universities). In some states there has been a reduction in funding of public breeding efforts and also a loss of public potato breeding programs in the past few years. The reduction in funding has led the public institutions to find alternate means of funding programs and to explore various avenues to achieve program viability. One means of program support is royalty collection via the protection of varieties. Recently, the private sector has invested in biotechnology-based research to develop new potato germplasm for the industry based upon publically-released varieties. The influx of the private sector variety development requires that public breeders collaborate with this sector of researchers so that the best germplasm reaches the growers. The high investment costs of this research requires the private sector to recoup their investment, and to seek means to protect their invention or innovation (i.e. germplasm, variety or gene). Moreover, this relationship requires both breeders and genetic engineers to have equivalent levels of intellectual property protection.

Why does the PAA and NPC desire to have the potato included in the PVPA?

The U.S. was the first country to make specific provision to protect new plant varieties (PPA 1930; in 35 USC sections 261 to 264), which is embodied through the Plant Patent Act of 1930. The potato was excluded from this form of plant protection. Today, in the U.S., we have four forms of protection available for plant material. These are: trade secrecy, The Plant Patent Act of 1930 (PPA), The Plant Variety Protection Act (PVPA) of 1970, and utility patents.

Currently, we can protect potato varieties and germplasm with utility patents, therefore the means already exist to obtain intellectual property rights (IPR) for potatoes. This means to protect potatoes in the U.S. was non-existent until utility patents began to be granted to plants in the mid-1980's. Hence, the development of IPR for potatoes through utility patents occurred by default, not by design. **The question the PAA asked is whether this form of IPR is what is needed by the industry, researchers and breeders, or do we need other forms of protection?**

In general, decisions concerning the form of protection to seek for a particular plant should involve:

1) consideration of the species in question,
2) what form of reproduction occurs,
3) whether the plant material is novel for the particular form of protection,
4) whether the "innovation" satisfies the criteria of the patent system,
5) the expense or difficulty of securing one form of protection, and
6) the scope of protection that is necessary to optimally exploit the plant material.

For brevity, the table below compares some of the key points of three current forms of plant protection available in the U.S. (trade secrets are not applicable to potatoes). See the appendix for some discussion on the various forms of protection.

Utility Patents	Pl. Var. Prot. Act (PVPA)	Plant Patents (PPA)
Protects genes or unique characteristics	Protects sexually propagated varieties	Protects clonal varieties
For new industrial applications that are non-obvious and subject to enabling disclosure	For varieties that are distinct, uniform, stable and named	For varieties that are distinct, novel, non-obvious
Covers unique feature	Covers seed	Covers whole plants
No research exemptions	Research exemption	No research exemption

The potato, being an asexually propagated crop, should have been protected through the Plant Patent Act of 1930 (PPA). It was not included in that statute. The American Association of Nurseryman (AAN) and the National Association of Plant Patent Owners (NAPPO) are suggesting the PPA be amended so that PPA protection covers plant parts rather than whole plants and that the exemption of "tuber-propagated crops" like the potato be eliminated. However, the PPA is a 60 year-old statute that does not address the technological advances that have been made in potato plant breeding, propagation and biotechnology. One major weakness of the PPA is the lack of the research exemption. The NPC and the PAA, with strong conviction, support a research exemption because we believe that germplasm exchange is the key to further genetic advances. Legislation or statutes that sequester this exchange would have a negative impact upon genetic advances in the potato. Another key issue is essential derivation. With advances in biotechnology, essential derivation puts the plant breeders on par with the genetic engineers. (A discussion on essential derivation can be found below). The 1991 UPOV Convention addresses this issue and is being considered a part of the PVPA revisions. The PPA does not address essential derivation. Lastly, the PVPA application can be submitted by the breeders themselves, whereas a PPA claim does require lawyers for submission.

POTATO PERSPECTIVES ON UPOV

The UPOV (Union pour la Protection des Obtentions Vegetales) convention is, in effect, an agreement between countries (currently about 23) to grant a minimum level of protection for plant varieties on the basis of standard criteria. Breeder's rights are granted upon a variety when it is deemed novel, distinct, uniform and stable. A minimum of 15 years of protection is given for most plants. Any protected variety must be freely available for breeding, such as the source of initial variation in developing other varieties (part of the research exemption clause). The U.S. signed this agreement and the 1978 revision is currently in effect. However, this does not mean that our statutes are in alignment with the UPOV treaty for all species and genera (such as the potato).

Each country has its own set of laws to protect plant material to be in alignment with the UPOV agreement. The PPA and PVPA are the U.S. statutes intended to be part of this system of international protection of rights to plant properties usually referred to as "breeder's rights". The U.S. laws for plant IPR are not in alignment with most UPOV countries. Changes to the PPA are necessary to bring the PPA into compliance with the 1991 UPOV convention. The PVPA of 1970 provides the statute that most closely resembles the plant breeder's rights defined by UPOV; however, only true-breeding seed crops are protected by the PVPA. Interestingly, other than the US and Republic of Korea, there is no distinction made between protection and mode of reproduction.

Technology to genetically improve plant material has advanced, therefore changes in the laws were made to have equitable levels of protection. The reason being that the benefits to be derived by conventional plant breeding and from the new biotechnologies are cumulative and not separate. One cannot replace the other. It was desirable that equitable systems of incentive be created for both the new biotechnologies and for the results of plant breeding. Moreover, it was essential that systems of plant variety protection be created or maintained which are complementary to patent protection for biotechnological inventions.

The U.S. has signed the revision of the 1991 UPOV Convention which mandates several changes in the U.S. law. The changes are:

1) requirement that all member countries, after certain transitional periods, protect varieties of all plant genera and species;
2) an increase in the term of protection to 20 years;
3) extension of the scope of protection to harvested plant parts;
4) limitation of the farmer's exemption to prohibit "over-the-fence" sales;
5) expansion of the definition of Breeder's Rights to include the reproduction of the protected variety and sale of a variety derived from the protected one if the variety expresses the "essential characteristics" of the protected variety. Simply stated, the variety which is "essentially derived" from a protected variety cannot be exploited without the authorization of the breeder of the protected variety. Essential derivation includes the selection of a natural or induced mutant, or a

somaclonal variant, backcrossing, selection of an individual variant from plants of an initial variety, or transformation by genetic engineering.

To the potato breeders, essential derivation is a critical concept in the revision of the breeder's rights defined by the UPOV 1991 revisions. For example, if a plant breeder inserts a patented gene into his/her variety, the resulting variety could fall within the scope of the patent enabling the patentee to prohibit the exploitation of the variety by the breeder. On the other hand, if the patentee inserts the patented gene into a PVP-protected variety, the breeder of the variety has no possibility at present to forbid the exploitation of that variety. With the 1991 UPOV agreement, it is possible that the modified variety will be defined as essentially derived and fall within the scope of protection of the protected variety. It is envisioned that this new balance established between the two systems will facilitate the exchange of technology (and/or germplasm) between plant breeders and biotechnologists.

HOW CAN WE MAINTAIN FREE EXCHANGE OF GERMPLASM?

A major concern to the potato breeders is the maintenance of a free exchange of germplasm. Traditional plant breeders fear that patents on genes and other biotechnology products would deprive them of sources of germplasm for classical recombination and breeding towards cultivar development. To maintain free exchange of germplasm, each patent should contain a specific clause allowing use for crossing, however, this clause is not legislated, thus difficult to enforce. Presently, the Breeding and Genetics section of the PAA encourages holders of potato patents to allow breeders to use the patented varieties in breeding programs directed towards commercialization of new varieties, without restrictions and without the threat of infringement. The PVPA is the only form of IPR that explicitly provides a research exemption, hence, germplasm exchange.

REVISING IPR FOR POTATO

At this time, potato cultivars can be protected as utility patents under the Patent Act in the U.S. and in Canada under the Plant Breeder's Rights Act (PBRA). Those are not equivalent in the level of protection nor do they have similar standards for documentation and release. The Canadian PBRA provides the required varietal protection, enables the breeder to collect royalties, and recognizes the free availability of germplasm for use in further crossing. Their IPR for potatoes were developed to be in alignment with the 1978 UPOV treaty. The PVPA is the corresponding legislation in the U.S. to provide breeder's rights similar to Canada. If potatoes could be protected through the PVPA we would have essentially equivalent systems of varietal protection in North America. The PAA and NPC support the inclusion of the potato in the PVPA legislation that is currently being revised to be in alignment with the 1991 UPOV Convention.

CONCLUSION

We have IPR for potato cultivars today, however utility patents are not an adequate form of protection in most cases. Besides their cost to submit a claim,

there is no research exemption clause, therefore, by default utility patents sequester germplasm exchange. The inclusion of the potato in the PPA is not the best solution either for potato breeding. It does not provide an adequate level of protection (lacks the "essential derivation" concept), requires lawyers for submission of a claim, and has no research exemption.

The PAA and NPC support the form of intellectual property rights for plants outlined in the 1991 UPOV Convention. The PAA and NPC also advocate the inclusion of the potato in the PVPA under the revisions required by the 1991 UPOV treaty. This form of protection does not require the use of lawyers to obtain protection, is less costly and affords an adequate level of breeder's rights while explicitly legislating a research exemption for breeding. If potatoes are included in the PVPA the potato breeders then have adequate protection for potato germplasm which is comparable to other UPOV countries which conduct potato breeding. Moreover, we will have a form of protection that puts us on par with biotechnologists means to protect their product, which should promote germplasm exchange between these two groups.

(Attachments follow:)

APPENDIX

When we, the potato breeders, use the term intellectual property we are usually referring to a new potato cultivar. Intellectual property rights (IPR) is a concept that has guaranteed rights under the law which recognizes the ownership rights of a specific cultivar. If the breeder discloses the invention to the public, then the government will grant the breeder time-limited rights to exclusive use and sale of the cultivar. It is with the hope that this information can then be used for further advance of science.

What is the rationale of IPR for plant material? The development of novel plants can be expensive and is a long-term investment. The U.S. patenting act of 1790 was created for the purpose of rewarding inventors by protecting their invention. The philosophy, is that if there is no protection there would be little incentive to develop new products. The discussion below describes the various forms of protection we have available for plant varieties in the U.S.

PLANT PATENTS

The PPA of 1930 provided protection for asexually propagated varieties. Before the passage of the PPA in 1930, it was the common perception that plants and other living organisms were not eligible for plant protection because living organisms were products of nature. In the drive to pass the PPA, advocates for the PPA pointed to the great agricultural and horticultural contributions to society by plant breeders. They wanted to remove the existing discrimination between plant breeder and industrial inventors. Interestingly, Luther Burbank, breeder of the Burbank potato, was a noted advocate of plant patents.

A plant patent may be granted to anyone who invents or discovers and asexually reproduces a variety which is distinct, novel and non-obvious. In practice, the application of the criterion non-obviousness to plants seems to be linked to distinctiveness. For example, the candidate variety must be distinct by something more than a minor (cosmetic) characteristic. To obtain a plant patent the variety must be described as completely as reasonably possible and only one claim is permitted per variety. A plant patent application also requires a varietal name for the plant variety for which protection is sought. The PPA specifically exempted plant patent applicants from the requirement of the enabling written description. A printed publication, which would bar a utility patent application, is not a barrier to a plant patent, on the ground that a printed publication was nonenabling for a plant. The person granted the plant patent is entitled to exclude others from asexually reproducing the plant, selling it, or using the plant that is reproduced. Plant patents may involve less attorney preparation compared to and filing time than utility patents and may avoid deposit costs.

The definition of patentable subject matter is contained in section 161 of Title 35, in which-tuber-propagated plants are excluded. The exclusion of tuber-propagated crops was a political rather than a scientific decision and was largely because at that time the potato industry did not support patents for

potatoes. The rationale at that time was that for tuber-propagated plants, the propagating and edible portions of the plant are the same.

