USDA Agriculture Research Service

Retrospective Assessment of National Program 302: Plant Biological and Molecular Processes – August 2009

Executive Summary

A Review Team of eight scientists external to USDA-ARS was convened in Beltsville, Maryland, on May 21 – 22, 2009 to conduct a 5-year retrospective review of USDA-ARS NP 302 (Plant Biological and Molecular Processes). The scientists with expertise in plant and molecular biology, genetics, and crop breeding represented diverse organizations including universities, industry, state, federal, and international government organizations, and regulatory agencies. The Review Team reviewed NP 302, which includes 84 full-time scientists located in 21 ARS locations and an annual budget of approximately $36 million. NP 302 has three components: (1) Functional Utilization of Plant Genomes: Translating Plant Genomics into Crop Improvement; (2) Biological Processes that Improve Productivity and Quality; (3) Plant Biotechnology Risk Assessment.

The review team was provided with the NP302 Retrospective Accomplishment Report (2004-2009) that focused on the overall impacts and accomplishments of NP 302. The Accomplishment Report also included: Appendix I – Selected Supporting Information for Accomplishments and Impact of NP302 Research, which listed selected planning and coordination workshops led by NP302, external peer-reviewed research grants and stakeholder awards to NP302 scientists, a summary of scientific training by NP302 scientists, Appendix 2: NP302 Research Projects, and Appendix 3: NP302 Publications. The NP 302 Retrospective Accomplishment Report was developed with information provided in a data call submitted by lead NP302 scientists. The Report was written by NP302 scientists (Steven Huber, Sheila McCormick, and Maureen Whalen) and by NP302 National Program Leaders (Jack Okamuro, Kay Simmons, Roy Scott, and Peter Bretting).

The Review Team conducted a broad-based review rather than a project-by-project review. NP302 accomplishments were assessed against commitments (expected impacts and outcomes) identified in the initial action plan created at the beginning of the five-year cycle. The review team had access to the action plan in addition to the accomplishment report. Their recommendations are outlined under each of the Components and Problem Areas and are based mainly on the following criteria:

- Was the research innovative?
- Did the research advance the knowledge of plant biological and molecular processes?
- Have new or improved scientific methods or technologies been developed by ARS and adopted by others (e.g., customers, stakeholders, consumers, and/or other scientists)?
- Was there technology transfer? Were other government and/or industry programs influenced by the research?

Each problem area was rated on a scale from high to low.

National Program Leaders re-emphasized the purpose of the review and provided program overviews at the start of the two-day review meeting in Beltsville. The review team chair served as a tertiary reviewer on all projects and provided comments to each team member prior to the meeting on those sections that they were primarily responsible for reviewing. The primary review team member provided their assessments of the program, followed by input from secondary and other team members. Reviews of all programs were completed within the two days of meetings, followed by completion of the written report.