

Report of Breakout Group 3. How Can the Public and Private Sectors Most Effectively Partner to Train New Generations of Plant Breeders?

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NOVEL, COLLABORATIVE MODES OF TRAINING

Universities will need to more effectively coordinate their programs with others in the public and private sectors, if they are to continue to train sufficient numbers of plant breeders to meet the needs of the private and public sectors. A group from eight to ten university programs will likely continue to have sufficient resources to maintain broad, well balanced programs, but other smaller programs will need to collaborate to survive. Different universities often have special strengths in their curricula that may be deficient in others, so a clearinghouse of courses should be established that can be used to share courses between universities via satellite distance learning facilities or CD-ROM compilations. International agricultural research centers (IARCs) and private companies should also be encouraged to participate directly in graduate education through these mechanisms. Of particular interest would be the development of modules that describe the breeding of crops no longer emphasized at universities.

Internships at the graduate level should be considered as a way to enhance plant breeding education, while fostering ties between the different sectors of the plant breeding community. More internships in industry and at international centers should be offered to students at all levels, as they allow for a more enriching educational experience and exploration of future employment opportunities. At present, internships fit more easily into undergraduate programs where summers are free of classes and research obligations, and are much more limited at the graduate level. However, intern-

ships could be scheduled at the beginning of a graduate program to minimize disruption.

There are a number of other ways that the public and private sectors could further collaborate in plant breeding education. Inclusion of industry representatives on graduate student research committees should be encouraged. Additionally, the private sector could more fully participate in university training by providing guest lectures, seminars, panel discussions, and hosting visits to industry facilities. The benefits of these programs are similar to those of internships, in that students are exposed to the professional opportunities available to them in private industry and they learn how the private industry differs from the public industry. Also, the companies have the opportunity to recruit future employees.

NOVEL SOURCES OF FUNDING THROUGH PARTNERSHIPS

New funding for existing and new programs must be identified to sustain a critical mass of graduate training programs. Increased efforts are needed to garner more industry support and attract additional federal funds.

Individual companies are already supporting public sector training in a number of ways, but their overall contribution is small compared to the public funds going into graduate training. It is in the best interest of the private sector to help maintain the public training programs that will produce the future plant breeders. By increasing the number of available grants for research or travel stipends for meetings, companies could increase their interaction with the public sector and foster good public

relations. It would make sense to establish a national fund for plant breeding fellowships that is supported by contributions from many different corporations. Such a fund could be administered by an existing organization such as the National Council of Commercial Plant Breeders. Individual companies could also provide graduate fellowships to specific universities in areas that benefit their research objectives directly. For example, a formal linkage could be established where public sector breeders focus on evaluating native germplasm for important horticultural or agronomic traits, and the industry breeders use that material for cultivar development.

The federal government must support plant breeding training. Plant breeding is widely considered to be a national need, but there are at present no specific funds directly allocated for plant breeding training. Some breeding students are supported by federal funds via the existing competitive grant programs, but these funds are generally awarded for very basic projects that are far upstream from actual cultivar improvement. The students supported by these programs get very little practical plant breeding experience, as they are under pressure to perform in the laboratory to meet grant deadlines. Federal funds should be used to ensure the viability of the most comprehensive training programs, foster educational linkages between Universities and stimulate collaborations between the public and private sectors. Major trade organizations such as the American Seed Trade Association and the National Association of Commercial Plant Breeders are encouraged to lobby for such funding.