PLANT VARIETY PROTECTION

The PVPA of 1970 provides protection to sexually reproduced varieties that breed true (inbred or true-breeding plant varieties produced from seed). The purpose of this legislation was to extend IPR to sexually-reproduced species not addressed in the PPA. F1 hybrids were excluded since trade secrecy affords protection for those varieties and because they usually do not meet the requirement for stability. To secure protection under PVPA, the variety must be distinct, uniform, stable and named. The holder of the PVP certificate is entitled to prohibit others from selling or offering the variety for sale, importing or exporting the variety, or sexually multiplying the variety for marketing. The exemption to the breeder's right is that the protected variety can be used to develop another variety which is distinct from the protected variety. This concept is critical to germplasm exchange. Secondly, the farmer can save seed to plant the following year's crop. An unusual exemption that is a legal nightmare is one that the farmer, whose primary farming occupation is not seed growing, can sell to other such farmers without any obligation to the owner of the PVP certificate. At present, potatoes are specifically exempted from PVP, again, largely because the potato industry chose to not participate in IPR in 1970.

UTILITY PATENTS

Utility patents (or general patents) have only been granted since about 1985 for potatoes. As a result of the 1980 decision of the Supreme Court in Chakrabarty vs. Diamond (206 USPQ 193) patents are available for inventions consisting of living material provided that a significant degree of human intervention was involved. For an invention to be patentable, it must be new, industrial applicable, non-obvious, and subject to an enabling disclosure. Although PPA covers sports, this is not true in the utility patents. Mere discovery is not adequate. The purpose of an enabling disclosure requires that the "invention" be described so that a person skilled in the art to which the "invention" relates can reproduce it. For living material, like plant cultivars, it is frequently impossible to precisely reproduce the same material. To deal with this problem, an applicant may deposit a sample of the relevant living material along with the description. These two components, description and deposit, make up the enabling disclosure. However, there is no depository for asexually propagated crops so the industry needs to answer this need. The holder of a utility patent is entitled to exclude others from unlicensed reproduction, using, or selling the "invention" throughout the U.S. In other words, the utility patent is infringed upon if the patented potato cultivar is used for breeding.

The decision to obtain patent rights requires planning prior to applying for the utility patent. For example, your rights can be invalidated if more than

one year passes between public disclosure of the cultivar and the patent application. One should also keep detailed records that should be dated and signed. In addition, tight control should be maintained over the cultivar. It should not be shared with anyone without a valid testing license and any plants of the cultivar should not be sold.

TRADE SECRETS

Trade secrets are appropriate primarily for protecting unique breeding methods or laboratory techniques that are never exposed to the public. Parental inbreds which are cross-pollinated to produce F1 hybrid cultivars are protected as trade secrets. A trade secret can be protected over a long period of time. As long as there is no public disclosure of the trade secret, it can be enforced. This form of protection, is usually not an option in considering an asexually-propagated cultivar or inbred line of a plant variety where true-to-type "seed" is to be sold to the general public.

CURRENT STATUS OF PROTECTION

In summary, for a plant patent or PVP, the protection is straightforward. Protection extends to the variety described in the document. PPA covers the whole plant, whereas the PVPA covers only the seeds for the plant variety. If the statutes are changed to reflect the 1991 UPOV Convention (discussed above), plant parts would also be protected and derived varieties which retain essential characteristics would be covered. The utility patent system allows for claims of varying scope and emphasis depending on the nature of the invention and the prior art.

Several key provisions of the PVPA are not equivalent to any provisions in the utility patent or plant patent systems. These include mandatory license, a series of statutory exemptions for saved seed, an exemption for sales by persons whose primary occupation is farming (neighbor to neighbor sales), and a research exemption.

WHAT IS INFRINGEMENT?

Unlicensed propagation of a protected cultivar for any purpose is an infringement of the breeder's rights except for neighbor to neighbor sales. A research exemption is recognized in the PVPA but is not implicit in the PPA or the utility patents. If someone infringes upon the patent the burden of proof falls upon the patent holder. Failure to pay royalties assigned to the plant cultivar is against the law and is no different from stealing. More detailed infringements upon the PVPA are described in Public Law 91-577.

Appendix prepared by:
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With inputs from:
The PAA Ad-Hoc Committee to Examine IPR in Potato
Steve Love
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THE POTATO ASSOCIATION OF AMERICA

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Subcommittee on Department Operation and Nutrition
House Committee on Agriculture

Potato Association of America
presentation to the hearing
May 24, 1994

The Potato Association of America is pleased to have the opportunity for its representative, Dr. David Douches, to appear before this Subcommittee on the subject of intellectual property rights for potatoes.

The Potato Association of America is the professional society for potato research, extension, utilization and technical workers in the Americas, including the United States. The Association also has members in many other countries around the world. In the United States most of the potato breeders, seed industry specialists, extension specialists and some industry leaders are members of the PAA.

At its 1993 annual meeting in Madison, Wisconsin, the PAA formally supported the inclusion of the potato in the Plant Variety Protection Act at the same time as revisions are made as required by the 1991 UPOV convention. This position was reached follwing discussion at the previous annual meeting, and the consideration of a specially prepared review document

The major reasons for supporting the inclusion of potatoes in the PVPA revisions are summarized as follows:

1. The PVPA meets the requirements of the UPOV convention which in turn facilitates obtaining protection in other UPOV countries, including Canada and major seed potato exporting countries, and helps to ensure that royalties are returned to the originator.

2. The application for protection under the PVPA is relatively straightforward and can be made by the breeder.

3. With the revisions arising from the 1991 UPOV convention, PVPA protection will extend to derived varieties such as transgenic varieties developed using biotechnology techniques.

4. The PVPA explicitly recognizes exemptions for breeding purposes which is important in facilitating continuing exchanges of potato germplasm.

The Potato Association of America asks you to give favourable consideration to this submission. Thank you for your attention.

T. Richard Tarn
President

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Testimony of
Hope J. Shand
Research Director
Rural Advancement Foundation International - USA
Before the U.S. House of Representatives
Committee on Agriculture
Subcommittee on Department Operations and Nutrition
May 24, 1994
H.R. 2927, Plant Variety Protection Act Amendments

My name is Hope Shand. I am Research Director of the Rural Advancement Foundation International-USA (RAFI), based in Pittsboro, North Carolina. RAFI is a private, non-profit organization that is dedicated to the preservation of family farms, the conservation and sustainable use of agricultural biodiversity, and the socially responsible use of new technologies. RAFI has a long history of work on the problem of the loss of genetic diversity in agriculture, and we are increasingly concerned about the impact of plant intellectual property rights on U.S. agriculture and world food security.

The Plant Variety Protection Act (PVPA) is the U.S. version of patent-like laws that are known internationally as "plant breeders' rights." As an alternative to the industrial patent system, the PVPA was established to provide breeders with limited monopoly rights over the production, marketing and sale of new, sexually reproduced plant varieties (such as soybeans, wheat, cotton and canola) for 18 years.

Proposed amendments to the PVPA would make the U.S. law conform with plant breeders' rights laws internationally, coordinated by the Union for the Protection of New Varieties of Plants (UPOV) headquartered in Geneva. The UPOV Convention governs the rules for granting of plant breeders' rights internationally, offering reciprocal protection for member states.

RAFI believes that the newly revised UPOV treaty (which the U.S. has signed, but not ratified), substantially strengthens the rights of plant breeders, at the expense of farmers. We question the need to amend the PVPA to conform with the 1991 UPOV Convention, and we urge members of Congress to consider the broader social and economic impacts of plant intellectual property rights on farmers, the future of U.S. agriculture and world food security. RAFI's specific concerns are outlined below.

The Farmer's Right

What was once viewed as the farmer's inalienable right--the 10,000 year-old ritual of saving seed from a harvested crop--is now jeopardized by plant patenting laws at the national and international levels.

The "farmer's exemption" or "farmer's right" has always been a prominent feature of the PVPA. The fundamental right of the farmer to save his/her patented seed for replanting, (or for resale, if the farmer is not principally in the business of reselling protected varieties) was so important that, when hearings on the PVPA were first held in 1970, the assurance of this right was part of the bargain made to gain passage of the legislation.

But times have changed. For one thing, there has been tremendous consolidation in the U.S. seed industry. Plant breeding and seed sales are now dominated by multinational pharmaceutical and chemical corporations. These companies now refer to the farmer's right to save seed and sell limited quantities of proprietary seed as the "farmer's *privilege*" -- a privilege they seek to revoke through legislative and judicial means.

Proposed amendments to the PVPA seek to eliminate the farmer's right to sell limited quantities of proprietary seed to his or her neighbor. RAFI asks: How long will it be before farmers lose the right to save proprietary seed for planting on their own farm?

RAFI does not support illegal brown-bagging of proprietary seed. We acknowledge that some segments of the seed industry (in niche markets) have suffered as a result of illegal brown-bagging. However, we feel that the proposed amendments are too restrictive in dealing with the problem. Further, although the seed industry claims that if is suffering severe financial hardship because of illegal brown bagging, there is no evidence to support these claims, other than anecdotal references. We know, for instance, that Pioneer Hi-Bred withdrew its research-based seed operations for hard red winter wheat and hard red spring wheat, but further details have not been made available. We are aware of the fact that Asgrow Seed Co. (Upjohn Pharmaceutical) has initiated lawsuits against some 20 farmers for alleged violations of brown-bagging. But we don't really know how widespread the practice is--nor have alternative remedies been investigated. Rather than eliminate the farmer's traditional right to sell limited quantities of proprietary seed, members of Congress should first explore measures that will place reasonable limits on incidental seed sales.

RAFI believes that attempts to restrict the farmer's exemption under PVPA will take us one step closer to total elimination of the farmer's right to save seed. The seed industry acknowledges that it is both the practice of brown-bagging proprietary seeds, as well as farmers saving their seed for re-planting on their own holdings, that erodes seed industry sales.[1] If it becomes illegal for farmers to sell proprietary seed to their neighbor, will the seed industry return to Congress a

[1]Personal communication with Sydney B. Williams, Jr., The Upjohn Co. in regard to Asgrow Seed Company's lawsuits against soybean farmers.

year or two from now to argue that the real infringement is due to farmers saving their own seed for re-planting?

It is important to point out that the newly revised UPOV Convention makes it optional for member countries to allow farmers to save seed for planting on their own holdings. If the U.S. Congress ratifies the new UPOV Convention we believe that this option leaves the door wide open for a future ban on all farm-saved seed.

The PVPA Fosters Seed Industry Concentration and Contributes to Genetic Erosion

A 1985 study on the PVPA concluded that the passage of the PVPA in 1970 contributed to the large number of mergers and acquisitions in the U.S. seed industry.[2] Today, consolidation within the seed industry continues at a frantic pace. Kent Whealy of the Seed Savers Exchange in Decorah, Iowa explains the impact of seed industry consolidation in the garden seed sector and its impact on genetic erosion:

> Between 1984 and 1987, 23% of the mail-order seed companies in the U.S. and Canada (54 out of 230) either went out of business or were taken over. Large corporations, often agrichemical conglomerates, are buying out smaller family-owned seed companies and replacing their regionally-adapted collections with more profitable hybrids and patented varieties. The collections being dropped sometimes represent the life's work of several generations of seedsmen and are often well adapted to regional climates and resistant to local diseases and pests. The new corporate owners usually switch to generalized varieties that grow reasonably well in all areas, thus assuring the greatest sales in the company's new nationwide market. Irreplaceable genetic resources are being destroyed by marketing decisions to maximize the short-term profits of corporations that may not even own those seed companies the following year.[3]

Why are we letting an international treaty define the U.S. farmer's right to save and to sell limited quantities of seed from their harvest?

The seed industry argues that the U.S. Congress has a "moral obligation" to amend the PVPA so that it conforms with the new UPOV treaty. This is because the U.S. negotiating team in Geneva worked very hard to draft the new treaty. It is important to point out that the U.S. negotiating team at UPOV consisted of seed industry and U.S. government representatives. It did not include U.S. farmers, and it certainly did not include farmer's who exercise their legal

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[2]Butler,L.J., and B.W. Marion. 1985. The impacts of patent protection on the US seed industry and public plant breeding. North Central Regional Res. Publ. 304. College of Agriculture and Life Sciences, Research Division, Univ. of Wisconsin, Madison, WI

[3]Whealy, Kent. 1992. Garden Seed Inventory, Third Edition: An Inventory of Seed Catalogs Listing All Non-Hybrid Vegetable Seeds Still Available in the United States and Canada, Decorah, IA.

right to sell limited quantities of seed to their neighbors. If the U.S. Congress has a "moral obligation," in regard to this issue, we believe it is to carefully review the original intent of Congress in preserving and protecting the farmer's right to save seed and to sell limited quantities to his or her neighbor.

