

INNOVATION &

Promise



Driving
the Seed
Industry
Worldwide

ASTA [1999-2000]

AMERICAN SEED TRADE ASSOCIATION



Our motto ...first — the seed

This motto expresses the basic premise for our industry: There is no substitute for quality seed – a fact of life dating back to the early settlers who knew it to be the difference between survival and disaster.

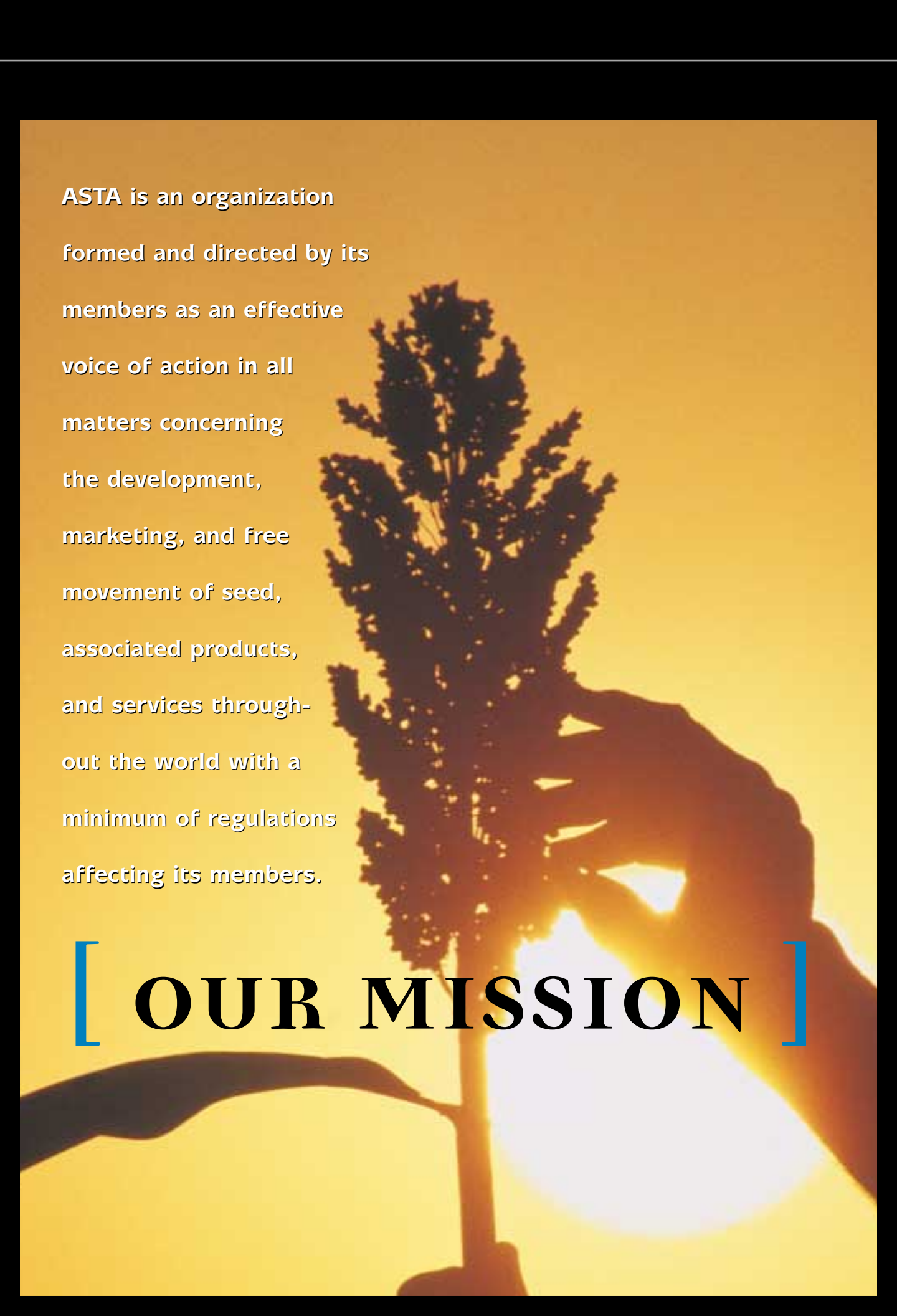
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A [1999-2000]

A hand is shown holding a small, dark silhouette of a tree against a bright, golden sunset background. The sun is a large, glowing orb on the right side, partially obscured by the hand and tree. The overall scene is warm and symbolic of growth and care.

ASTA is an organization
formed and directed by its
members as an effective
voice of action in all
matters concerning
the development,
marketing, and free
movement of seed,
associated products,
and services through-
out the world with a
minimum of regulations
affecting its members.

[OUR MISSION]

INNOVATION AND PROMISE DRIVING THE SEED INDUSTRY WORLDWIDE

Much has been said and written about our passage into the 21st century. The seed industry - much like business worldwide - is on a cutting edge challenged in ways never experienced or expected.

The seed industry continues to be driven and shaped by events around the world. They include discussions and goals intended to address struggles to meet the food and fiber needs of a world population expected to top nine billion by 2050, relentless pursuit of transparent and consistent intellectual property rights protection, and an unyielding commitment to develop and deliver superior genetics that will add much to the lives of citizens everywhere. It hinges on our ability as an industry to build on stewardship and respect for our environment. And, lastly, it takes into account our best efforts to rely on science and experience to comfort, educate, and enlighten consumers worldwide on the benefits associated with quality seed — genetically enhanced or traditionally bred.

Reflecting upon the events and happenings that shaped the ASTA and its members this past year, enables us to assess how responsive this industry and its people truly are. The seed industry is a diverse group of men and women dedicated to providing quality genetics for consumers and farmers everywhere. From lawns, to golf courses, to home gardens, to small and large farms, seed is the foundation of agricultural systems everywhere and it is that tiny kernel or seed that showcases our best efforts.

Contained in the pages of this annual report are but a few of the achievements of our membership and industry. While we proudly reflect on the accomplishments for the 1999-2000 year, we remain steadfast in our belief that the promise of innovation and progress of this past year will pale in comparison to what lies ahead. A truly remarkable time has passed and the future promises much. We have the vision. We have the ability. We have the record.

WAYNE BECK
President

NATHAN BOARDMAN
First Vice President

DREW KINDER
Second Vice President

[WHO WE ARE]

Headquartered in Washington, DC, ASTA was founded in 1883 and is one of the oldest trade associations in the United States. Membership consists of more than 900 companies engaged in seed and related industries in the United States, Canada, Mexico, and a host of foreign countries. All members, regardless of size or product or geographic location, have an equal voice in the Association's affairs and decisions.



What We Do

ASTA is involved in all areas relating to plant germplasm. Primary focus is on three areas of major importance to its members:

- Regulatory and legislative matters at international, national, and state levels.
- New technologies impacting all crop species.
- Communications and education of members and appropriate publics regarding the above.

Accomplishing this task requires a well-balanced and wide range of activities that include:

- Lobbying for industry-wide positions on legislation.
- Developing programs for public relations and consumer awareness.
- Assuring member awareness of environmental and conservation issues.
- Informing members and consumers of new developments in plant breeding and biotechnology.
- Funding selected research as determined by the members.
- Maintaining positive working relationships with technical societies.
- Promoting international sales of seeds.
- Conducting conventions, research conferences, and meetings to educate and encourage fellowship among members.





FUNDING PRIORITIES & INITIATIVES

PRECAUTIONARY PRINCIPLE/RISK ASSESSMENT ACTIVITIES

ASTA joined scores of organizations throughout the year to share strong concerns about ongoing attempts by some countries, primarily the European Union (EU) to undermine the scientific guidelines used within the Codex Alimentarius Commission by inserting the “precautionary principle” in risk assessment procedures.

While recognizing that most, if not all, sovereign countries have some elements of “precaution” in their risk assessment and risk management procedures, it is clear that the EU is using its own definition of the principle to advance its own interests in world trade. The European “Communication on the Precautionary Principle” states that the precautionary principle is a political tool, to be invoked when the political interests judge the scientific evidence of safety to be insufficient, inconclusive, or uncertain. ASTA believes that there are relatively few food, pharmaceutical, or medical products on the market today which could meet that criteria in total, while many of those products are enhancing the lives of those who choose to use those products.

ASTA remains concerned about the implications of this principle on the emerging scientific advances in agricultural biotechnology, but view the implications as even more far reaching. The World Trade Organization (WTO) recognizes the Codex as the credible international scientific body with the authority to establish standards and guidelines for food, feed, and additives trade. If that credibility is eroded through attempts to “politicize” a peer review scientific body, consumers around the globe will lose.

Transparency, objectivity, and consistency are the underlying principles of any national regulatory regime and those same characteristics have given the Codex the credibility to serve as an information outlet, and coordinator, of food safety standards for many decades. Any recognition of the EU definition of the “precautionary principle” as an internationally accepted principle of law will erode that credibility, impact global trade of food and agricultural products, and ultimately harm consumers by restricting access to beneficial products which could improve lives.

