

# **NATIONAL PROGRAM 304 Retrospective Review**

**November 2007**

## **Executive Summary**

The retrospective review of National Program 304 consisted of one panel of experts, who operated as two largely independent sub-panels: one reviewed the “insect” portion of the Program (Components I – VI of the Plan), and the other reviewed the “weed” portion of Program (Components VII – X of the plan). Although each sub-panel operated mostly independently, the report combines all aspects of the review, with overarching comments and suggestions, as well as review comments, ratings and recommendations for individual Components. All sub-panelists read and reviewed all Components and Problem Areas of their respective part of the document; responsibility for reviewing and discussing each Component was assigned to primary, secondary and tertiary reviewers. The Panel met November 27-28, 2007.

ARS scientists in NP304 have both discovery-based research programs and responsibility to transfer the developed science and technology to end-users. Often the research directions are high-risk, meaning the likelihood of success may be low. The Panel members recognized the importance of ARS scientists serving the role of carrying a large portion of high-risk research in the overall portfolio, particularly as Land-Grant and Industry partners are less able to invest in long-term, high-risk research.

Overall, the Panel was impressed with both the breadth and depth of the research portfolio in NP304. ARS scientists are clearly among the leaders in their discipline and subdisciplines in many of the research areas in NP304. With a Program as broad as NP304, it is not simple to organize the research directions and accomplishments into discrete Components; overlap among Components is healthy to demonstrate collaborations and multi-disciplinary approaches, but it also resulted in some difficulty in assigning credit for achievements in appropriate places in the review. It is clear that many Problem Areas within individual Components receive adequate attention, direction and support. Activity and productivity among Components and Problem Areas varied, as would be expected. Some Problem Areas within Components were either not well developed or reporting of accomplishments was too incomplete to assess adequately. Many of the Problem Areas consist of long-term research investments, which are less likely to yield significant accomplishments within a five-year time frame. Most of the Components and Problem Areas had an appropriate mix of discovery-base research and development of near-term solutions to problems affecting agriculture and stakeholders. In general, one criticism was that technology transfer was either not developed fully or was not reported sufficiently to be able to assess its effectiveness and impact.

Panelists had high expectations of the scientific accomplishments and delivery of results for all the Problem Areas and Components. Our ratings reflected careful review of the

information presented in the Accomplishment Report, but we also viewed the accomplishments reported with a critical eye, and have noted in details below where we believed the work reported needed more attention or resources dedicated.

In Table 1 (below), we summarize the ratings of each Component; ratings were divided into Research Quality, Relevance and Impact, plus an overall rating. Reducing vast and varied programs to ratings consisting of single or few words does not give ample credit to the effort and resources directed toward Components or individual Problem Areas. Some summary comments are provided for each Component, with the details in the full report.

Table 1. Ratings of Research Quality, Relevance, Impact and Summary for Ten Components of NP304

Component	Quality	Relevance	Impact	Summary
I	High	Medium	Medium-High	Medium-High
II	Medium-High	Medium	Medium-High	Medium-High
III	Medium	Medium	Medium	Medium
IV	Medium-High	Medium-High	Medium-High	Medium-High
V	High	Medium	Medium-High	Medium-High
VI	High	High	Medium-High	Medium-High
VII	Medium	Medium-High	Low-Medium	Medium
VIII	Low-Medium	Medium	Low	Low-Medium
IX	Medium	Medium	Low-Medium	Medium
X	Medium-High	Medium-High	Medium	Medium-High

Some description of the Summary Ratings is warranted. If the Panel felt that all or nearly all Problem Areas were adequately addressed or presented, the rating was labeled “High.” A rating of “Medium” usually was due to significant portions of the Component that were not addressed or for which the information presented was incomplete or presented in the wrong Component. A rating of “Low” reflected insufficient attention to the Problem Areas or low productivity in the Problem Areas. In numerous instances, panelists were aware of work by ARS scientists that was not reported. Ratings in Quality, Relevance or Impact were subjective. Although all of the Components in NP304 are relevant to agriculture and the Program, not all the work reported was relevant to the Component or the Problem Area. Impacts were rated lower if the evidence of technology transfer was weak or lacking. Nearly all the research we assessed was of very good quality. Our ratings were based on our expectation of effective use of resources and productivity for those areas. We had high expectations of the scientists and their productivity. Ratings of medium and medium-high reflected our very high expectations.

Overall, we were impressed by the performance and outcomes in the Components and Problem Areas. Further attention will need to be paid to Problem Areas for which little was accomplished or reported.