Will U.S. Failure to Ratify the 1991 UPOV Treaty Make the U.S. Seed Industry Less Competitive In the World Market?

While proponents of H.R. 2927 argue that it is necessary for the U.S. to conform to the newly revised UPOV Treaty, it is important to note that no other nation has ratified the 1991 treaty to date. In addition, the United States will suffer no penalties by declining to adhere to the 1991 UPOV treaty. If the U.S. declines to become a party to the new Convention, it will continue as a member of UPOV adhering to the provisions of the 1978 Convention. According to Rob Robinson of the American Seed Trade Association's Intellectual Property Rights Committee, in the event that the U.S. does not become a party to the new UPOV convention, U.S. breeders would not benefit from the stronger breeders' rights contained in the new Convention within the U.S., but they would qualify for these rights in any other UPOV members country which is a party to the new Convention.[4]

International Controversy Over Control and Ownership of Plant Genetic Resources Could Jeopardize Future Access to and Exchange of Crop Genetic Resources

All major food crops, the staple crops grown and consumed by the vast majority of the world's population, have their origins and centers of diversity in the tropics and sub-tropics of the developing world.

The subject of crop genetic diversity assumes utmost urgency today because we are losing biological resources at an unprecedented rate. The Food and Agriculture Organization of the United Nations estimates that, since the beginning of this century, about 75% of the genetic diversity of agricultural crops has been lost.

Erosion of crop genetic diversity (the loss of genetic diversity through extinction) threatens the existence and stability of our food supply. This is because the diversity found in developing countries is vital for the maintenance and improvement of new crop varieties. To maintain pest and disease resistance in our major food crops, for instance, or to develop other needed traits like drought tolerance or improved flavor, plant breeders constantly require fresh infusions of genes from the farms, forests and fields of the developing world. The high-yielding, elite cultivars of modern agriculture depend on a steady stream of new, exotic germplasm. The U.S. government estimates that a 1 percent gain in crop productivity due to the use of introduced germplasm means a $1 billion dollar benefit to the American economy.

[4]Robinson, Rob. 1991. "UPOV Convention: Plant Breeders' Rights Dance to a New Tune," Seed World, May, p. 27.

In the rush to promote exclusive mechanisms for rewarding plant breeders and developers of new agricultural biotechnologies, there has been little or no consideration for the impact of intellectual property rights on the future conservation and exchange of biological resources.

The danger is that intellectual property rights, without reciprocal benefits and meaningful compensation for developing nations, could set up formidable barriers to access to the world's genetic resources. In the wake of new plant patenting proposals, and strengthening of breeders' rights, developing nations are questioning the notion of full and free access to their biological resources. Why, they ask, are patented seeds, ultimately of Third World origin, bringing profits to multinational seed corporations without corresponding compensation for the developing world?

Although we hear little about this controversy in the U.S., the issue is extremely controversial in the developing world. Consider, for example, the recent protests of 500,000 farmers in India. These farmers do not want the Indian government to accept the imposition of plant intellectual property rights in their country as a result of the recently concluded General Agreement on Tariffs and Trade (GATT) trade accord. Indian farmers are angry because they don't want to pay royalties on seeds and other products that they believe were developed using their own genetic resources and knowledge.

International tension over ownership and control of genetic resources will intensify if the United States ratifies an international treaty that does not guarantee the right of farmers to save seed. Again, the danger is that developing nations will restrict future access to genetic resources, the cornerstone of modern plant breeding. Issues related to control, ownership and access to plant genetic resources are far from being resolved. These issues will be the subject of ongoing international negotiations, including the upcoming Intergovernmental Committee of the Convention on Biological Diversity, to be held in Nairobi next month. Given that inter-governmental negotiations are still underway, RAFI believes it is premature for the US Congress to ratify the 1991 UPOV Convention--an action that may jeopardize negotiations in other fora related to biodiversity and intellectual property rights.

The PVPA and other forms of plant intellectual property rights will unintentionally encourage and exasperate problems of crop genetic erosion

Genetic erosion is an unintended consequence of modern plant breeding. To the extent that a seed company produces a successful variety, it can displace genetic material needed for future breeding programs. Historically, the single greatest cause of crop genetic erosion in Third World centers of diversity has been the introduction new, uniform cultivars that replace farmers' traditional varieties. The strengthening of plant breeders' rights internationally, and the promotion of plant breeders' rights in developing nations, will further accelerate genetic erosion in Third World centers of diversity.

While the seed industry has been reluctant to admit the connection between plant breeders' rights and the loss of genetic diversity, the Keystone Dialogue on Plant Genetic Resources (which included seed industry representatives), made blunt criticisms of plant breeders' rights in this regard:

> At the level of individual plant species of agronomic value, current intellectual property rights systems reinforce the tendency of plant breeding to decrease genetic diversity. These systems encourage the production and dissemination of new varieties which often replace the more diverse landraces and local crops...commercial research tends to focus on a limited number of crops with large acreage or with a high profitability of seed sales. Moreover, the existing uniformity requirement to obtain Plant Breeders' Rights ensure a high degree of genetic uniformity within a variety. The protected uniform variety ..has the potential to displace more genetically diverse landraces.[5]

The Implications of Extending Proprietary Protection to Harvested Materials

One of the proposed changes embodied in H.R. 2927 would extend proprietary protection to harvested materials of protected varieties. This means, for example, that grain grown from protected seed, or any other end product that is produced from proprietary seed, would be protected by the PVPA. This gives the corporate breeder the power to restrict imports and exports of protected varieties and their products if that product is produced using seed without authorization. Seed companies could, for example, restrict imports into a UPOV-governed country of farm products coming from countries that do not recognize breeders' rights. End-product protection would also give a seed company the legal right to prevent food aid shipments that may contain protected seed from going to a Third World country that does not recognize plant breeders' rights.

If the PVPA is amended to give breeders the power to pursue products made from their varieties (even in the hands of people other than the producer of the unauthorized crop) it could mean that the threat of liability for PVPA infringement extends to anyone who purchases illegally reproduced seed or material produced from the seed. We believe that extension of PVPA to harvested materials gives corporate breeders excessive and dangerous levels of control in the marketing and use of genetic materials.

We urge members of Congress to examine closely the broader implications and potentially negative impacts of such a change. The seed industry favors the extension of PVPA protection to harvested materials (under UPOV) because this measure would compel many developing nations to adopt plant breeders' rights and thus afford reciprocal plant intellectual property protection in foreign markets.

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[5]Keystone Center. 1990. Final Consensus Report of the Keystone International Dialogue Series on Plant Genetic Resources, Madras Plenary Session, Second Plenary Session, 29 January - 2 February, Madras, India. Keystone, CO.

Historically, UPOV's member states do not include developing nations. In reality, few Third World countries have the infrastructure to enforce breeders' rights and other forms of plant intellectual property rights. Given the threat of trade retaliation, however, Third World nations that are signatories to the GATT accord will now be obligated to adopt intellectual property rights for plants, be it through patents or a *sui generis* system. As noted above, extension of breeders' rights legislation in developing nations is likely to contribute to crop genetic erosion. It may also jeopardize future conservation and exchange of plant genetic resources.

"First to File" for Determining Eligibility is Inconsistent with U.S. Preference for "First to Invent"

If the US ratifies the UPOV 1991 Convention, the use of date of determination would be replaced by the use of date of filing for protection as the basis for determining eligibility for protection.[6] While seemingly minor and limited in scope, this change in U.S. law governing plant intellectual property is inconsistent with other US intellectual property law, and may ultimately work to the disadvantage of small breeders/"inventors." Recently, the WIPO Patent Harmonization Treaty was rejected by the US Patent and Trademark Office, largely because small inventors objected that it did not give priority to the US system of first-to-invent. Will ratification of UPOV 1991 set a precedent in US intellectual property law and jeopardize the long-standing principle of first to invent?

Conclusion

Thank you for the opportunity to appear before this Subcommittee. We hope that you will use this hearing as a reference point for further debate and discussion on this issue, prior to taking further action on H.R.2927.

Proposed amendments to the U.S. Plant Variety Protection Act have implications far beyond our borders. What may, at first glance, appear to be an innocuous issue, is extraordinarily complex and controversial. There is a great deal of uncertainty, as well as conflict, regarding the potential impacts of both plant breeder's rights and plant patenting. In addition, new genetic technologies are being developed much faster than society can develop socially responsible policies to assimilate them.

The PVPA was designed to give plant breeders adequate incentives to conduct research and develop new plant varieties by granting them limited monopoly rights. Amendments to the PVPA now seek a disproportionate set of benefits for commercial plant breeders, without corresponding benefits for farmers and society.

The evolution of plant intellectual property laws in recent history (both in the United States and internationally) shows a consistent strengthening of the

[6]International Union for the Protection of New Varieties, Diplomatic Conference for the Revision of the International Convention for the Protection of New Varieties of Plants, Geneva, March 4-19, 1991, Article 10.

rights of commercial plant breeders, even if the strength of the protection exceeds socially optimal levels. No market mechanism determines the optimal balance--and this is why it is imperative that the US Congress proceed with careful deliberation in debating the merits of amending the PVPA or ratifying the 1991 UPOV Convention.

RAFI urges members of Congress to re-examine the Plant Variety Protection Act within a broader context, and to carefully consider the social and economic implications of plant intellectual property rights for farmers, plant breeding and germplasm activities, and future access to and exchange of plant genetic resources, both domestically and internationally.

A review of the 24-year history of the Plant Variety Protection Act reveals that the Act itself and later amendments were enacted into law without ever experiencing a recorded vote. The intent of Congress in passing the Plant Variety Protection Act was "to promote progress in agriculture in the public interest." As custodians of the public interest, we urge Congress to conduct a comprehensive policy review of all forms of intellectual property rights affecting agriculture, including plants, animals and other life forms.

Specifically, RAFI recommends:

• Preserve the farmer's exemption. No action should be taken to eliminate the farmer's right to save proprietary seed for re-planting on his/her own holdings or to sell limited quantities of seed to his/her neighbor.

• The U.S. should decline to ratify the 1991 UPOV Convention, pending further study and a comprehensive policy review.

Department Operations and Nutrition Subcommittee
Public Hearing
May 24, 1994

Richard L. Lower
University of Wisconsin-Madison
on behalf of the Experiment Station Committee on
Operations Planning, National Association of State Universities and
Land Grant Colleges

My name is Richard L. Lower. My current position is Associate Dean of the College of Agricultural and Life Sciences, UW-Madison and Associate Director of the Wisconsin Agricultural Experiment Station. I also serve as Chair of the Experiment Station Committee on Organization and Policy (ESCOP) Subcommittee on Plant Germplasm. In addition to representing ESCOP, I represent the American Society for Horticultural Science (ASHS) and the Steering Committee of the Workshop on Intellectual Property Rights: Protection of Plant Materials, held in Washington, D.C. in 1993. This workshop, and its predecessor held in Anaheim, California in 1989, were developed to answer questions regarding plant germplasm (further defined as seed and vegetatively propagated genetic material, cell and tissue culture lines, DNA fragments and pollen) .

Mr. Chairman, thank you very much for the invitation to take part in this hearing.

My comments address plant germplasm from the perspective of a research administrator at a public institution. Public germplasm research has been conducted for over a century and is a primary responsibility of the State Agricultural Experiment Stations (SAES). The SAESs employ approximately 6,000 faculty throughout the United States[1]. A significant portion of these research scientists are directly involved in plant germplasm activities, including acquisition, collection, evaluation, enhancement and genetic improvement of plants. Approximately 350 SAES scientists are plant breeders and they are directly involved in the development of improved germplasm for food, fiber and ornamental crops. In many crops, the role of variety development has been successfully transferred from the public to private industry. However, contributions from public germplasm programs continue to result in improved pest resistance, product quality, and profitability, as well as new knowledge, enhanced technologies and improved breeding methodologies.