NATIONAL PLANT GERMPLASM SYSTEM

ASTA's support for the National Plant Germplasm System (NPGS) has been a long-standing priority. As the Congress continues debate and discussion on future spending allocations, ASTA continues to take advantage of every opportunity and forum to advance our position. A formal resolution was approved by the Board of Directors in 1998.

During the past year, ASTA submitted statements to both the House and Senate Appropriations Committees outlining the Association's strong support for increased funding. As detailed in the official statements, "most of the U.S. crops raised and used for food, fiber, ornamental, and industrial feed stocks originated from outside this country. Consequently, the plant breeding community is highly dependent upon germplasm from other countries, some of which is endangered. Once lost, the germplasm cannot be fully reconstructed. These sources of productive capacity, efficiency, and sources for potential resistance to pests and environmental stresses may be lost forever. Continued use of, and access to, a broad diversity of germplasm is necessary if we are to develop varieties to meet new and changing circumstances and if we are to sustain agricultural productivity."

The following highlights the NPGS:

- NPGS is a cooperative effort by state, federal, and private organizations to preserve the genetic diversity of plants.
- The world's food supply is based on intensive agriculture, which relies on genetic uniformity. This uniformity increases crop vulnerability to pests and stresses.
- Scientists must have access to genetic diversity to help bring forth new varieties that can resist pests, diseases, and environmental stresses. The NPGS aids the scientists and the need for genetic diversity by:
 - acquiring
 - preserving
 - evaluating
 - documenting
 - distributing

Since many important crop species originated outside the United States, the first steps toward diversity are acquisition and introduction. New germplasm (accessions) enter NPGS through collection and donation by foreign cooperators, or international germplasm collections. An identification number is assigned to each accession. The accession is then evaluated, maintained, and made available for distribution. Through these efforts, NPGS assists in improving the quality and productivity of crops.

The U.S. agricultural sector, renowned for its productivity, owes much of its success to a continuing flow of improved varieties that produce higher yields and better withstand pests, diseases, and extreme climates. The genes necessary for these crops are contained in plant germplasm, the material in seeds or other plant parts that controls heredity. To maintain high levels of agricultural productivity, plant breeders need access to an ample supply of germplasm with diverse genetic characteristics. ASTA will continue its advocacy of this important program.

NORTH AMERICAN STUDY OF ESSENTIAL DERIVATION OF CORN

The Corn Variety Identification Subcommittee of the ASTA Intellectual Property Rights Committee developed a plan for a North American Study of Essential Derivation in Corn. The objective of the study, to learn in terms of probabilities of what could be expected from derived varieties



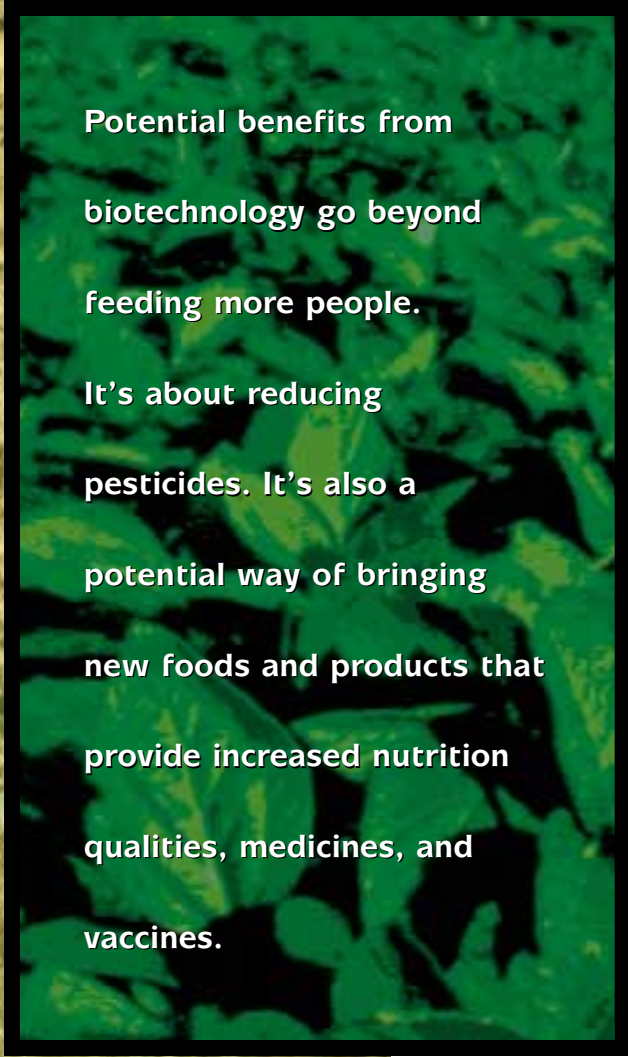


using common breeding procedures, began with a plan for Phase Three.

Funding for the project is comprised of \$40,000 from the ASTA Corn & Sorghum Division paired with matching funds from the general ASTA account. Data solicited from seed companies by Dr. Rex Bernardo for Phases 1 and 2 have not provided definitive answers to the question of essential derivation. Therefore, at the December 9, 1998, meeting of the Committee, it was decided to proceed with Phase 3. Dr. Charles Stuber serves as project coordinator.

The objective of Phase 3 is designed to provide data generated from a controlled and carefully monitored study that will reflect actual breeding methods used in development of lines and hybrids. The overall goal is to provide unbiased empirical data relating to what could be expected to be derived, in terms of probabilities, using normal breeding schemes.

The newly introduced concepts of “essential derivation” and “essentially derived varieties” (EDVs) are now part of the U.S. Plant Variety Protection law. Plant breeders need to understand and define appropriate parameters for EDVs since these concepts now play a major role in protection of existing varieties, while allowing further varietal development research.



Potential benefits from biotechnology go beyond feeding more people. It's about reducing pesticides. It's also a potential way of bringing new foods and products that provide increased nutrition qualities, medicines, and vaccines.

INSECT RESISTANCE MANAGEMENT

The development of transgenic crop plants for managing pest populations is one of the most significant breakthroughs in pest management in the past 20 years. Many, including the ASTA, believe that it is likely to have profound effects on agricultural production of food and fiber. The primary effects of this technology are anticipated to include the significant enhancement of longterm productivity, higher quality and greater stability of global agricultural production, and insurance against the sporadic effects of severe pest damage. Many of which would otherwise not be manageable with conventional techniques.

Additional possible advantages of genetically engineered plants include the reduced need for synthetic pesticides,



thereby minimizing the potential environmental impact and human risks that arise from the use of such products. Clearly, the development of transgenic plant varieties has the longterm potential to improve the profitability and sustainability of agriculture worldwide, while ensuring the availability of an adequate and safe food supply.

Although genetically altered plants that produce their own protective pesticides provide an exciting new approach to pest control, the concern has been voiced that a large-scale introduction of the technology and the associated selection pressures could rapidly lead to the development of resistance in pest populations. Evolution of resistance poses a threat to effective pest management; therefore, the proactive development and implementation of resistance management (RM) principles for transgenic crops, combined with the education of growers, and consultations with extension educators, is a unique challenge to the agricultural community, especially ASTA. Although RM has been conceptually discussed for at least two decades, to date there have been few attempts to implement a comprehensive, science-based approach to RM techniques.

This is about to change. ASTA is aggressively moving forward to educate and inform members of the seed industry on this emerging technology. Already, ASTA has increased its coverage of RM issues and is working closely with a number of other coalitions and interested parties, specifically the American Crop Protection Association, the Biotechnology Industry Organization, and the National Corn Growers Association. It is believed that together we can offer much needed guidance and experience to the Environmental Protection Agency (EPA), which has regulatory oversight of genetically enhanced pest-resistance crops and to farm groups, and other affected parties.

Adding insect resistance management to the ASTA priority list is significant. Scientists define the issue as "... a proactive process of limiting or delaying resistance development in a pest population with a focus on preserving susceptible genes." ASTA chooses to define the issue as "... one affecting members of the seed industry in a significant way and an issue that demands the full time and attention of the membership, leadership, and staff."

An Association means different things to different people. To be sure, there are issues and concerns in agriculture ... and some are quite exciting. We all look to the future with questions and answers that will change this industry and the world.

In the past year, ASTA successfully completed another cycle of programs, meetings, and conferences. This consisted of the annual convention, six commodity division conferences, and one trade show. The objective of all ASTA programs is to communicate with and educate the membership on the latest developments and actions that affect their business and their bottom line.

The attendance at ASTA meetings for the 1999-2000 year totaled 4,728. Some 100 speakers offered insight and shared experiences at ASTA functions. Over one-third of these speakers represented member companies.

