SEED TECHNOLOGY AT THE OHIO STATE UNIVERSITY

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ABSTRACT: The present paper shows the development of teaching, research and extension programs in Seed Technology at The Ohio State University.
Key Words: seed technology, training program

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RESUMO: O presente artigo apresenta o desenvolvimento do programa de ensino, pesquisa e extensão na área de tecnologia de sementes na Universidade Estadual de Ohio (The Ohio State University).
Descritores: tecnologia de sementes, treinamento

Across Land Grant Agricultural Universities in the United States, the number of coordinated programs focused on seed science and technology have always been small. Over the last few decades though, there has been a steady decline in the number of these programs leading to solitary in many institutions whose programs continue to address seed-related issues. As seed related faculty has retired, little priority has been given to either replacing these scientists or continuing their efforts.

In 1994, the faculty at The Ohio State University involved in horticultural or agronomic crop programs in the former Departments of Horticulture and Agronomy were merged into one large department now called Horticulture and Crop Science. In the process of forming this new department, it was discovered that 15 faculty were involved in some aspect of seed biology. There were additional faculties in other departments that were either collaborators or engaged in their own independent work. Over the succeeding four years, these faculty have come together to form a coordinated effort as a comprehensive Seed Biology program. The various individuals associated with this program address a wide range of issues related to the entire spectrum of seed from production to stand establishment.

The Seed Biology Program embodies the three basic missions of a Land Grant University: teaching, research and extension as well as service. In teaching, the department offers graduate programs at the Master of Science and the Doctor of Philosophy levels. There are plans to expand the course offerings at both the undergraduate as well as the graduate level. These courses include an annual introductory Seed Science course at the undergraduate level. Three courses exist at the graduate level that are offered in alternating years. These include Seed Production, Seed Physiology, and Seed pathology. These courses, as well as the graduate advising are a multi-departmental, multi-disciplinary effort involving faculty from other departments and colleges.

The extension effort is also a team effort with individuals from many different departments and disciplines working together. In addition to the traditional extension programming, this program has begun to offer focused workshops and specialized training programs for groups from industry and academia. In the future, it is expected that the teaching and extension efforts will come closer together and will serve the needs of a growing segment of society seeking intensive education that does not fit traditional extension or classroom education. A major factor in the future of the educational effort will be the technology that enhances the capability to deliver distance education.

The research effort in the Seed Biology Program encompasses production, quality, pathology, physiology and biochemistry, genetics and molecular biology, and weed seed ecology. This is also a multi-departmental, multi-disciplinary effort involving other departments and colleges. The majority of the work of this program focuses on

horticultural seeds, but there is significant continuing effort on agronomic crops and a long history of experience in this area. The long-term plans of this program include national and international collaboration not only in research but also in the comprehensive educational activities.

Given the small number of coordinated seed programs in the United States and internationally, the faculty involved with this program feel an imperative to work with a broad geographic perspective. A major part of this effort is to develop cooperative efforts with other seed oriented programs around the world. No one program is embodied with all the expertise to do a completely comprehensive job of serving complex needs of seed science and technology. Consequently, broad collaboration takes advantage of the existing expertise in other parts of the world and encourages the development a greater critical mass of collaborating seed scientists globally. This collaboration has been fostered in recent years by international visits and participation in internationally oriented programs.

Long term, the global cooperation will need to serve both the educational needs in the world and research in critical areas of seed science and technology. These needs exist both in those areas of the world that are resource poor and those that have more abundant resources. None of the existing coordinated seed programs have the necessary resources to meet all the existing demands or address the creative new ideas necessary to insure adequate food supplies in the future. Consequently, comprehensive joint efforts will need to be undertaken to identify funding sources that have or can be persuaded to give priority to the needs in seed science and technology.

There are many common needs internal to the cooperating seed programs. These include, among others, student and faculty exchange, cooperative training of undergraduate and graduate students, shared use of existing facilities, effective coordinated interaction with the commercial seed industry and the joint development of research and educational ideas, plans and proposals to potential funding agencies. This Symposium is a wonderful beginning to collaboration between these participating institutions. The ideas that are shared here should serve as the foundation for further development of plans and proposals for future activities. There must be active leadership of this effort to bring programs to fruition and create a visible presence in the academic, commercial and funding communities.

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