SAESs also respond to other rather common situations. In some states, a lack or paucity of acceptable private varieties, because of a unique production or marketing opportunity, has resulted in development of publicly supported germplasm programs and the release of public cultivars. Small acreage specialty crops of major economic importance to a state, but with little interest or incentive to private firms, also are supported by SAES programs.

The successes of SAESs include cooperation with public agencies as well as private industry in germplasm research. Much of this success can be attributed to: 1) the free exchange of information as well as the free exchange of germplasm; 2) the development of a cooperative infrastructure that allows new germplasm to be acquired, maintained, shared, developed, enhanced and ultimately accepted by science and commerce. Equally important are the contributions of SAES in the instruction, education and training of the next generation of scientists involved in germplasm related activities. A significant number of SAESs' scientists are also involved in research that contributes to plant genome technology. Part of the SAES/university responsibilities are to contribute directly to the training and education of geneticists, plant breeders, biotechnologists and other plant scientists. Many believe this is our primary mission. This human resource pool is accompanied by an improved germplasm pool, new technology, breeding methodology, and sometimes cultivars as products of their mission.

The ESCOP developed and released plant germplasm guidelines in 1989[2]. They espouse the philosophy that SAESs may protect plant germplasm through any number of mechanisms. Plant Variety Protection certificates, plant patents, utility patents and other forms of protection, including restricted releases and use agreements are presently practiced. It is important to recognize that these are guidelines and not formal policy. Each agricultural experiment station must develop its policy regarding plant germplasm and display it prominently to insure that users understand the state's position. Likewise, each agricultural experiment station should develop a mechanism that allows each new invention to be protected, widely utilized and benefit U.S. agriculture.

The research exemption authorized under Plant Variety Protection which allows use of protected material in research and plant improvement programs has contributed positively to the exchange of information and germplasm. We support the essentially derived provision of HR 2927 that allows recompense to the initial inventor when a new germplasm development is released that utilizes the initial protected germplasm and is competitive with the initial inventor's property. These guidelines allow for individual agricultural experiment stations to respond to situations unique to their states and still participate in germplasm improvement and exchanges and to contribute to state, national and international food and fiber industries. Our success in developing food and fiber germplasm has been based on the sharing of genetic resources.

The public, as well as university governing bodies, expect products of tax-dollar supported research to be protected. After all, compensation for research accomplishments is one way to support future endeavors. Until the 1980s, public universities and agricultural experiment stations usually gave germplasm away. It was available as public domain. Many say this was right, since most germplasm research was funded by state and federal formula dollars. Scientists participated in research and exchanged materials openly [although this is a bit of a myth] and with few, if any, restrictions.

Today the motivation to protect germplasm has increased. Tighter university budgets and escalating research costs have caused administrators and researchers to think more

carefully about cost containment and cost recovery. Stronger university-industry relationships and greater dependence on revenues generated via intellectual property rights are being considered as significant sources of support for germplasm research. Germplasm exchanges are still taking place, but are frequently accompanied by memoranda of understanding or material transfer agreements that place limits or restrictions on the usage of the germplasm. Hopefully, germplasm research programs are not directed with the sole intent of making dollars or generating support via royalty from releases. This is a treadmill that should be avoided. Base support for university germplasm programs should not be solely dependent on revenue derived from intellectual property protection. Remember, the biggest contribution and primary mission of universities is the training of students - human resource development.

Impacts on Future Research and Development

In addition to developing policies that assure widespread and rapid use of new technology, public institutions must also assure that protection of intellectual property does not, in any way, impede further research. Scientists in both public and private institutions should be able to use information and research materials, whether protected or not, to further their investigations and to speed the acquisition of new knowledge and to speed new discovery.

The new molecular technologies, such as RAPDs and RFLPs, that are an important part of plant genome projects are also important tools in plant breeding and related plant germplasm programs. These technologies contribute to the mapping, sequencing and identification of new genes that will contribute to biology and agriculture. This information could serve to increase genetic diversity, reduce genetic vulnerability and broaden the genetic base of important cultivated crops. The advancing molecular technologies also will enhance our abilities to "fingerprint", measure genetic distance and take part in international discussions on the concept of "essentially derived varieties". The contributions to both science and education are paramount.

On behalf of ESCOP and the ASHS, thank you for the opportunity. One of the recommendations of the 1993 Workshop on Intellectual Property Rights was that the PVPA be revised to conform to the 1991 revision of UPOV. Additionally, we support the provisions on essentially derived varieties as they provide protection for developers of important basic genetic materials.

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1. Division of Agriculture, Committee on Biotechnology, Emerging Biotechnologies in Agriculture: Issues and Policies - Progress Report VIII, November, 1989.

2. Seed Policy Subcommittee, Experiment Station Committee on Organization and Policy, Responsibilities and Guidelines Concerning Development, Release and Multiplication of Publicly Developed Germplasm and Varieties of Seed-Propagated Crops, October, 1989.

AMERICAN ASSOCIATION OF NURSERYMEN

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June 8, 1994

The Honorable Charles W. Stenholm, Chairman
Subcommittee on Department Operations
and Nutrition
House Committee on Agriculture
1301-A Longworth House Office Building
Washington, DC 20515

Dear Mr. Chairman:

The American Association of Nurserymen (AAN) is the national trade organization representing the nursery and landscape industry. The National Association of Plant Patent Owners (NAPPO) represents the foremost breeders of a broad array of asexually-reproduced plants, which are protected by plant patents in the U.S. AAN and NAPPO respectfully request that this letter be entered in the official record of the May 24, 1994 Subcommittee hearing on H.R.2927, amendments to the Plant Variety Protection Act.

AAN and NAPPO recognize the need for U.S. agricultural and horticultural producers to maintain, and indeed augment, their competitive position in the global marketplace. Strong systems for ensuring plant breeders' intellectual property rights are key toward achieving this goal. We believe it is in the best interest of American agriculture and horticulture for the U.S. to join the 1991 UPOV Convention.

In keeping with this belief, AAN and NAPPO wish to endorse H.R.2927, a bill to amend the Plant Variety Protection Act of 1970, specifically to enhance intellectual property rights for developers of seed-reproduced plants, and to permit the U.S. to ratify the 1991 UPOV Convention.

Relative to the specific issues of "incidental sales" and "consent to sell saved seed," AAN and NAPPO generally support in concept the report language offered by the American Seed Trade Association (ASTA).

U.S. breeders of asexually-reproduced plants are world leaders in the creation of new, improved varieties, ranging from apples, peaches, grapes, and strawberries to azaleas, dogwoods, chrysanthemums, and roses. Though passage of H.R.2927 and U.S. ratification of the 1991 UPOV Convention will not directly affect

the domestic activities of U.S. breeders of asexually-reproduced plants, AAN and NAPPO believe that improvements contained in the 1991 UPOV Convention will provide U.S. breeders better incentives and protections in other UPOV member countries. Ultimately, AAN and NAPPO are hopeful that the Plant Patent Act of 1930, which has resulted in the breeding and introduction of over 8,300 improved asexually-reproduced plant varieties, may be amended to more closely conform to the 1991 UPOV Convention.

Thank you for carefully considering our views on H.R.2927.

Sincerely,

Benjamin C. Bolusky
Director of Government Affairs
American Association of Nurserymen

Craig J. Regelbrugge
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National Association of
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dw

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PRODUCERS • GINNERS • WAREHOUSEMEN • MERCHANTS • CRUSHERS • COOPERATIVES • MANUFACTURERS

June 6, 1994

The Honorable Charles Stenholm
Chairman
Subcommittee Department Operations
and Nutrition Subcommittee
U.S. House of Representatives
Committee on Agriculture
Washington, D.C. 20515

Dear Mr. Chairman:

I am writing to convey the comments of the National Cotton Council of America on H.R. 2927, the Plant Variety Protection Act Amendments. We would appreciate your assistance in including this correspondence in the hearing record.

The National Cotton Council is the central organization of the U.S. cotton industry, representing growers, ginners, cottonseed crushers, warehousemen, merchants, cooperatives, and textile manufacturers from California to the Carolinas.

Section of the Act would amend section 113 of the Plant Variety Protection Act(PVPA) to remove the provision which allows a person, whose primary farming occupation is the growing of crops for sale for other than reproductive purposes, to sell "saved seed" to other such persons, for reproductive purposes without being in violation of the PVPA. The deletion of the provision allowing farmers to sell saved seed, except as provided in section 12 of the proposed legislation, is necessary to confirm to Articles 14(1) and 15(2) of the 1991 revisions to the Union for the Protection of New Varieties of Plants(UPOV). We understand it is not the objective of the amendment to diminish the right of a farmer to save seed for replanting and to use the crop or sell it for other than reproductive purposes.

While we support reasonable action to curb abuses of the "farmers exemption", we want to ensure the proposed legislation does not restrict the farmer's right to save and replant saved seed in an arbitrarily narrow way which might ignore normal farming practices.

To ensure the right of a farmer to save seed for replanting, we urge the Committee to consider establishing a clear legislative history which allows the saved seed exemption to be interpreted in a practical manner recognizing normal farming practices. Specifically, we recommend that the Committee clearly state its intent that the exemption is not limited to the replanting of "saved seed" on the same acre from which it was harvested. Instead, the exemption should be administered in such a way as to allow a "farmer" (individual, partnership, corporation or trust) to plant "saved seed" on any acreage involved in the farming operation, whether the land is rented or owned by the individual, partnership, corporation or trust. Such a reasonable definition of "farm" as used in the PVPA or "holdings" as used in the UPOV will ensure that the spirit of the Act is met without unduly interfering with normal business practices. Consideration should also be given to the administration of the Act when a partnership or corporation holding "saved seed" is dissolved. Farmers are not always individuals working the same acreage year after year. We urge the Committee to clearly state that it is not the intent of Congress to limit the exemption in extremely narrow terms.

We also suggest reference in the legislative history to an issue that concerns cotton producers because of the way cotton is processed. Cotton is harvested and delivered to a gin for separation of the lint from the seed. During the ginning process, seed from various farming operations can become co-mingled because the ginning process is a continuous one. We suggest the incidental co-mingling during normal processing be within the intent of the exemption.

Section 12 of the Act addresses those varieties which have a certificate of plant variety protection, or have one pending on the effective date of the Act. These varieties would be subject to the previous provisions of the PVPA (7 U.S.C. 2321 et seq.), and their treatment would not be changed. We strongly support this provision which ensures producer's are not faced with retroactive restrictions. This transition provision provides producers an assurance that the Act is to be applied in a prospective and fair manner. We strongly support retention of this important provision and ask that the legislative history encourage development of a system which will enable farmers to easily identify seed that is eligible for resale compared to seed that is not.

We appreciate this opportunity to comment on the proposed legislation. We believe the provision related to the "farmers exemption" and the transition provisions are fair and reasonable and can be properly administered with the addition of clear legislative history.

We will be pleased to provide additional information or comments at any time.

Sincerely,

Jerry Calvani
Chairman

STATEMENT

by

Dale E. Cochran, President of the
National Council of Commercial Plant Breeders

My name is Dale Cochran, President of Illinois Foundation Seeds, Inc., and President of the National Council of Commercial Plant Breeders. On behalf of the Council, I am pleased to support and reaffirm our endorsement of H.R.2927, a bill to amend the Plant Variety Protection Act of 1993.

Many hours of discussions, research, and planning have gone into this legislation and the NCCPB appreciates your willingness to bring this issue forward for a thoughtful discussion and, hopefully, a quick resolution.

The NCCPB has at least two objectives to accomplish as an organization of plant breeders, representing 60+ seed companies.

1. To promote plant breeding, plant genetic research, and related plant improvement disciplines as challenging and interesting careers to help ensure a continuing supply of trained plant scientists.

2. To support systems of voluntary protection for the private developer or inventor of plant improvements on a worldwide basis so that the developer can benefit from the improvement, if he wishes, and provide incentive for further development.