The following highlights reflect the year's programs and services:

- Corn & Sorghum and Soybean Research Conferences together with Seed Expo drew over 3,400 seedsmen, reconfirming what many have called the "largest gathering of seedsmen" in the world. This year also marked the 54th meeting of the Corn & Sorghum Conference and the 29th gathering for the Soybean Conference. One hundred thirty-four companies exhibited in Seed Expo, accounting for 218 booth spaces.
- High attendance was also recorded for the 39th Vegetable & Flower Seed Conference in New Orleans, Louisiana. A change of format, to better serve the membership, included an early start and a luncheon speaker.

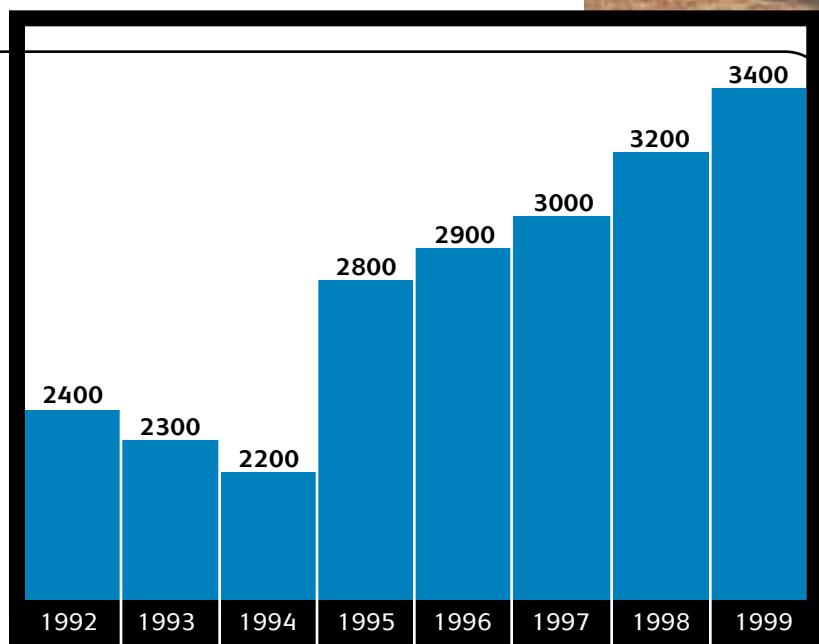
EXAMPLES OF ASTA WORKING TOGETHER

- ASTA continues its relationship with the Future Farmers of America. The Board of Directors reconfirmed its pledge to support the National FFA Foundation for the publication of "Innovative & Emerging Agricultural Technologies" program materials. The material is intended for use by secondary agricultural education and home economics instructors.
- The staff continued its participation in the FFA's annual meeting and maintained its position as a judge for several proficiency categories.
- Co-sponsored with the Chicago Board of Trade, the National Collegiate Crops Contest.
- Coordinated, in cooperation with Purdue University, the 13th ASTA Management Academy. Due to increased interest by ASTA members, the Academy

has expanded the curriculum and capacity for attendees. The Academy enjoyed another sell-out session.

ASTA's ability to develop and execute outstanding programs that meet the needs of its membership is illustrated by a trend that shows participant numbers on the rise, as well as country representation.

As an example, **ATTENDANCE AT THE CORN & SORGHUM AND SOYBEAN RESEARCH CONFERENCES** steadily escalated during the years:



Many changes highlighted the 116th annual convention in Palm Springs, California. Program changes were made to add value to the membership, including: plenary panels to start each morning, streamlined committee meetings, and additional networking opportunities.



During the past year, ATSA worked hard to protect and advance the interests of the U.S. seed industry. The goal was simple — to channel our efforts to maintain the high level of visibility and leadership needed to effectively represent the policies and objectives of this Association. Three issues enjoyed a high profile. They included, biotechnology, intellectual property rights, and arbitration.

Regarding biotechnology, ASTA efforts to articulate industry objectives and priorities hinged on a focused approach that included dialogue with many agencies and departments. Information was key, and participation at scores of meetings and briefings was essential. Discussion centered on consumer acceptance, regulatory compliance, and trade implications. ASTA remains committed to advancing a technology that continues to shape and affect all of agriculture, especially the seed industry.

ASTA relied on a number of coalitions and councils to influence, shape, and defend a technology that will ultimately change the way the seed industry supports agriculture. Specifically, ASTA was a founding Associate member for the newly formed Biotechnology Information Council, created by leading technology providers. Also, the Association was quite active with the Alliance for Better Foods a group of like-minded Associations and providers interested in providing expert opinion and scientifically based studies to the general public with the hopes of educating, informing, and complementing efforts to better explain the promise and opportunities found in biotechnology.

While ASTA certainly devoted resources, both financially and those by staff and leadership to better explain and create a public dialogue and share information on biotechnology that is based on scientific research, expert opinion, and published reports, we remain mindful that biotechnology will not be the only solution to global challenges, but it will be an important part of the solution.

As part of our continuing mission to work with Congress, ASTA did provide testimony to several Committees outlining our position on biotechnology. We also took advantage of scores of efforts by coalitions and allies in letter-writing campaigns and Hill visits. The centerpiece of the ASTA strategy remains one of mutual recognition and consumer acceptance. Great care was given throughout the year to keep the membership informed of the day-to-day activities regarding this technology, with special attention also afforded to allied commodity groups and farm interests. Regular features were also included in the monthly newsletter and special bulletins as warranted.

Five Basic Principles Drive the ASTA Biotechnology Agenda:

- Promote Acceptance of New Technologies
- Encourage International Recognition
- Maintain a Proactive Domestic Agenda
- Support and Inform the Membership
- Lead Cooperative Allied Industry Efforts

ASTA believes that modern biotechnology holds great promise for improving the quality, variety, and yield of food products. ASTA member companies are engaged in research and development activities designed to enhance these aspects of agricultural seeds. Plant improvements will play an important role not only in feeding the world's exploding population, but also in the preservation of biodiversity and the environment. ASTA will continue its commitment to advance technologies that will shape and affect all of agriculture.

INTELLECTUAL PROPERTY RIGHTS PROTECTION

On the intellectual property rights front, ASTA continued to focus on breeders' rights and the ability to protect those who bring new and improved varieties to the marketplace. Biotechnology and intellectual property rights are key trends being defined and influenced by the ASTA.

Throughout the year, ASTA took advantage of forums at many levels, here at home and around the globe. Numerous activities and actions with the International Seed Trade Federation, ASSINSEL, UPOV, the Food and Agriculture Organization, and the Organization for Economic Development, are just a few of the groups ASTA interacted with on a regular basis.

ASTA participated, at the request of the General Accounting Office, to compile information on Roundup Ready[®] technology, as it related to access and intellectual property rights protection for American farmers and those in Argentina. The report revealed disturbing violations and gaps in intellectual property rights protection in Argentina and ASTA immediately began working with seed industry counterparts in that country. ASTA also stepped up efforts and discussions with the American Soybean Association, Members of Congress, and Administration officials to maintain a proper focus on the importance of harmonized and transparent policies affecting intellectual property rights. The challenge remains, but ASTA remains diligent in focusing on rectifying this unfair trade barrier and obstacle for plant breeders and farmers alike.

ARBITRATION

The Association continued the charge to advance the benefits associated with mandatory, non-binding arbitration. The staff and leadership briefed a dozen or more state and regional seed associations on the merits of arbitration, and results continue to accrue. During the past year, ASTA worked closely with Montana, Missouri, Oklahoma, and Pennsylvania. A number of other states are also in preliminary discussions with farm groups and legislators on the issue.

Credibility plays a key role in all ASTA undertakings. Policymakers inside and outside of Washington know that when an issue involves seed — ASTA will continue to provide the support, the answer, and the expertise necessary.

While these three major areas have been identified as key agenda items for the ASTA, there remain other issues affecting the seed industry's ability to prosper. Success in any legislative endeavor hinges on member participation, vision by the





leadership, and a well devised plan of action. In the past year, member participation was especially key, and the committee structure and its leadership helped to define the Association's agenda and execute an effective response, or when necessary, alternative.

COMMUNICATIONS

ASTA efforts in 1999-2000 focused on a goal to provide timely, scientific, and useful information that benefits and supports every member. Tools such as the Internet, broadcast fax capabilities, and on-line computer programs that monitor legislative developments helped to advance ASTA policies and objectives. A special achievement included an industry bulletin sent via e-mail to more than 1200 subscribers to highlight trends, news, and noteworthy accomplishments. Also in the past year, ASTA created a new Public Relations position in the office to not only monitor industry events and news, but to showcase ASTA efforts and positions.