The Council believes that it is in the best interest of American Agriculture and U.S. policy to join the 1991 UPOV Convention. The reciprocal plant breeders rights' that are offered with adoption of the 1991 UPOV Convention, assures developers and users of protected varieties of clearly defined and internationally accepted standards.

As supporters of H.R.2927, we recognize the importance of validating intellectual property rights protection. Indeed, the 1991 UPOV Convention outlines standards for protecting plant breeders rights, while at the same time, helping to arm developers of new varieties with the protection and incentive necessary to bring new and improved products to the markets. These new and improved varieties are developed with the sole intent of providing the necessary tools American farmers need to maintain a well recognized dominance of agricultural markets and high performing seed. American plant breeders fully understand their responsibility to the farmer. Providing enhanced seeds that incorporate drought resistance and pest resistance help the farmer to be a responsible steward, while achieving higher yields and performance.

1991 UPOV Convention Provisions

The U.S. is a member of the 1978 UPOV Convention and the NCCPB believes it is important to become a member of the 1991 UPOV Convention. There are certain changes in the 1991

Convention that differ from the 1978 Convention to be considered. The provisions of UPOV pertain only to protected varieties.

The following are the main modifications in the Convention:

Extension of the Scope of Breeders' Rights

The following acts, with some limitations, now require the permission of the breeder. They include:

1. Production or reproduction
2. Conditioning for the purpose of propagation
3. Offering for sale
4. Selling or other marketing
5. Exporting
6. Importing
7. Stocking for any of the purposes

Subject to certain limitation, authorization from the breeder must be obtained in respect of harvested material obtained through the unauthorized use of propagating material of the protected variety. Contracting parties may also provide that the breeder's authorization be obtained in respect to products directly obtained from the harvested material.

Introduction of the Principle of Dependence

The principle of dependence flows from the term "essentially derived varieties." At the present, the NCCPB defined the term as follows:

"Varieties which are essentially derived but nonetheless clearly distinguishable from existing protected varieties qualify for legal protection but should only be commercialized with the consent of the owner of the original variety.

The principle of dependence would not change the criteria for what qualifies a variety for protection, but if the genetic differences did not meet certain standards, it could not be commercialized without permission of the owner of the variety from which it was derived.

Recognition of the Existence of Farm-Saved Seed

Although the current PVP Act contains a saved seed provision, the existing UPOV Conventions have no such provision. The new Convention simply states that a contracting party 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 variety in order to permit farmers to use for propagating

purposes, on their own holdings, the product of the harvest for which they have obtained by planting, on their own holdings, the protected variety or an essentially derived variety. "Holdings" are considered to be land-owned, rented, or leased by a farmer.

It should be noted, that the farm-saved seed provision in the new Convention does not permit the selling of farm-saved seed. In order to be in full compliance with the Convention, S.1406 contains a provision that stipulates that sales of protected varieties of seed are dependent on permission granted by the owner of the protected variety.

It has become increasingly apparent that of all the issues before this subcommittee, the most widely discussed component of H.R.2927 has centered on this provision. The sale of farm-saved seed has led to the abandonment of research programs on certain crops by seed companies because of an inability to compete with their own varieties. Time considerations preclude me from going into graphic detail of the casualties resulting from farm saved sales. This subcommittee, however, will be receiving and incorporating into the official record documented cases of seed companies, large and small alike that have restructured, curtailed, and in the most drastic of examples, abandoned major research programs. All of these actions illustrate a painful, but necessary recognition of seed companies of an inability to compete with farmers capitalizing off of substantial financial, human, and research commitments.

A surprising few believe that a variety granted a PVP certificate is just that -- a PVP certificate. The seed industry, however, views the PVP certificate as a "patent like" license that insures protection and a recognition of development worthy of expected rights and privilege. The NCCPB fully supports the tradition and spirit of the crop exemption. We do not, however, believe that breeders, whether public or private, individual or university, has to expect or accept anything less than full protection. The UPOV Convention permits sales contingent on the permission of the owner of the protected variety. This standard is in keeping with the intent of the PVP certificate and is most importantly, fair and consistent to those who assume the risk and investment.[4]

While H.R.2927 will provide this much needed protection to the developer, the benefit extends to the farmer. Farmers need to know that the industry that provides them with the single most important component in agriculture is firmly committed to bringing to the market a steady stream of improved and enhanced seed. Without newer and improved varieties, American farmers cannot compete with our competitors overseas. If our competitors recognize the value and necessity of protecting breeder's rights and we,

in turn, fail to do so, our ability to continue dominating agricultural markets will be in serious question. H.R.2927 seeks to better position American agriculture by giving those who develop the seed protection and those who utilize the seed selection they have come to know and expect.

These changes as reflected in H.R.2927 are necessary for the continued health and stability of American agriculture. Acceptance and adherence to the 1991 UPOV Convention is in the best interest of all of us who are committed to the farmer and to the breeder.

Like any business, or area of intellectual property, protection and incentive go hand-in-hand. Risk of capital and market share is real. An inability to protect runs contrary to the spirit of the UPOV Convention and our ability as an industry to foster a partnership with farmer. Seed companies must know that their investment of time, research, and capital is truly protected, without exception.

Currently, H.R. 2927 does not reflect the changes that have been agreed to by the Senate. They include: (1) extending protection to potatoes and tubers (2) clarifying the ability to condition legitimate farm saved seed (3) VNS labeling allowance for grasses, alfalfa and clover (4) prompt payment clause for growers to receive payment within 30 days of date specified in contracts. The NCCPB supports these changes in the Plant Variety Protection Act Amendments of 1993.

BEFORE THE
COMMITTEE ON AGRICULTURE
SUBCOMMITTEE ON DEPARTMENT OPERATIONS AND NUTRITION
U.S. HOUSE OF REPRESENTATIVES

HEARING ON H.R. 2927
PLANT VARIETY PROTECTION ACT AMENDMENTS

WRITTEN STATEMENT OF THE FLORAL TRADE COUNCIL

June 3, 1994

I. INTRODUCTION

These comments are submitted on behalf of the Floral Trade Council in response to the announcement by Subcommittee Chairman, Charles Stenholm, D-Texas, of hearings on Tuesday, May 24, 1994 concerning H.R. 2927 amending the Plant Variety Protection Act ("PVPA"). The Floral Trade Council is a U.S. trade association, the majority of whose members are domestic producers or wholesalers of fresh cut flowers in the United States, and is located at 1152 Haslett Road, Haslett, Michigan 48840 (telephone (517) 339-9765).

On May 24, 1994, Kenneth C. Clayton, Acting Deputy Assistant Secretary of Marketing and Inspection Services, U.S. Department of Agriculture, submitted a statement in these proceedings outlining the proposed amendments in H.R. 2927 and communicating the agency's receptiveness to "other beneficial modifications to the PVPA," consistent with the 1991 International Union for the Protection of New Varieties of Plants ("UPOV"). In response, the Floral Trade Council respectfully requests that Congress include two additional provisions in H.R. 2927. First, the U.S. Trade Representative, in conjunction with U.S. Department of Agriculture, should be instructed to issue a report reviewing protection of U.S. breeders' rights in fresh cut flower exporting countries and comparing royalty payments made by U.S. and foreign growers/exporters of fresh cut flowers. Second, Congress should require country of origin marking on imported fresh cut flowers. The Floral Trade Council urges Congress to consider the following comments in finalizing its legislation.

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II. LACK OF ADEQUATE PATENT PROTECTION PUTS U.S. BREEDERS AND FRESH CUT FLOWER GROWERS AT A COMPETITIVE DISADVANTAGE

Among the types of plants subject to plant variety patents are flowering plants. For example, rose plants are leased or rented from companies that hold patents. Patents are enforced in the United States by frequent on-site inspections to determine whether new plants are being propagated from the leased plants without payment of royalties. Yet, without the ability to enforce royalty agreements abroad, fresh cut flower growers in foreign countries are believed to pay no royalties for mother plants by illegally making cuttings. In contrast, U.S. flower growers face high royalties for patented flowers. U.S. growers' royalty payments can be as high as $10 of a $10.50 plant, depending on the type of plant. More typically, the royalty on a rose plant is likely to be between $.30 to $.80 per $3.00 plant. See J. Pertwee, Production and Marketing of Roses at 20 (1992) (According to other industry sources, the royalty on a rose plant ranges from $.65 to as much as $1.25 per $3.00 plant).

U.S. patents on plants can also be easily violated when imported merchandise is not marked with correct country of origin information. U.S. law requires that merchandise imported into the United States be marked with country of origin information. 19 U.S.C. § 1304. Under § 1304(a)(3)(J), fresh cut flowers, however, have been excepted from this requirement under Customs' "J-List" of articles since 1939. 19 C.R.F. § 134.33. Only the immediate container in which the imported flower ordinarily reaches the ultimate purchaser must be marked with country of origin information. 19 U.S.C. § 1304(b).

In practice, if imported merchandise is marked at all, only the box or other container of flowers will be marked. Flowers are taken out of these containers either by wholesalers or retailers (including grocery stores) before resale to consumers. In addition to not being marked with country of origin information, the information which is provided is often misleading (e.g., providing location of corporate headquarters or location of importer as country of origin). Customs Information Bulletin No. 90-91 (11/28/90). Indeed, Customs has noted, through examination of fresh cut flower imports, that "some containers show a U.S. address and bear no country of origin marking." Id. at 2. Hence, neither Customs nor the holder of the patent can determine whether imported flowers have been produced or sold without payment of royalties.

U.S. breeders have limited ability to enforce their patents on plants in foreign countries with on-site inspections. By monitoring the volume of flowers imported from a given country versus the royalty payments, patentholders could detect cheating. Because flowers are not even marked with country of origin information, U.S. patentholders cannot determine whether imported merchandise is being propagated and sold without payment of royalties. Thus, breeders have an incentive to collect much lower royalties from foreign growers in order to obtain any payments at all. See generally N. Laws, Royalties, **FloraCulture Int'l** at 34 (March/April 1992). Consequently, even when foreign growers pay royalties, they are frequently lower than the royalties paid by U.S. growers -- conferring a competitive advantage and, potentially, a restraint of trade.

III. H.R. 2927 SHOULD REQUIRE A PROMPT USTR REPORT AND COUNTRY OF ORIGIN MARKING FOR FRESH CUT FLOWERS

Not only is the breeder disadvantaged by inadequate protection of plant varieties, but the disparity in U.S. and foreign growers' royalty payments places U.S. fresh cut flower growers at a real competitive disadvantage. Because the United States is a net importer of fresh cut flowers, U.S. growers compete on a daily basis with low-priced, imported fresh cut flowers primarily from Central and South American countries. See ITC, **Industry & Trade Summary: Cut Flowers, USITC Pub.** 2737 at 15 (March 1994).

To address this disparity in patent protection, H.R. 2927 should require the U.S. Trade Representative ("USTR"), in conjunction with the U.S. Department of Agriculture, to issue a prompt report reviewing the level of protection actually afforded to U.S. patentholders in countries exporting fresh cut flowers to the United States. That report should also compare royalty payments made by U.S. and foreign growers. If USTR finds inadequate patent protection of U.S. breeders' rights or a disparity between royalties paid by U.S. versus foreign growers, USTR should then consider whether action pursuant to Section 301 of the Trade Agreements Act of 1979, as amended (19 U.S.C. § 2411(a)) is appropriate. Section 2411(a) requires USTR to take action against activity which violates a trade agreement or is unjustifiable and burdens or restricts commerce. "Unjustifiable" activities includes acts, policies, or practices which are inconsistent with the protection of intellectual property rights. 19 U.S.C. § 2411(d)(4)(B). The following language is suggested:

> In order to obtain complete information on whether foreign flower growers ignore U.S. patents or pay lower royalty payments, the U.S. Trade Representative, in conjunction with the U.S. Department of Agriculture, shall issue a report within six months of the effective date of the Act as specified in Section 13 that reviews, inter alia, (1) fresh cut flower exporting countries that recognize U.S. breeders' rights to patented plant varieties under domestic law, (2) fresh cut flower exporting countries that adhere to bilateral or multilateral treaties recognizing patent protection of plant varieties, and (3) royalty payments made by U.S. growers as compared to foreign fresh cut flower growers/exporters. Based on that report, the U.S. Trade Representative shall consider whether action pursuant to 19 U.S.C. § 2411(a) is appropriate.