Selected Highlights:

- Updated office equipment, increased computer memory, and encouraged staff development proficiency with state-of-the-art training and complementary programs.
- Improved and streamlined ASTA monthly newsletter and placement of current and past issues on the homepage.
- Enhanced and increased usage of the e-mail special alert system to members interested in receiving bulletins on specific subjects.
- Hosted numerous delegations interested in learning more about the U.S. seed industry and the ASTA.
- Provided Congress with information and special briefing sessions designed to advance ASTA objectives and policies.
- Attended numerous allied group conventions and forums to educate and inform colleagues on ASTA issues and concerns.
- Traveled to ASTA member companies to learn about concerns, their business, and industry segment.
- Prepared and distributed educational information regarding ASTA's priority of advancing mandatory, non-binding arbitration to state and regional seed associations.
- Restructured ASTA meetings and conventions to highlight the transformation of the seed industry.
- Submitted quarterly columns to magazines from the seed and agricultural industry on a variety of topics, including arbitration, biotechnology, intellectual property rights, and insect resistance management.
- Provided information and industry perspective on a routine basis to periodicals and newspapers on various issues. In addition to seed industry magazines, THE WALL STREET JOURNAL, THE DES MOINES REGISTER, TIME, THE CHRISTIAN SCIENCE MONITOR, and others also contacted the ASTA office for information and comment.
- Expanded the scope of the ASTA homepage to include on-line registrations for meetings and conventions. Also



created special "links" to other pertinent sites that would offer information assistance to members and others visiting the site.

State/Federal Regulatory Highlights

- Provided ongoing industry perspective to Congress and the Administration on the Convention on Biological Diversity.
- Prepared numerous comments concerning proposals by the U.S. Department of Agriculture, the Food and Drug Administration, the Environmental Protection Agency, and others on rapidly changing and evolving policies affecting biotechnology and seeds.
- Maintained and strengthened liaisons with numerous allied organizations and other agricultural groups on issues such as ethanol, worker safety, trade, biotechnology, and conservation.
- Participation by the executive vice president to the Plant Variety Protection Advisory Board.
- Submitted supporting statements on behalf of members for experimental use permits and special field testing to federal agencies and departments.
- Continued educational efforts with Members of Congress and staff on the value of research programs and adequate funding by providing testimony and counsel to both House and Senate Agriculture Committees.
- Compiled various legal documents for inclusion in the ASTA "Legal Clearinghouse." The system's goal is to catalog relevant case law and materials that could potentially benefit seedsmen in litigation.
- Maintained emphasis on seed count labeling issues. ASTA worked closely with the National Conference on Weights and Measures, the Association of Official Seed Analysts, and the Association of American Seed Control Officials.
- Worked closely with a number of state legislatures, Commissioners of Agriculture, and environmental groups at the state level regarding assembly of noxious weed lists and successfully challenged some states' inclusion of specific species.



**No one
company
possesses the
resources,
whether they
be financial,
human, or distribution
channels, for ultimate
success. Agriculture
today relies on a unique
mix of partners doing
what they do best. In
our case ... it is an
industry that provides
superior genetics, a
proven record of
stewardship, and
demonstrated service
and commitment to
the customer.**

ASTA DATABASE ON BIOTECH CORN MARKETING

To build on ASTA's ongoing mandate to provide information and assistance to growers and seedsmen alike, a spe-

cial database was created that listed grain handlers accepting biotech varieties of corn not yet approved for import into the European Union. The site, which is found on the ASTA homepage, www.amseed.org enables growers and anyone interested, to search for grain handlers who will accept all varieties of biotech corn. Farmers need only type in their zip code and cite a specific distance to find purchasers within their area who will take corn grain approved in the United States, but not yet approved for import in all markets. Growers and others unable to access the Internet were able to get the information via major seed companies and biotech provider representatives.

Approximately 2,000 grain handlers comprise the site. This represents well over 50 percent of grain purchasers that were contacted. Interestingly, a number of those handlers accepting all biotech corn requested that they not be included on the site due to previous obligations with local growers and customers.

ASTA worked with a number of companies involved in the grain trade to create the site. They included AgrEvo, Garst, Monsanto, Mycogen, Novartis, and Pioneer Hi-Bred. Links to the ASTA web site are on all these companies, as well as the National Corn Growers Association, the U.S. Grains Council, the Agricultural Retailers Association and the Corn Refiners Association.

Over 80 percent of the corn produced annually in the United States is used domestically. For the 1999 crop season, about 96 percent of U.S. corn varieties were approved for import into all world markets.



“The United States is the leading supplier of corn to the world market. We know how important it is to customers to have a high quality and reliable supply of corn, and there is no doubt that the United States can provide that now and in the future. We must also meet our commitment to the customers in the world market to channel unapproved biotech varieties of corn. This website strengthens the U.S. commitment to the customer.”

– Kenneth Hobbie, President and CEO,
U.S. Grains Council

“This website is a significant asset for growers in marketing their grain. Though we need to remember that the vast majority of grain handlers are accepting all grain, this tool will be helpful for farmers as they go to harvest and as they begin making next year’s planting decisions.”

– Wayne Beck, ASTA President

INVASIVE SPECIES

Early in 1999, the President signed Executive Order 13112 instructing the Departments of Interior, Agriculture, and Commerce to develop a national management plan for invasive species which focuses on animals and plants not “native” to the United States. While fully supporting the intent and spirit of the Order, ASTA is justifiably concerned about the potential “remedies” that seek to itemize harmful species, absent industry consultation or risk analyses.

Because of our support and concern, ASTA quickly assembled the Invasive Species Committee. Chaired by a past president, volunteers came forward to provide expert coverage as the issue began to unfold, especially at the state and local level. To that end, a number of potentially threatening and ill-advised listings have been de-railed in a number of states.

While the work continues, ASTA remains diligent in its coverage and participation. The National Advisory Council continues its work toward developing a "National Management Plan" scheduled for August 2000. ASTA remains steadfast that active and serious participation at the working group level is critical.

ASTA views the situation as potentially volatile. Ultimately, regulatory and legislative decisions have the potential to restrict or reduce the use and selection of certain species, many of which are of critical importance to the seed industry and its membership.

To provide necessary information and updates to the membership and other interested parties, ASTA developed a link to www.amseed.org that provided objective perspective and additional data. In addition, ongoing efforts with Congressional members was routine. Finally, ASTA worked hard to coordinate efforts and to consult with allied groups and associations who also expressed similar concerns.

THE CARTAGENA PROTOCOL ON BIOSAFETY

During the past year, ASTA once again monitored, reviewed, and influenced efforts to craft a Biosafety Protocol, a regulatory framework designed to address environmental impacts of bio-engineered, or genetically enhanced products that cross international borders. The ultimate goal of the Protocol is to help protect the environment without unnecessarily disrupting world food trade. Because the Protocol is designed primarily to protect the environment from the potential effects of introducing a living modified organism, the most immediate impact on agricultural trade will be for seeds exported for planting.

Broken down in simple terms, the Protocol essentially seeks to accomplish six objectives:

- Establishes an Internet-based "Biosafety Clearing-House" to help countries exchange scientific, technical, environmental, and legal information about living modified organisms.
- Creates an advance informed agreement, (AIA) procedure that in effect requires exporters to seek consent from importers before the first

**Four operating
principles guide the
ASTA and the seed
industry, in general.**

**They include, market
access, reliability,
efficiency, and a
quality work force.**

**Each equally important
and each dependent
on the others.**



shipment of living modified organisms (LMOs) meant to be introduced into the environment (such as seeds for planting, fish for release, and microorganisms for bioremediation).

- Requires bulk shipments of LMO commodities, such as corn or soybeans that are intended to be used as food, feed or for processing, to be accompanied by documentation stating that such shipments “may contain” living modified organisms and are “not intended for intentional introduction into the environment.”
- Establishes a process for considering more precise identification of LMO commodities in international trade.
- Includes a “savings clause” that makes clear the Parties’ intent that the agreement does not alter the rights and obligations of governments under the World Trade Organization or other existing international agreements.
- Assists developing countries in developing their capacity for managing modern biotechnology.

The Protocol, however, is not intended to:

- Address food safety issues.
- Require segregation of bulk shipments of commodities that may contain living modified organisms.
- Change rights and obligations under the World Trade Organization or other international agreements in any way.
- Subject shipments of bulk commodities to the Protocol’s advance informed agreement procedure, which would significantly disrupt trade in bulk commodities and would jeopardize food access, without commensurate benefit to the environment.
- Require detailed identification requirements for bulk commodity shipments (any such requirements will be subject to a further negotiation to be concluded no later than two years after the Protocol enters into force.)
- Require consumer product labeling. The mandate of the Protocol was to address potential risks to biodiversity that may be presented by living modified organisms. Issues related to consumer preference were not part of the negotiations. The Protocol’s requirement for documentation identifying bulk commodity shipments as “may contain LMOs,” and as “not intended for direct introduction into the environment” will be accomplished through shipping documentation.

The Protocol will enter into force 90 days after it is ratified by the fiftieth Party to the Convention on Biological Diversity (CBD). Although the United States is not a Party to the CBD and therefore cannot become a Party to the Biosafety Protocol, the United States participated in the negotiations as a member of the Miami Group, a coalition of leading agricultural exporters that also included Argentina, Australia, Canada, Chile, and Uruguay. The other negotiation groups included the European Union, the Eastern and Central European countries, the Like-Minded Group of developing countries, and the Compromise Group (Japan, Korea, Mexico, New Zealand, Norway, Singapore, and Switzerland.)

The Protocol provides countries the opportunity to obtain information before new biotech organisms are imported. It acknowledges each country’s right to regulate bio-engineered organisms, subject to existing international obligations. It also creates a framework to help improve the capacity of developing countries to protect biodiversity.

COORDINATING EFFORTS AND BUILDING COALITIONS: An Important Task Requiring ASTA Leadership and Expertise

During the past year, some 50 U.S. consumer, environmental, and farm groups demanded the Food and Drug Administration (FDA) adopt rigorous safety testing and labels for genetically enhanced foods. In doing so, the groups vowed to step up efforts to shape future policies and influence consumer's decisions and choice.

While these groups continued to advance their causes and beliefs, ASTA and a number of allies in and out of Washington also coordinated efforts and outlined specific actions designed to safeguard consumers' choices and re-affirm industry beliefs that FDA's science-based approach was sound and proven. These actions included a proposal for a mandatory consultation process between biotech food developers and the agency. Also, ASTA joined numerous groups in participating in field hearings conducted by the FDA around the country to solicit input from consumers, environmentalists, and industry.

Back in 1992 the FDA adopted rules that recognized biofoods as comparable to traditional foods. Labels are required only if an allergen is introduced into a gene-altered food. Since that time, farmers have embraced the technology. Last year, one-third of the U.S. corn crop and one-half of soybeans were grown with varieties that were genetically enhanced. These particular varieties were developed to give plants resistance to a herbicide or to produce their own toxin to kill pests.

While the European Union, Japan, Australia, South Korea and other nations have taken a more cautious approach, the U.S. has been very progressive and has worked closely with consumers, seed industry representatives, and farmers to educate and inform all about the promise and opportunity genetically enhanced varieties bring to the marketplace. On a related note, as governments around the world continue to develop and implement policies on regulating biotechnology, the United Nation's food agency issued its first public policy statement in March 2000. The statement which was largely positive, confirmed that biotechnology could help feed poor nations, but urged care. The Food and Agriculture Organization (FAO) went on to say that genetically enhanced foods should be analyzed on a case-by-case basis before released into the market. Another UN group, the Codex Alimentarius, also began a three-year effort to set international standards for foods developed from biotechnology.

Legislation was introduced in both the U.S. House of Representatives and Senate to require safety testing and labels on biotechnology derived foods. ASTA and others continue to work hard to diffuse myths and to offer reassurance and science based information to consumers, legislators and regulators. While passage is considered unlikely during the 106th Congress, ASTA and its cooperators continue to believe that the issue remains unresolved and much work remains.



As ASTA continues to promote and defend the seed industry, it's important to reinforce our commitment to all commodities, all geographic regions, and all facets of the seed industry. The seed industry is vast — its membership diverse and specialized. Our programs and policies reflect and respect that diversity and ingenuity.

The 1999-2000 year has proven to be a successful one for ASTA. Membership numbers are the highest they have been in ten years. ASTA has grown to 907 members; 584 classified as Active members, with 212 Associate members, 85 Affiliate members, and 26 Corresponding members. Mergers and acquisitions are still prevalent in the seed industry, as is the case in other industries, too. ASTA continues to bring value to its members.

The trial membership offer initiated and promoted last year by the regional vice presidents was continued for a full year. As a result, some 29 new companies joined the Association. And, of those 29 companies joining the Association, over half became full fledged members after the trial period. ASTA believes strongly that once introduced to ASTA, companies that otherwise would not have joined, will take advantage of the benefits and become continued members. ASTA regions vice presidents continue to do an effective job of promoting the benefits associated with membership.

For telecommunication needs, many ASTA members take advantage of the services provided by Broadwing. Continuing to build on its reputation for outstanding service and quality products, Broadwing added Internet service capabilities and improved its cellular analog/digital wireless services. Over 70 companies utilize this membership benefit.

Prudential, one of the leading providers of retirement services, continues to provide 401(k) retirement plans for our members. Designed specifically for each company, Prudential provides investment flexibility, full service record keeping, and employee communication and education. Interested member companies are encouraged to contact ASTA for more details.

The litigation clearinghouse, a collection of court cases and legal precedents, remains an invaluable resource for companies involved in litigation or anticipated legal actions. The ASTA legal counsel, in cooperation with the ad hoc Litigation Committee, have teamed together to assemble relevant information. Members are encouraged to participate in the service



and are asked to provide copies of decisions, briefs or any other documents that might prove helpful to fellow seedsmen.

The news update and newsletter have become increasingly popular and are now available on-line at our website. New formats for each are easier to read and provide more detail.

ASTA's homepage at www.amseed.org continues to be the site to visit when looking for current information on the Association and the industry. Updated regularly, the site contains important issues being addressed by ASTA, meeting schedules, and the convenience of on-line registration.

The ASTA Membership and Committee Directory, Annual Yearbook & Proceedings, and the Corn & Sorghum and Soybean Conference Proceedings were distributed to the membership during the year.



While biotechnology will no doubt mean different things to different market segments, consumers, and even seedsmen, we as an Association must assess the progress, explain the science and reinforce the benefits associated with our responsibility as an industry to feed a growing world.

The American Seed Trade Association (ASTA), through its international program, continues to provide leadership globally. As the uncertainties surrounding the continued globalization of seed trade and the introduction of new seed technologies have never been more acute, ASTA remains actively engaged with a number of strategically important countries and organizations to improve and harmonize the global regulatory environment, strengthen international intellectual property protection laws, and enhance the free movement of seed and new technologies.

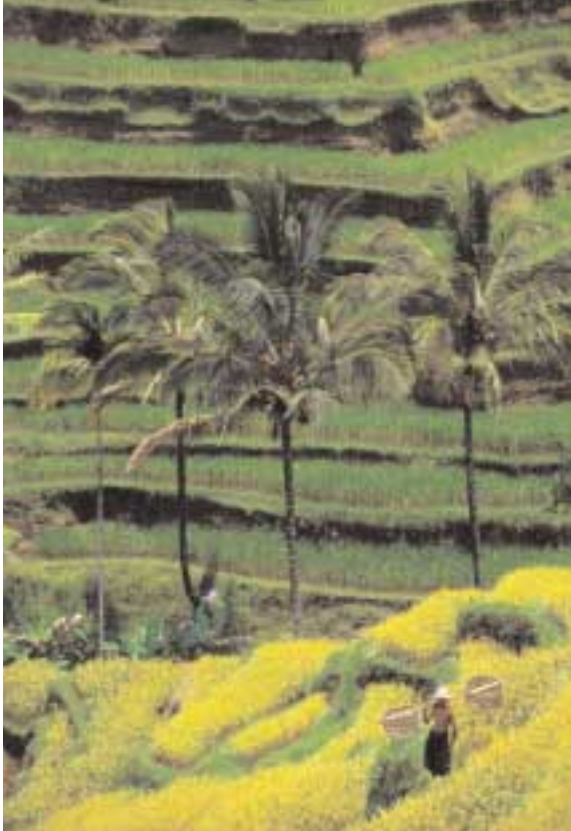
ASTA maintains and develops strategic alliances with domestic and foreign counterparts as well as public and private organizations. We are utilizing organizational synergies in funding and implementing global activities to maximize efficient use of Association resources. ASTA also continues to restructure its international program to allow participation from the international seed industry, organizations, government agencies, and universities. Through enhanced linkages and partnerships between the U.S. seed sector and international client groups, ASTA has demonstrated an exemplary ability to increase its viability, sustainability, and impact of its international initiatives.

Moreover, ASTA's international staff continues to refine its market development and access strategies to take full advantage of growing trade opportunities and advance the business interests of its members internationally. ASTA members maintain a trade relationship with over 120 countries worldwide. U.S. exports of planting seed continue to grow toward the \$1 billion level.

Following are but a few select accomplishments of ASTA's International Program during 1999-2000:

AFRICAN SEED TRADE ASSOCIATION

ASTA, in partnership with USDA and the International Seed Trade Federation, provided the stimulus, technical support, and financial means for the establishment of an African Seed Trade Association (AFSTA). AFSTA, the first initiative of its kind to organize and empower the private seed sector of Africa held its founding congress in Pretoria, South Africa on March 20-22, 2000. This historic event was made successful through the participation of 120 delegates from 21 African countries and 7 countries



outside the continent. Forty-two seed companies and organizations have already agreed to join the AFSTA.