A USTR report is clearly consistent with Article 2 of the UPOV which requires all contracting parties to "grant and protect breeders' rights." Further, according to Article 14 of the UPOV and Section 2541 of the PVPA, infringement of plant variety patents can include importation of the protected variety. As explained above, it is almost impossible for patentholders to determine whether foreign growers are producing more fresh cut flowers under a patent than royalties collected. Because of the difficulty in collecting information regarding patent violations, there is little threat of action under 19 U.S.C. § 1337. For this reason, breeders of flowering varieties have limited recourse to legal remedies.

Consistent with its commitment to "provide for appropriate legal remedies for the effective enforcement of breeders' rights" under Article 30 of the UPOV, Congress should require country of origin marking for fresh cut flowers. Congress removed three types of merchandise from the J-List in the Trade and Tariff Act of 1984 to address a similar problem: (1) certain pipe and fittings, (2) compressed gas cylinders, and (3) certain manhole rings or frames, covers, and assemblies thereof. 19 U.S.C. §§ 1304(c), (d), & (e). The legislative history of that amendment indicates that significant evasion of the law prompted Congress to amend the scope of the J-List. 1984 U.S. Code Cong. & Admin. News 4941-42. For the same reasons, Congress should specifically remove flowers from the J-List and impose more specific marking requirements, such as tagging every sixth stem. The following amendment to 7 U.S.C. § 2567 of the PVPA (requiring marking of the protected variety) is suggested:

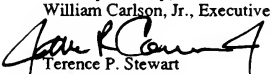
Notwithstanding the provisions of 19 U.S.C. § 1304(a)(3)(J), imported fresh cut flowers shall be marked with the English name of the country of origin by means of tagging the stems if imported without sleeving or packaging, or by means of printed sleeving or other packaging if imported with sleeving or packaging.

IV. CONCLUSION

The Floral Trade Council requests two amendments to H.R. 2927 which (1) direct the U.S. Trade Representative to issue a report reviewing protection of U.S. breeders' rights in fresh cut flower exporting countries and a comparative study of royalty payments made by U.S. and foreign growers/exporters of fresh cut flowers, and (2) require country of origin marking on imported fresh cut flowers. Both amendments would protect the rights of U.S. breeders as well as enable fresh cut flower growers to compete with lower-priced imported flowers on a more level playing field. For these reasons, the Floral Trade Council would welcome the opportunity to work jointly with Committee members and the Administration to determine the feasibility of these amendments.

Respectfully submitted,

FLORAL TRADE COUNCIL
Timothy J. Haley, President
William Carlson, Jr., Executive Director



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Special Counsel to the
Floral Trade Council

Seeds, Inc.

P.O. Box 866 Phone (509) 284-2848
Tekoa, Washington 99033-0866 FAX (509) 284-6464
Processors Of Quality Kentucky Bluegrass Seed

May 19, 1994

Honorable Charles Stenholm
Chairman
Department Operations and Nutrition Subcommittee
Room 1301 Longworth House Office Building
Washington, D.C. 20515

Dear Congressman Stenholm:

Seeds, Inc. is a grower owned seed company that specializes in the production, processing, and marketing of Kentucky bluegrass. The company operates facilities in Washington and Idaho. It handles proprietary as well as common Kentucky bluegrasses. Its primary production base is in the non-irrigated areas of Eastern Washington and North Idaho.

We have a major objection to the implementation of H.R. 2927, the Plant Variety Protection Act Amendments of 1993, as prepared. The amendments as written would prohibit the sale of seed of a protected variety unless it meets certification standards and can thus be identified by variety name. It would make it illegal to sell seed of protected varieties that fail to meet the standards for varietal certification even though the seed meets, or exceeds, the State and Federal seed laws. This would make the seed unmarketable. We strongly support the revision of these amendments to include the VNS labeling allowance for grasses, alfalfa, and clover as agreed to by the Senate version of the amendments.

Due to weather variability we have less control over the factors that impact quality in the final seed product. Thus we cannot guaranty that a major portion of our production will fall within the parameters established for varietal certification. We have a greater portion of our product that falls outside of the premium standards required for certification. We must retain the option of marketing this non-premium material as uncertified or "Variety Not Stated" seed. There is a legitimate market for this quality of seed, and in fact the market currently demands access to this material. Full adherence to this component of the amendments would require that the growers destroy this seed, putting an undue financial burden on them for not complying with varietal certification requirements through no fault of their own.

The Title 5 option of the Plant Variety Protection Act provides a good illustration of the problems created by the breeder specifying that the seed be marketed only as a class of certified seed. This creates a problem in what to do with the seed that does not meet the varietal certification scheme either through field inspection or some other means, again at no fault of the grower or the production company. This creates a scenario where "bootleg" marketing becomes the norm rather than the rarity. We do not need another series of amendments which limits sale of product to a market niche which is interested in and even demands the product.

Currently production contracts are written for the production of "PVP" varieties which include language that allows the grower to negotiate price for that seed not meeting the varietal certification requirements of the variety. It further allows sale of the product as "VNS" material. If the amendments are implemented as written it would effectively eliminate the sale of these products, putting undo financial stress on the growers at a time when farmers are facing increased production costs and less of an economic base to draw on for the future.

We firmly believe that the inclusion of the VNS labeling allowance for grasses, alfalfa, and clover will not detract from the objectives of H.R. 2927. It will continue to allow for the recovery of costs incurred by companies involved in varietal development as well as continue to allow for the free flow of germplasm. It will further allow growers the opportunity to recover some of their production costs while supporting the development of a stronger program for the development of PVP material.

Sincerely,

Terry Peters
General Manager

Statement of

Pioneer Hi-Bred International, Inc.

To The

Department Operations and Nutrition Subcommittee

of the

House Committee on Agriculture

on

H.R. 2927

Amendments to the Plant Variety Protection Act

May 24, 1994

Mr. Chairman and Members of the Subcommittee, Pioneer Hi-Bred International, Inc. commends you for holding this hearing on the proposed amendments to the Plant Variety Protection (PVP) Act. We also commend Congressmen de la Garza and Roberts for introducing this much needed legislation. Pioneer is pleased to provide the Subcommittee with its perspective on the need to update the PVP Act and offer our suggestions to strengthen the legislation that has been introduced.

Let me begin by telling you a little bit about Pioneer.

Pioneer was founded in 1926 by Henry A. Wallace and a few of his colleagues. He later went on to become U.S. Secretary of Agriculture and Vice President. Today, Pioneer is one of the world's largest independent agricultural genetic supply companies, doing business in more than 60 countries.

Pioneer breeds, produces, markets and sells hybrid corn, hybrid sorghum and hybrid sunflower seed, and pure-line varieties of soybean, soft red winter wheat and alfalfa seed. We also market inoculants made from naturally occurring organisms for crops and livestock, and we offer a full line of business management services for farmers. Sales of all products during the fiscal year that ended August 31, 1993, totaled over $1.4 billion.

Our research investment during fiscal year 1992-93 was over $105 million, which was over 7 percent of our sales. Every year we make this research investment so we can continue to offer farmers the improved genetics they need to increase their crop yields and to make their crops more resistant to drought, diseases and insects.

Pioneer's research is aimed at increasing the efficiency and profitability of farmers. We have done that in the past, and we will continue to do that in the future. However, we need compensation for our research investment.

Pioneer cannot make the research investment needed to provide farmers with those improved genetic products unless we are paid for our effort and receive a return on that research investment. The current Plant Variety Protection Act does not always allow that to happen.

The Plant Variety Protection Act is a cornerstone of the legal protection provided to U.S. plant breeders. Strong protection is necessary to encourage the level of research investment required to ensure a steady stream of improved varieties. These improved varieties are essential for U.S. farmers to remain competitive in world agricultural markets.

The current Plant Variety Protection Act is significantly flawed, as it allows the seed of a protected variety to be sold without permission of the owner. Due to this unfair competition, private investment in varietal development research has plummeted in several major crops and is threatened in others. In addition, ambiguous language contained in the current PVP Act causes needless litigation over saved seed between seed companies and their farmer-customers.

Pioneer supports the right of a farmer to save the seed of a protected variety to plant on his or her own holdings. We also support the position that a farmer may sell seed of a protected variety only with the permission of the owner of the variety. We believe such seed must meet all the requirements of federal and state seed laws.

Pioneer supports all other PVPA amendments to bring U.S. laws into harmonization with the 1991 update of the International Convention for the Protection of New Varieties of Plants (UPOV). These amendments are necessary to allow the United States to become a member of the 1991 UPOV Convention and for U.S. farmers to remain competitive in world agricultural markets.

Before offering our evidence that supports the need for changes to the farmer-to-farmer sales provisions in the legislation, there are other aspects of the bill we strongly support and believe deserve mention. We support extending the term of plant variety protection from 18 years to 20 for most crop plants. The bill also slightly broadens the scope of protection, so that we have more effective tools to enforce our rights against infringers.

We support the concept of "essentially derived varieties" as defined in the legislation. In the past, it was not uncommon for some seed companies to take an existing commercial variety, make minor "cosmetic" changes, and reintroduce the variety as its own development. This would happen without compensation to the company that developed the original variety and that made it an outstanding performer in the first place. This practice has come to be known in the industry as "plagiaristic breeding," by analogy to copyright principles.

The seed industry is now in agreement that the practice as it exists today is unfair to those who engage in serious, improvement-directed research. The industry has endorsed changes that will have the effect of permitting the practice to continue, but only when the original breeder is appropriately compensated for his or her contribution. We are pleased to

tell you that, in our opinion, the proposed amendments to the Plant Variety Protection Act address these problems.

We do recommend one change to the legislation to ensure the equal and adequate protection of plant breeders' rights. We strongly believe that Section 12, which addresses the transition from the current PVP Act to the revised PVP Act, needs to be changed. The transition section, as written, penalizes those breeders currently in the process of developing a new variety.

As written, the transition period protects not only previously protected varieties under the current, weaker law, but also those varieties that are in the process of being protected. If plant breeders withdraw and resubmit their applications, it will delay the commercialization of new varieties and contribute to a backlog in the PVP office. This will only deny U.S. farmers quick access to the latest genetic developments. We believe it is vital that the additional protection provided in this legislation be available immediately for those existing protected varieties. This will benefit both plant breeders and U.S. farmers.

Pioneer supports the revisions to the transition section as proposed by the industry. We firmly believe it treats researchers, farmers and owners of protected varieties fairly. As proposed, any seed grown on or after the effective date of the new PVPA would be protected under the new law. If farmer-saved seed was grown prior to the effective date, it would be regulated under the current law.

Under the proposed change, the rights of plant breeders against infringement by "essentially derived varieties" would go into effect much the same as farmer-saved seed rules. Any potentially "infringing" acts, such as sales that occurred prior to the effective date of the new Act, would be determined under the old provisions of PVPA.

As we have said, PVP is about intellectual property rights. A variety does not just spring into being as a part of nature's handiwork. It takes years and it is the career enterprise of a plant breeder. It requires the careful application of the science of genetics, detailed observation, testing and recognition of events that occur with a frequency of less than one in 100,000, insight, imagination, and luck. Nature supplies the luck, the plant breeder supplies everything else. Through his or her work, the plant breeder creates something that has not existed before. It is something of value -- property. The creator of a piece of property owns it.

This is the same basic principle applied in literature and art. We all start with the same alphabet, the same words, the same colors. Some of us

create something of value -- a book, a poem, a painting. As a result, we own it. The essence of owning property is that we are entitled to have our ownership protected under the law.

The commercial reproduction and sale of our PVP-protected, proprietary varieties is no different in principle than the commercial duplication and sale of printed materials, computer software, integrated circuits, and prerecorded audio and video cassettes -- all of which are currently illegal, and in some cases are criminal offenses. We are facing the same problem now in the seed industry.