Creating a viable African Seed Trade Association will foster development of a modern, regional, and competitive seed industry across Africa and encourage private sector seed growth. Through AFSTA, African countries will receive information on U.S. biotechnology, seed technology, and seed regulatory systems in a free competitive market. The creation of an AFSTA will promote regional integration and harmonization of seed policies and regulations supportive of U.S. seed trade in target countries/regions. AFSTA members can work with their government representatives to develop seed regulatory systems

and intellectual property protection mechanisms that promote private seed commerce. Through a viable African Seed Trade Association, seedsmen worldwide can work together to develop viable systems for agricultural technology transfer.

INTERNATIONAL COMMUNICATIONS PROGRAM

For the first time ever, ASTA has created a professional trade show booth. The booth was designed to increase ASTA's visibility as an industry leader at home and abroad, and to visually underscore our message that farmers all over the world can benefit from U.S. seed and agricultural technologies. The series of backdrop panels highlight the relative importance of seed within the food chain all the way to the end consumer. The booth was designed to broaden agricultural stakeholder's understanding and vision with regards to the seed industry's role and responsibilities in achieving global food security. The ASTA mission statement and values are prominently featured and provide a model displayed on the final panel. Furthermore, the exhibit booth is a dynamic communications tool as it can be readily altered to accommodate the insertion of various strategic messages to be conveyed at a variety of international conferences, workshops, and meetings.

UPOV 91 CONFERENCE FOR LATIN AMERICA

The American Seed Trade Association along with the Argentina National Seed Institute (INASE), Argentine Seed Trade Association (ASA) and International Union for the Protection of New Varieties of Plants (UPOV) sponsored a seminar that provided teaching and technical training for Latin American countries that intend to introduce systems of plant variety protection in accord with the UPOV 91 Convention. This conference was unique in that it brought Latin American countries together to learn from each other concerning the processes relative to the establishment, revision, and implementation of plant variety protection legislation. The conference proved to be an essential tool to improve Latin American country and regional systems of plant

variety protection in accord with UPOV 91, which will ultimately benefit plant breeders and seed companies within and outside the region.

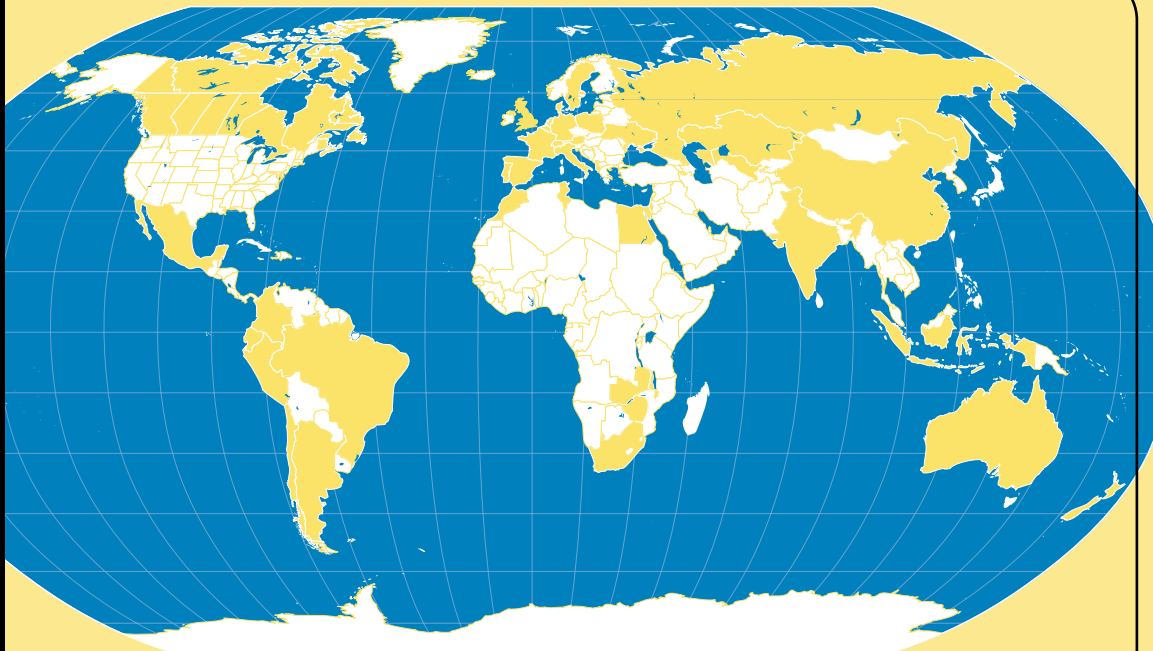
ACCREDITATION SYSTEM WORKSHOPS FOR THE EXPANDED MERCOSUR

The American Seed Trade Association in cooperation with Iowa State University sponsored a series of three accreditation system workshops seminars in South America. The aim of the program is to assist governments in establishing processes and systems of accrediting private entities to certify seed. Besides the spread of the accreditation concept to important seed markets outside the U.S., this project will lead to more efficient certification processes for ASTA member companies that have operations in the MERCOSUR region.

SEED AID TO RUSSIA

Last year the American Seed Trade Association was instrumental in assuring that seed be permanently added to the list of commodities eligible under USDA's PL480

ASTA SEED PROGRAMS SPAN THE GLOBE



The Netherlands
Morocco
Spain
Poland
Australia
Portugal
Peru

Chile
Egypt
England
Uzbekistan
New Zealand
France
Malawi

South Africa
Sweden
Tunisia
Italy
Zambia
Mexico
India

Austria
Zimbabwe
Indonesia
Argentina
Germany
Brazil
Kazakhstan

Ukraine
Denmark
Ecuador
Albania
Russia
Norway
China
Colombia
Israel

and Food for Progress programs. The first-ever shipment of seed under USDA's Food for Progress program was executed during early spring 1999. This shipment destined for Russia consisted of around 15,000 MT of seed, mainly comprised of maize, vegetables, and peas. This program is advantageous to the U.S. seed industry in that it creates potential demand for U.S. seed products and allows for increased cooperation with seed sector officials in recipient countries. In addition, the U.S. seed industry benefits through the direct purchase of its seed by USDA.



As a result of the success of last year's seed donation, seed was again added to the list of commodities to be included to the U.S. Food Aid Package to Russia in 2000. Over 20,000 MT of vegetable, pea, maize, oat, and alfalfa seed was again purchased by USDA and shipped to Russia during Spring 2000. Although the exact figure is not yet known, it is estimated that the total value of the two seed aid shipments to Russia is approximately \$50 million.

INITIATIVE FOR THE TRANSBOUNDARY MOVEMENT OF SEED AND BIOTECHNOLOGY

Given recent legislative decisions of the European Union and other nations relative to biotechnology, the provisions of the Global Biosafety Protocol, and actions of minority extremist groups, ASTA and the international seed industry recognized the potential for massive disruptions to international commerce in planting seed. If these disruptions are to be avoided, a viable global system for movement of seed including standards for adventitious transgenic material must be developed and implemented to the benefit of farmers, global agriculture, consumers, as well as the international seed industry.

As a visionary response, ASTA, in cooperation with the International Seed Trade Federation, the International Seed Testing Association, the Association of Official Seed Analysts, the OECD Seed Schemes and the international seed industry, designed and rapidly implemented a timely initiative to work with relevant national, regional and international organizations to incorporate standards for adventitious transgenic materials within existing international seed schemes.

**Agriculture is best served
when the right mix of
technology ingenuity, and
business savvy is brought
together. Today, the
collective genius of
the seed industry is
facilitating some pretty
exciting combinations ...
traits that farmers want
and need, along with
companies in search
of the right partner
and marketer.**

The establishment of standards for adventitious transgenic material in seed could build on a proven system that has effectively served participating governments, regulatory entities, seed producers and most importantly, the farmer. The existing schemes have functioned successfully for decades to certify the quality of seed in global trade. A system approach for measuring genetic purity of seed could include defined methodology for product identification and traceability as well as harmonized protocols based on shared, and accessible technologies.

This initiative was not a departure from the seed industry's position that transgenic seed with approved events is equivalent to non-transgenic seed. Rather, the initiative demonstrates the seed industry's resolve to find science-based solutions supported by formal management system controls, designed and implemented to respond to public and regulatory concerns. Furthermore, the initiative reflects the seed industry's desire to partner with global regulatory officials worldwide in devising processes that maintain the movement of seed and biotechnology to farmers worldwide. Currently, the initiative has focused on the maize, soybean, canola, and cotton seed industries. However, the initiative is designed to accommodate the future inclusion of other seeds as needed.