Farmer-to-farmer sales of protected varieties take commercial advantage of the years of work that have gone into the creation of these varieties. Thus, denying the developers a fair return on their research investment and putting nothing back in terms of research for the future. We believe commercial research programs for varietal crops are threatened.

It costs approximately $1 million in research alone to develop a significant and successful new variety. We must recoup our investment in that variety to stay in business. We cannot do that if we must compete with others selling our proprietary varieties in the marketplace.

According to World Bank Discussion Paper 112, published in 1990, the number of private-sector soybean breeders in the United States increased from two in 1966, five years before adoption of the PVP Act, to 63 in 1984, 13 years after. Between 1977 and 1986, the share of acreage planted to privately developed soybean varieties in the United States tripled, to 86 percent.

In view of those results, one might be tempted to question whether the situation requires a change in the U.S. law. But it is not enough for us to be satisfied with the status quo in American agriculture. American seed companies are under global pressures to either perform or drop out of the competition. That performance is measured not in the commodity markets, but in the financial markets of the world. Simply put, there is a fundamental financial reason why hybrid crops account for about 125% of Pioneer's total annual profit. Faced with unfair price competition from brown-bag seed, the varieties we have spent several years and millions of dollars to develop cannot return the profits our investors require. At times, that forces us to make some unpleasant decisions.

In 1989, Pioneer announced its decision to discontinue its North American research, production, and sales activities in hard red winter and hard red spring wheat. Among the key factors that resulted in the decision were:

1) Low or negative profit margins in the hard red winter and hard red spring wheat seed businesses because of the minimal pricing flexibility and loss of market opportunity due to "brown- bagging."

2) In the six years between 1984 and 1989, financial losses were experienced annually in hard red winter and hard red spring wheat, except for one year in which hard red winter wheat broke even. Losses totaled nearly $6 million over this period, and projections for the future did not show prospects for improvement.

3) Farmers in the areas where hard red winter and hard red spring wheat are grown typically save some of their crop to use as seed rather than purchasing new bagged seed. Specifically, 80 percent of the farmers in the hard red winter wheat area and 70 percent in the hard red spring wheat area did not purchase new bagged seed from a commercial seed company. It did not appear that this trend would change.

4) Plant Variety Protection laws designed to encourage proprietary varietal development were not effective.

Here are some more specific facts:

Official Kansas agricultural statistics published in February 1989 indicated that 9.5 percent of the acres planted to hard red winter wheat in Kansas were planted with Pioneer Variety 2157. While one might expect us to be pleased at having such a successful variety, our sales statistics for the same period show that in that growing season, we sold a total of 100,600 units of Variety 2157 wheat seed in the states of Kansas, Nebraska, Colorado, and part of Wyoming combined. We know that not all of the seed was planted in Kansas. However, even if it had been our market share based on sales would have been 0.8 percent, not the 9.5 percent suggested by the planting data.

Looked at another way, these figures mean that Pioneer sold only 8.4 percent of the seed necessary to plant those acres of our own proprietary 2157 variety. Brown-bagged seed and saved crop accounted for the other 91.6 percent!

After our decision was announced, a story on the Knight-Ridder Financial wire service contained these comments:

> Steven Graham, Kansas Wheat Commission administrator: "We're now beginning to understand what we're up against. It [the

departure of Pioneer] could definitely have an impact within our own country."

Lowell Burchett, executive director of the Kansas Crop Improvement Association: "Wheat farmers have taken a real big hit with the withdrawal of these two companies [Pioneer and Cargill]. There's a lot less research going to be done on HRW wheat, and from my perspective, that's not good to see."

And Rollie Sears, Kansas State University wheat breeder: "Total dollars for wheat research probably will be cut." The loss of Pioneer is "a significant setback for all of us in the wheat breeding community. Some of that [private company seed research] we can pick up, but some of it's going to be lost forever."

In addition, an editorial in the Farm & Ranch Guide said: ". . . we can't help but think that producers will lose the benefit of having a major company involved in wheat research. Competition is good, and we need private companies involved in hard red spring wheat research, along with NDSU (North Dakota State University) and other universities."

Also, a story in Farm Talk newspaper of Parson, Kansas, quoted George Ham, associate director of the Kansas Experiment Station at Kansas State University: "Plant breeding is a numbers game. When breeders in the private sector fall out, it puts more pressure on the public programs to come up with more competitive varieties. We're very happy to get the germplasm [Pioneer is giving us]. But the fact that Pioneer is getting out is a real loss to U.S. wheat producers."

For Pioneer and other companies to continue taking the risks of investment in research -- and at the same time remain profitable and competitive -- we must have more effective protection for the intellectual property created by the research.

Why is it important to ensure that research-based commercial seed companies continue to prosper? Public sector plant breeding programs, both government and university, face declining financial support. These programs have a limited capacity. We are referring to the ability to release an assortment of new varieties having different traits and adaptations, rather than a single new variety from time to time. We do expect that they will continue to make a significant contribution to agricultural progress. However, much of that contribution will likely come from their role in training future plant breeders and conducting

basic research, rather than from the release of new varieties in crops such as soybeans and wheat.

Why is this significant? Because, plants are constantly under attack from a variety of natural forces, including drought, insects and diseases. A variety that thrives one year may not perform as well the next. History reflects this in the Irish potato famine of the 1840s, the powdery mildew devastation of the French wine industry in 1848, red rust in wheat in 1916 and 1917 and rust in Brazilian coffee in 1969. Additionally, there are the continuing problems of chestnut blight and Dutch elm disease.

The pervasive effects of diseases caused by viruses, which are notorious not only for their adaptability but their propensity to mutate to create new strains or races of diseases, mean that a new widespread disease or pest outbreak may only be one season away.

In the past, commercial breeding programs have been successful in developing a broad spectrum of resistant varieties. For example, today U.S. farmers have the choice of selecting from approximately 340 different varieties of soybeans, covering all ten maturity groups, which offer resistance to phytophthora root rot.

An important function of plant breeding research is to offer farmers choices so that they can select the varieties that work well for them. Pioneer has always carried a selection of varieties of varying maturities, disease resistance, and other characteristics so that farmers can choose the variety that best meets their needs.

However, farmers can choose from a selection of varieties only when there are enough economically successful breeding programs to provide a choice. If the current situation continues and the exodus of commercial research becomes complete, agriculture will be woefully under equipped to deal with the next potentially devastating outbreak of disease or pests.

It might seem reasonable to ask: If what we need is more research investment, why wouldn't it be simpler to increase funding for public agricultural research? There are two reasons why that may not be appropriate: efficiency and effectiveness. Efficiency is doing things the right way. Effectiveness is doing the right things the right way. Private sector research is product-oriented research; public sector research often is not, and justifiably so. It is not necessary that every research project produce results, but when the future of agriculture is on the line, it is important that every project be judged by whether or not it does produce results.

Other studies cited by the World Bank Discussion paper, mentioned earlier in this statement, suggest that privately developed varieties are more productive than their publicly bred competitors. Our own study supports the World Bank's conclusion that private sector research increases crop yield potential. As you can see from the attached chart on "Research & Development Expenditures By Crop," private company investment in research on varietal crops has increased substantially since the enactment of PVPA in 1970.

Yields have also increased in those crops at a faster pace since 1970. Using USDA yield data going back to 1960, we have prepared two charts, which are also attached: U.S. Soybean Yields and U.S. Wheat Yields. During the 1960s, the soybean yield trend was relatively flat. Since the enactment of PVPA in 1970, the trend is toward higher soybean yields. While not as dramatic, wheat yields have also increased.

Induced by the benefits of plant variety protection, other countries are also making significant strides in breeding of self-pollinated crops such as soybeans. In Argentina, which is a competitor of the United States in the international commodities market, plant variety protection has stimulated investment in plant breeding research and opened that market to introduction of varieties developed elsewhere. The result is that Argentina will challenge us more in the future for a share of the global market, not only in grain sales, but in research investment as well.

Our best estimates are that the volume of brown-bag sales in the United States is at least one to two times the volume of seed company sales. When given a choice between selling to the U.S. market and selling to a foreign market one-half or one-third the size, but in which brown-bag sales are not allowed, the decision is not difficult. The resulting volume of sales will be the same in both markets, but a seed company can get a better price and make a better profit in a market where it does not have to face unfair competition from brown-bag seed.

American farmers cannot remain competitive when seed research investment and seed research results are being funneled into markets in other countries. Stated even more strongly, American farmers have high costs for labor, land, and other inputs, and their foreign competitors are often more highly subsidized. The best way American farmers can stay ahead of their foreign competition is by continued heavy investment in the research needed to give them a technological lead. The way to stimulate investment in research is not through continued encouragement of farmer-to-farmer sales, but by supporting the rights of seed companies to be the only sellers of the products their research has

developed, and allowing them to make a profit that justifies doing the research.

Using soybeans as an example, we can illustrate the economic benefit of the PVPA to U.S. farmers. As shown earlier, there has been a dramatic increase in soybean yields since the enactment of the 1970 PVPA. Without the PVPA to encourage private soybean research, we believe yields would have increased at a slower rate. By extrapolating the 1960s yield trend line out to 1992 on the U.S. Soybean Yields chart, we project that soybean yields are about 20 percent higher than they would have been without the increased research encouraged by the PVPA. This 20 percent increase in yields generated an additional $2.64 billion in income to U.S. soybean farmers from just the 1992 crop.

Wheat yields have also increased at a faster rate than we projected they would have without the added incentives of the 1970 PVP Act. The attached U.S. Wheat Yields chart compares the yield trend line established in the 1960s to yield trends since 1970. Our projections indicate yields are about 15 percent higher. This extra yield gave farmers in wheat states approximately $975 million in additional income in 1992.

The exodus of several seed companies in the late-1980s, however, has reduced the number of new wheat varieties being released. As a result, it appears that wheat yields are no longer increasing and the trend line has started to flatten in recent years.

Without strong PVPA protection, there may come a time when private soybean research will be cut back. We believe the effect on soybean yields would parallel what is happening to wheat because there will not be the incentive for companies to strive for increased yields year after year.

In conclusion, we urge the Subcommittee to make the passage of the Plant Variety Protection Act amendments a priority.

(Attachments follow:)

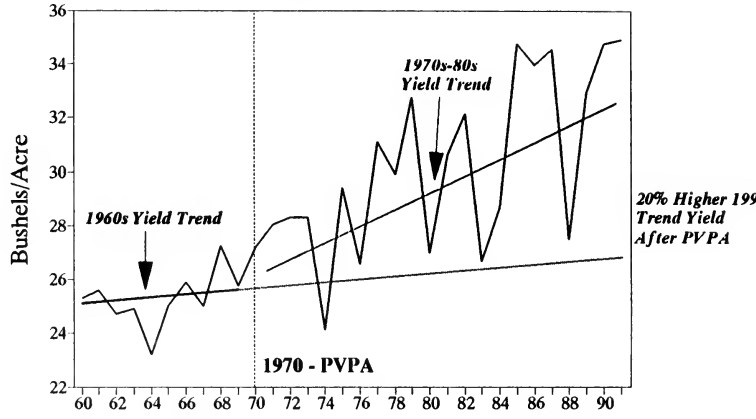
Research & Development Expenditures By Crop (Private Sector)

	Soybeans	Wheat	Cotton
		($ Million)	
1960	$0		
1965	$34		
1970	$271	$239	$137
1975	$2,077	$447	$224
1980	$4,306	$1,092	$364
% Increase 1970-80	1489%	357%	166%

** Soybean information is from survey of 59 private companies*
***Wheat and cotton information is from survey of 14 large companies*

Source: McMullen. Neil. Seeds & World Agricultural Progress (1987).

U.S. Soybean Yield

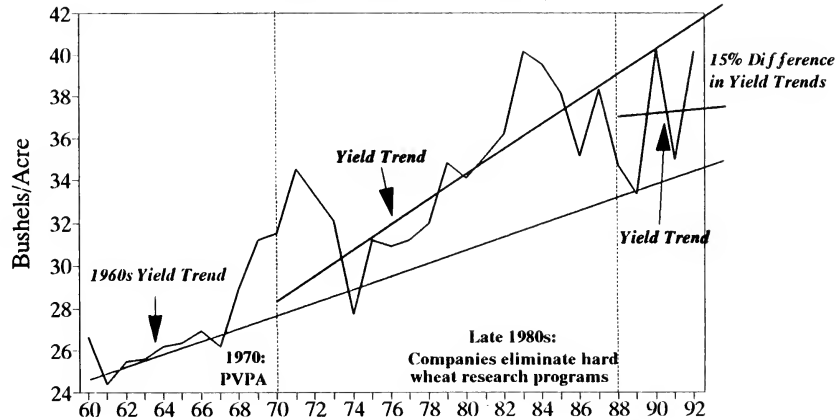


VALUE TO FARMERS

The value of a 20% higher yield in 1992 is is $2.64 billion (440 million bushels @ $6/bu)

Source: Soybean yield data from the USDA.

U.S. Wheat Yield



Wheat yield trends appear to be flattening in the 1990s as private companies have scaled back research efforts.

VALUE TO FARMERS:

The value of a 15% higher yield in 1992 is $975 million (325 million @ $3/bu.).

Source: Wheat yield data from USDA.

STATEMENT OF THE NATIONAL FARMERS UNION

Presented by

Allen Richard , Legislative Representative

Mr. Chairman and members of the committee, my name is Allen Richard. I am here today on behalf of the 250,000 members of the National Farmers Union , (NFU.).

National Farmers Union has strong concerns with H.R. 2927, which is currently before you. As drafted, H.R. 2927 is in conflict with long-standing NFU policy relating to the Plant Variety Protection Act.

National Farmers Union policy on the issue reads as follows:

> The 1991 International Union for the Protection of New Varieties of Plants (UPOV) convention as currently negotiated will not allow farmers to sell non-patented seeds from their own production to their neighbors. It also eliminated European farmers from saving "bin run seed" for their own use.
>
> Therefore, we strongly urge the U.S. Congress to reject the 1991 UPOV convention. We do, however strongly support the U.S. Plant Variety Protection Act of 1980 as it is currently written.

NFU views the UPOV agreement as a method by which plant breeders can routinely reach into the farmer's pocket and increase his cost of production without providing any off-setting return. Farmers in America and elsewhere use bin run seed and sell limited amounts to their neighbors. This has gone on for years without any harm. Few farmers abuse the patent rights of plant breeders by extending the seed and unlabeled "brown bagging" it for sale to anyone other than their neighbors.

Most farmers would rather purchase seed from seed dealers because of the experience these local dealers possess. The exception to this is when a neighbor witnesses the performance of a new variety on nearby land. He may approach his neighbor about purchasing some of the seed.

The seller gets a higher price for the bin run seed than if he simply sold it to a commercial entity like his local elevator for commercial use. The higher price is the seller's reward for his risk in trying a new seed variety which may nor may not work on his farm. This has gone on for years without any major outcry.

Now with seed patenting in the hands of a few concentrated multinational corporations, the world sees the development of the UPOV convention, and American farmers see legislation like H.R. 2927.

The multinational seed companies seem to be doing quite well. A few of them seem to have enough profit to buy out their competitors and further concentrate the industry into the hands of a few.

This concentration could lead to fewer varieties provided to growers and higher seed costs. Limited varieties can mean less tolerance to pests and disease and less climatic adaptability.

There is no guarantee that the seed trade will continue to willingly provide a broad range of seed varieties which can be grown in abundance in the many diverse areas of the world. It would be more attractive for the companies to limit the varieties for profit. Those who would suffer from these limits would be family farmers world-wide who would see their costs increase and their seed choices decrease.

Finally, at this time no other country has signed the UPOV agreement. The document was completed in 1991. The fact that this much time has passed and no other country has seen fit to sign it, should cause the United States to become skeptical of the real values and goals of the document.

NFU is justifiably proud of the leadership American agriculture enjoys world wide, but our members also have many concerns. Not the least of our concerns is the increasing regularity with which the U.S. government willingly puts American family farmers at the mercy of international agreements and corporate conglomerates, making it easier for others to reach into farmers' pockets to remove more dollars from their often inadequate bottom line.

NFU leaves you with three questions:

> If no other country has chosen to put their farmers at risk by signing the UPOV, why should we?
>
> Except for a very few seed companies voicing concerns, where is the outcry for changing the U.S. Plant Variety Protection Act of 1980?
>
> Who really benefits from the proposed changes?

Thank you.

SOCIETY OF AMERICAN FLORISTS

STATEMENT BEFORE THE

DEPARTMENT OPERATIONS AND NUTRITION SUBCOMMITTEE

COMMITTEE ON AGRICULTURE

U.S. HOUSE OF REPRESENTATIVES

H.R. 2927

PLANT VARIETY PROTECTION ACT AMENDMENTS

Submitted by

SOCIETY OF AMERICAN FLORISTS

MAY 24, 1994

American Floral Marketing Council • Florist Information Committee
1601 Duke Street • Alexandria, VA 22314 • (703) 836-8700

We appreciate the opportunity to submit this statement regarding the importance of H.R. 2927, the Plant Variety Protection Act Amendments, to our industry.

The Society of American Florists (SAF) is the only national trade association representing the interests of the entire floral industry. The floriculture industry grows, distributes and sells cut flowers and foliage, potted flowering and foliage plants, and bedding plants to the American public. Our membership includes more than 23,000 small businesses nationwide: growers, wholesalers, retailers, suppliers, educators, and related organizations.

Floriculture is an important part of U.S. agriculture. USDA statistics show that the floral and envrionmental horticulture industries together -- flowers, plants and nursery stock combined -- represent almost 11 percent of all crop agriculture in this country, with over 10,000 growers. These industries represent the fastest increasing segment of agriculture, growing about 8 percent per year over the past few years. The estimated 1993 farm gate value of floriculture and environmental horticulture crops is $9 billion, ahead of all other crops except corn and soybeans. Combined nursery and greenhouse crop production now rank in the top five agricultural commodities in 23 states, and in the top ten commodities in 42 states.

It is clear that intellectual property rights protection of plant varieties is a key goal for our industry, both for developers of new varieties and for those who subsequently grow and sell plants and flowers. The Society of American Florists endorses H.R. 2927, amending the Plant Variety Protection Act (PVPA), to enhance intellectual property rights for developers of seed-reproduced plants, as one important means of achieving that goal. We also support in concept the report language offered by the American Seed Trade Association to address the issues of incidental sales and consent to sell saved seed. Similarly, the research exemption is essential to maintaining an important element of the current PVPA.

After incurring the research, breeding and marketing costs in developing new varieties, plant breeders lose legitimate royalty income on plants reproduced without authorization. This income loss has a negative impact on plant research and development programs which are the foundation for a strong and progressive floriculture industry. In effect, the loss of income serves as a disincentive to engage in plant breeding and research. Secondly, producers who do not pay their fair share of royalties have an unfair competitive advantage over other producers.

H.R. 2927 is needed to allow the United States to ratify the provisions of the 1991 International Union for the Protection of New Varieties of Plants (UPOV) Convention, making the U.S. a full partner in international efforts to recognize intellectual property rights for developers of seed cultivars. Until U.S. law

provides equivalent property rights protection to that provided by the laws of other nations, our producers will be at a disadvantage in the international marketplace. It has been suggested by some U.S. producers that in the absence of this legislation, U.S. producers and companies may face a reluctance on the part of other nations' producers to allow them access to germplasm from around the world. Thus, legislation implementing that Convention is essential, to protect developers and users, to strengthen American agriculture, and to encourage our continued world leadership in development of new varieties.

Plant breeders and growers in the United States and other countries are concerned that a significant amount of cut flowers and potted plants are being traded in U.S. markets that were produced from plants originally reproduced without the permission of the patent holders. To restore breeders' rights, attention to at least two avenues is required. The Plant Varieties Protection Act addresses seed-reproduced plants. However, intellectual property rights to varieties of plants reproduced asexually (through cuttings or shoots) are protected under a separate act, the Plant Patent Act of 1930. Thus, we would urge that, in addition to the current legislation, Congress take separate steps to ensure protection for this important segment of the industry, as well.

Pursuant to Section 163 of the Plant Patent Act (PPA), granting of a patent grants the patent holder the right to prevent unauthorized asexual reproduction of the plant or selling or using the plant so reproduced. Unauthorized reproduction, however, may occur in countries which do not recognize plant breeders' rights.

Further, although Section 163 clearly prohibits unauthorized parties from reproducing, selling or using the protected plant itself, the Act is ambiguous about the protection of plant parts. The effect of this ambiguity is that plant parts (for example, cut flowers) produced from unauthorized replication of protected plants, can be sold with no royalty revenue accruing to the breeder. Plant breeders and growers are concerned that a significant amount of cut flowers are being traded in U.S. markets even though they were produced from plants originally reproduced without the permission of the patent holders.

The floriculture industry is a multibillion dollar industry of great importance to U.S. agriculture and to the U.S. economy. Yet the industry is threatened, because American growers and plant breeders may lack adequate protection in other nations. We commend the Subcommittee and the sponsors of H.R. 2927 for their efforts to address needs of developers and growers producers of seed-reproduced plants. We look forward in the future to working with the Congress to address needed amendments to the Plant Patent Act, as well.

GARDENA ALFALFA SEED GROWERS ASSOCIATION, INC.

TOUCHET, WA 99360

May 19, 1994

Honorable Charles W. Stenholm, Chairman
Subcommittee on Department Operations and Nutrition
Room 1301, Longworth House Office Building
Washington, D.C. 20515

Re: H.R. 2927
Plant Variety Protection Act Amendments of 1993

Dear Congressman Stenholm:

Our grower members have watched carefully the development of the Plant Variety Protection Act Amendments of 1993, namely S.1406 and H.R. 2927. We understand your committee will be working H.R. 2927 on Tuesday, May 24th and have invited written comments and statements from the seed industry.

The Gardena Alfalfa Seed Growers concur with the objectives of H.R. 2927 as put forth by the American Seed Trade Association. Since it is not possible to accept the committee's invivation to testify, we have asked Mr. Les Clemons, President of Washington Seed Council, to represent our position.

We endorse the inclusion of the following statement as a part of H.R. 2927:

> H.R. 2927 is important to the plant breeding community, the seed industry, and most importantly, American agriculture.
>
> H.R. 2927 reinforces the free flow of germplasm, an essential component to genetic diversity.
>
> H.R. 2927 will specifically insure: (1) first generation hybrids are protected (2) protection is extended to 20 years (3) protection to harvested plant parts is included (4) a farmer's ability to save protected varieties for use on their own holdings (5) a definition of the concept of "essentially derived".

We understand that currently H.R. 2927 does not reflect changes agreed to by the Senate. We endorse the following and urge they become a part of H.R. 2927: (1) extending protection to potatoes and tubers (2) clarifying the ability to condition legitimate farm saved seed (3) VNS labelling allowance for grasses, alfalfa and clover.

Finally, SEC. 93. PROMPT PAYMENT reads as follows:

"If a seed grower contracts with the holder of a certificate of plant variety protection issued under this Act, or a licensee of the holder, to produce lawn, turf, or forage grass seed, alfalfa, or clover seed, protected under this Act, payments due the grower under the contract shall be completed not later than the earlier of--

"(1) 30 days after the contract payment date; or
"(2) May 1 of the year following the production of the seed".

The above statement does not achieve the amendment's stated purpose: "To require prompt payment of amounts due seed growers under contracts with holders of certificates of plant variety protection."

Our industry has been producing under contracts with statements of (1) and (2) above for years, and find no method of forcing the breeder/contractor to honor the payment date. The following must become a part of the contract terms for prompt payment:

"(3) And if the breeder/contractor certificate holder or licensee should fail to make payment and/or take delivery of the seed produced by the grower pursuant to the contract, the grower and all subsequent purchasers shall have the authority of the owner of the plant variety protection certificate to market the seed as the variety or Variety Not Stated, (VNS)."

Thank you for giving us the opportunity to be a part of your deliberations.

Sincerely,

Mark Wagoner

Mark Wagoner
President

MW/nc

cc: Congressman Tom Foley, Speaker of the House
Les Clemons, President, Washington Seed Council

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