PHILIPPINE PLANT VARIETY PROTECTION DELEGATION

ASTA, working through an Agency for International Development (AID) grant administered by Development Alternatives Inc. (DAI), organized a one-week study tour during November, 1999, for Philippine Congressmen, staff, and Department of Agriculture employees to assist the development of proposing PVP legislation in the Philippines. Among the study tour participants were the author of the proposed Philippine PVP legislation, Congressman J.R. Nereus and Congressman Angelito Sarmiento, Philippine House Committee on Agriculture, Chairman. The delegation visited the U.S. Patent Office, the Plant Variety Protection Office, Office of the U.S. Secretary of Agriculture, the Foreign Agriculture Service/USDA as well as ASTA staff. The delegation also met with a number of U.S. Congressmen and staff to learn more about the political sensitivities of such legislation. The passage of PVP legislation in accordance to the UPOV Convention will be a major step in securing plant breeders rights in the Philippines.



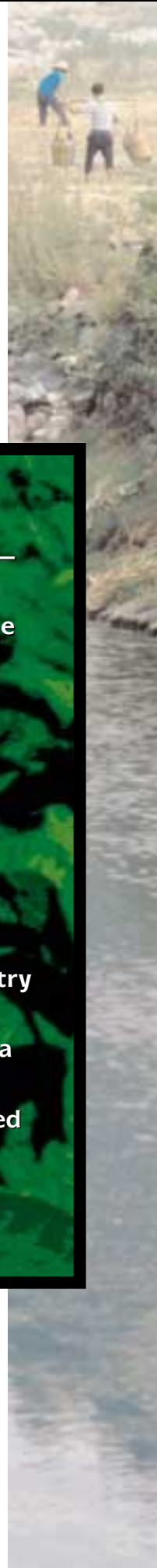
PUBLIC-PRIVATE PARTNERSHIPS IN INTERNATIONAL RESEARCH — THE FONTAGRO EXPERIENCE

Public-private partnerships in research that facilitate global development and transfer of new agricultural technologies can lead to coordinated activities that decrease cost and optimize benefit/impact of improving global agricultural systems. Often obstacles relative to the free movement of agricultural technologies stem from the perceived resource and benefit inequities of new agricultural technologies between public and private sectors as well as developing and industrialized countries.

Both public and private sectors have critical need to design and implement initiatives that will achieve public-private partnerships in research resulting in an improved mechanism for the development and rapid transfer of agricultural technologies worldwide. Public sector research funds are diminishing globally and no longer can be considered sufficient to ensure global food security. Alternately, the appropriateness and benefit of new agricultural technologies developed by the private sector are often subject to public concern and increased regulatory control. It is becoming more difficult to maintain current R&D expenditures given sub-optimal adoption rates and levels of distribution of some private sector agricultural technologies.

Accordingly, ASTA and the American Seed Research Foundation (ASRF) have been working with FONTAGRO — a consortia of national agricultural research institutions within Latin America financially backed by the Inter-American Development Bank and Latin American government's Ministries of Finance regarding international agricultural research collaboration. During the past year, ASTA, ASRF and FONTAGRO held two "discovery" workshops.

The Texas A&M workshop brought together a small number of researchers, resource persons, and private commercial sector representatives from the U.S. and Latin America. In cooperation these organizations developed specific recommendations for country-level policy dialogue leading to improved IPR, legal and improved frameworks for expanded public-private partnerships in agricultural research and technology transfer mechanisms throughout the Americas.





During the ASTA Vegetable and Flower Seed Conference in New Orleans, members of the ASTA and ASRF Board of Directors met with FONTAGRO representatives to outline an approach and possible “next” steps to be taken, which is to foster private-public cooperative ventures in agricultural research between U.S. seed companies and public institutions in Latin America and the Caribbean.

Other notable activities that were successfully implemented during the past year are:

- In partnership with organizations such as Iowa State University, Purdue University, Michigan State University, World Bank, U.S. Department of Agriculture, the International Seed Trade Federation, the U.S. Agency for International Development, and a host of national and regional seed associations, ASTA continues to systematically improve the regulatory environment governing seed trade activity especially between the United States and Ukraine, China, Poland, Africa, Mercosur, Asian and Pacific Region as well as Latin America.
- ASTA has been added as a participant organization on the U.S. Department of Agriculture’s Agricultural Technical Advisory Committee (ATAC). This position enables the U.S. seed industry to have direct input into the upcoming negotiations within the World Trade Organization.
- ASTA has been utilizing and leveraging millions of dollars from various donor organizations to support member’s international market development and global regulatory reform activities in fiscal year 1999-2000. Proposals for additional funds have already been submitted for project implementation for years 2000-2001.
- ASTA continues to successfully coordinate U.S. industry representation at important international organizational meetings such as UPOV, ASSINSEL, FIS, FAO, OECD, ISTA, the Africa Seed Trade Association, FELAS, and the Asia and Pacific Seed Association to foster the adoption of trade rules, regulations, and standards worldwide that are congruent to the interests of the U.S. seed industry.
- ASTA continues to increase the number of cooperative alliances with public and private organizations to advance ASTA’s international trade policy agenda; especially with regards to biotechnology, plant genetic resources, the CODEX Alimentarius, the World Trade Organization and the Convention on Biological Diversity and the International Plant Protection Convention.
- ASTA coordinated incoming/outgoing trade missions involving seed sectors of Ukraine, Malawi, Poland, Russia, Argentina, Romania, Kenya, South Africa, Mexico, China, Philippines, Uruguay, and Thailand to collect market intelligence, provide technical assistance, evaluate market potential, encourage adoption and enforcement of plant variety protection laws and

establish regulatory systems that support international seed trade.

- ASTA continues to chair the Seed Industry Advisory Group and has recently established a “Seed Panel” within the North American Plant Protection Organization in an effort to advance our seed health agenda globally through the International Plant Protection Convention Secretariat.
- ASTA continues to work closely with Iowa State University, Purdue University, and Michigan State University in the administration of technical assistance programs geared toward developing seed sectors in China, Central America, East Africa, Middle East, Southern Africa, Poland, and Ukraine in order to increase the viability of these markets for the U.S. seed industry. ASTA is represented on the Board of Directors of the Agricultural Biotechnology Support Project (ABSP), a project funded by the U.S. Agency for International Development and implemented by Michigan State University to support the adoption of biotechnology by developing countries worldwide.
- ASTA continues to actively integrate seed regulatory reform objectives in World Bank, Inter-American Development Bank, and USAID programs for establishing viable commercial seed sectors in developing countries worldwide.
- ASTA continues to make significant progress in establishing global phytosanitary standards for seed commerce through its participation in the FIS International Seed Health Initiatives (ISHIs) for field crops, herbage, and vegetable seed.
- ASTA has established a negotiation and program framework with government representatives from the People’s Republic of China (PRC) to implement a cooperative “Pest Risk Analysis of Maize Seed” that will allow the U.S. seed industry to export maize seed to China.
- ASTA’s Vice President of International Marketing has served as president of the Association of International Agriculture and Rural Development (AIARD). This association, comprised of universities, private voluntary organizations, trade associations, and donor organizations, seeks public-private cooperation in the area of international agriculture and rural development, as well as maintaining a strong U.S. foreign assistance program.
- With Iowa State University, ASTA has been working with the World Bank to gain funding support for its “Seed Regulatory Harmonization in the MERCOSUR” initiative.
- As a member of the Board of Directors, ASTA maintains its involvement with the U.S. Agricultural Export Development Council — an association of 60+ U.S. agricultural commodity groups.
- ASTA continues to work with the Executive Committees of the Asian and Pacific Seed Association and the African Seed Trade Association. In 1999–2000, ASTA provided funds to these organizations for projects leading to private seed sector development and regional regulatory reform.



Under the “umbrella” of the ASTA, two organizations function with administrative assistance and staff support. The National Council of Commercial Plant Breeders (NCCPB) and the American Seed Research Foundation (ASRF) provide much needed services and representation involving all aspects of research and plant breeding. Their expertise in germplasm developments and future research helps strengthen plant breeding efforts that will feed a growing population.

NATIONAL COUNCIL OF COMMERCIAL PLANT BREEDERS

The National Council of Commercial Plant Breeders (NCCPB) was founded in 1954 by representatives of commercial firms as a non-profit organization to promote the achievements and interests of American plant breeders here at home and abroad. Its mission is to promote commercial plant improvements through plant breeding, seed development, conditioning, marketing, and highlighting the accomplishments of its membership.

Selected achievements include:

- Continued strong support of and provided continued education information assistance to membership and producers regarding revised regulations governing the Plant Variety Protection Act.
- Sponsored awards in genetics and plant breeding. To date, 34 annual presentations have been made for outstanding work in the public sector. Twelve similar presentations have been made through the Crop Science Society of America, recognizing commercial achievements.
- Collected and distributed, primarily from the public sector, information on new germplasm releases to its membership. This effort represents an important centralized program for dissemination of vital information to plant breeders. These releases contain information on breeding lines, germplasm pools, and genetic populations. Over the years, it has distributed 2,197 separate releases.

NCCPB is also pleased to have initiated its most recent program — a graduate scholarship designed to support promising students. This award is for graduate students currently pursuing an advanced degree in Plant Breeding at a U.S. university. The principal criteria for choosing the recipient include: (1) significance and originality of basic or applied plant breeding thesis research; (2) strong scholastic achievement in graduate level Plant Breeding and related coursework; (3) evidence of integrity, professionalism, and effective leadership skills as determined by peers, graduate advisor, and graduate faculty evaluations. The award consists of \$1,500 plus a travel grant.



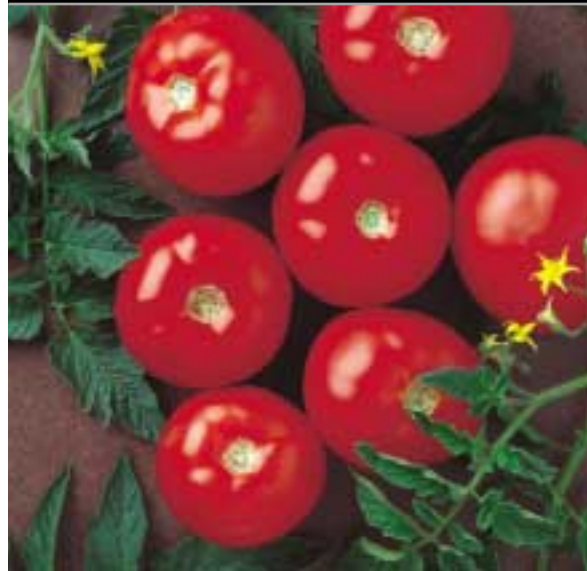
AMERICAN SEED RESEARCH FOUNDATION

The American Seed Research Foundation (ASRF) was incorporated in 1959. Its primary objective is to encourage research which explores the basic principles underlying why seeds behave as they do. ASRF accomplishes this goal by funding basic seed research projects at public facilities with the dues members contributed to the Foundation. ASRF's support of basic seed research now totals \$768,338. These funds have a 3:1 stimulating effect on the sources of research support, resulting in an estimated \$2,305,014 in matching funds.

Recent examples of ASRF accomplishments include:

- Four basic seed research projects currently funded for three years for a total amount of \$100,000.
- An array of 15 different applied research projects on diseases and genetics for the Vegetable & Flower Seed Permanent Research Fund over an eight-year period in the amount of \$443,388.
- Four completed projects for the Watermelon Fruit Blotch Research Fund for two years in the amount of \$117,500 and five additional projects in the amount of \$76,350 for a second round are also complete.
- Three projects for the Watermelon Gummy Stem Disease Fund in the amount of \$24,350 are complete.
- A special project on High Plains Virus on sweet corn for a concerned group in the amount of \$20,000 is complete.

SEARCH has been the official ASRF publication that recorded the results of the projects directly supported by the Foundation. Thirty-two issues have reported on 44 projects. However, in 2000, the publication of SEARCH will end and the final project reports will be printed in the reference journal, SEED TECHNOLOGY.

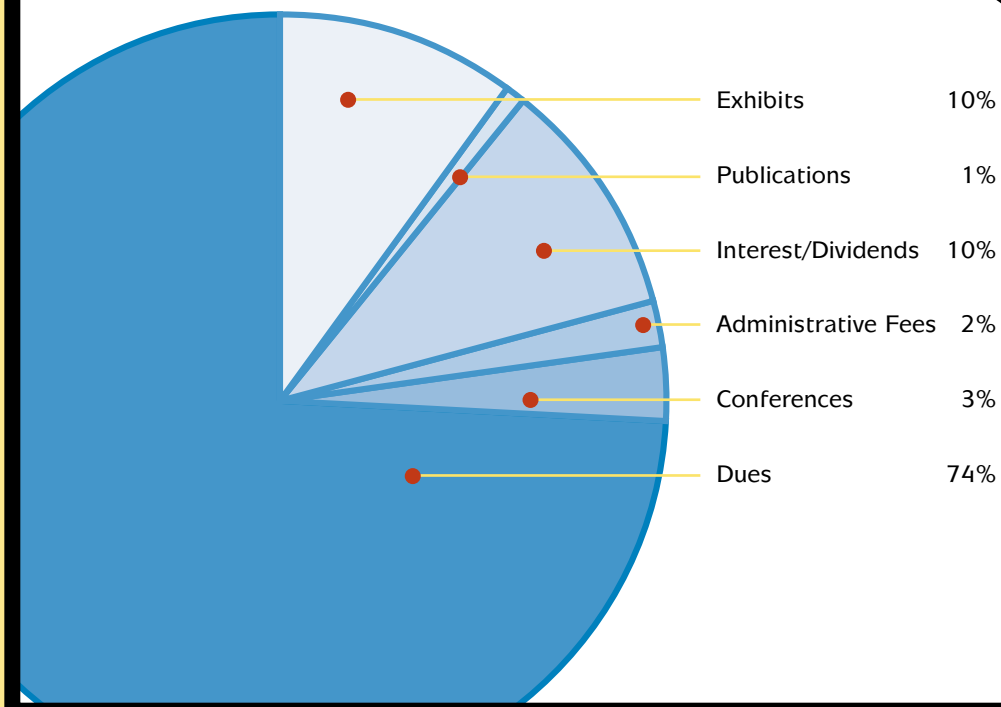


ASTA began work early to assure an easy transition to the year 2000. Throughout the year, efforts to upgrade software programs and secure appropriate packages have enhanced the ability to report and forecast the Association's fiscal health.

ASTA joined numerous coalitions and efforts to defeat legislation before Congress to tax income from Associations and those that sought to impose a commuter tax for employees living in the surrounding metro area. In addition, the Association maintained and built on a number of joint ventures with the U.S. Department of Agriculture, the World Bank, the U.S. Agency for International Development and the Inter-American Development Bank. Maintaining the accounts and budgets for the National Council of Commercial Plant Breeders and the American Seed Research Foundation also fall under the purview of the Financial Services Section.

Training is an important component for efficient and accurate reporting and record-keeping. During the past year, the vice president for financial services attended numerous conferences and workshops designed to update, inform, and educate. In addition, a number of new software programs are under consideration to further expand the reporting and tracking capabilities.

ASTA sources of Revenue



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Shannon Woods, *Manager, Member Services*

www.amseed.org

Building on last year's record visits to the homepage, ASTA updated and re-formatted the design to better accommodate visitors. Weekly unique domain hits averaged 1150, an increase of 35 percent.

During 1999-2000, ASTA staff took advantage of special training forums and classes in design and structure that complemented efforts to make *www.amseed.org* more user friendly and efficient. Some 62 companies linked their respective homepages to the site.

The past year also witnessed a 29 percent increase in ASTA members electing to register for various conferences and conventions via the homepage. Members also took advantage of continual updates and posting of timely announcements and critical position papers and policy statements approved by the Association's Board of Directors.

Monthly newsletters and past editions of the annual reports also attracted significant interest and viewing by visitors. The e-mail weekly update was also re-vamped for efficiency and timeliness.



[MILESTONES

- 1800 BC • Yeast is used in the making of wine, beer and leavened bread.
- 1700s • Hybrid plants are identified by naturalists.
- 1861 • Pasturization techniques are developed by Dr. Louis Pasteur.
- 1865 • Gregor Mendel, the father of modern genetics, experiments on pea plants in a garden and concludes that certain unseen particles, later known as genes/DNA, pass traits from generation to generation.
- 1922 • Hybrid corn varieties are purchased by American farmers. Between 1930 and 1985, a 600 percent increase in corn production is witnessed.
- 1944 • Scientists confirm that DNA, present in the nucleus or center of every cell, is the substance responsible for the transmission of hereditary information and holds the keys to our past.
- 1953 • The double helix structure of DNA is discovered by future Nobel Prize winners, James Watson and Francis Crick.
- 1970 • Dr. Norman Borlaug is awarded the Nobel Prize for his work on Green Revolution wheat varieties, marking the first time a plant breeder is recognized.
- 1973 • Stanley Cohen and Herbert Boyer successfully move a gene, a specific piece of DNA from one organism to another.

IN HISTORY]

- 1982 • Biotechnology's first commercial application is used to develop human insulin for a diabetes treatment.
- 1983 • The first plants are produced using new biotechnology methods.
- 1990 • The first food product modified by biotechnology, an enzyme used in cheese making, is approved for use in the U.S.
- 1992 • The Food and Drug Administration concludes that foods enhanced through biotechnology, should be regulated in the same way as those developed through traditional methods.
- 1994 • The FLAVR SAVR[®] tomato is the first food product enhanced through biotechnology.
- 1995 • The first soybean variety developed through biotechnology is introduced.
- 1997 • The U.S. government grants approval for 18 crop applications of biotechnology.
- 1999 • "Golden rice" a variety rich in beta-carotene is developed that promises to help prevent childhood blindness in developing countries.
- 2000 • Council for Biotechnology Information is formed. ASTA joins as an Associate member and the seed industry moves forward.



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