Program Announcement
To DOE National Laboratories
LAB 06-03

Plant Feedstock Genomics for Bioenergy: A Joint USDA, DOE Research

SUMMARY: The U.S. Department of Energy's Office of Science, Office of Biological and Environmental Research (OBER), and the U.S. Department of Agriculture (USDA), Cooperative State Research, Education, and Extension Service (CSREES), National Research Initiative (NRI) hereby announce their interest in receiving proposals for genomics-based research that will lead to the improved use of biomass and plant feedstocks for the production of fuels such as ethanol or renewable chemical feedstocks. Specifically, proposals are sought for fundamental research on plants that will improve biomass characteristics, biomass yield, or that will facilitate lignocellulosic degradation. Systems biology approaches to identify genetic indicators enabling plants to be efficiently bred or manipulated, or research that yields fundamental knowledge of the structure, function and organization of plant genomes leading to improved feedstock characterization and sustainability are also encouraged.

DATES: Potential researchers are **required** to submit a brief preproposal through appropriate Laboratory channels. **Preproposals referencing Program Announcement LAB 06-03 must be received by DOE by 4:30 p.m., Eastern Time, December 15, 2005.** Preproposals will be reviewed for conformance with the guidelines presented in this Notice and suitability in the technical areas specified in this Notice. A response to the preproposals encouraging or discouraging formal proposals will be communicated to the researchers by **December 23, 2005.**

Only those preproposals that receive notification from DOE encouraging a formal proposal may submit full proposals. **No other formal proposals will be considered.** Formal proposals in response to this Notice must be received by **February 23, 2006.**

Full proposals submitted in response to this Notice must be submitted to the DOE Electronic Proposal Management Application (ePMA) system (https://epma.doe.gov) no later than 8:00 p.m., Eastern Time, February 23, 2006, to be accepted for merit review and to permit timely consideration for award in Fiscal Year 2006. It is important that the entire peer reviewable proposal be submitted to the ePMA system as single PDF file attachment.

Please see the "Addresses" section below for further instructions on the methods of submission for the full proposal.

ADDRESSES: Preproposals referencing Program Announcement LAB 06-03 should be sent as PDF file attachments via e-mail to: SCbiomass.genomics@science.doe.gov with "Lab Notice 06-03" as the subject. No FAX or mail submission of preproposals will be accepted.

A complete formal FWP in a single Portable Document Format (PDF) file must be submitted through the DOE ePMA system (https://epma.doe.gov) as an attachment. To identify that the FWP is responding to this program announcement, please fill in the following fields in the "ePMA Create Proposal Admin Information" screen as shown:

Proposal Short Name:
Fiscal Year:
Proposal Reason:
Program Announcement Number: Lab 06-03 *
Program announcement Title: Plant Feedstock Genomics for Bioenergy: A Joint USDA, DOE Research Program Announcement *
Proposal Purpose:
Estimated Proposal Begin Date:
HQ Program Manager Organization:

* Please use the wording shown when filling in these fields to identify that the FWP is responding to this program announcement.

A CD and three copies of the proposal would also be appreciated, submitted using the following, by U.S. Postal Service Express Mail, any commercial mail delivery service, or when hand-carried to:

Dr. Sharlene C. Weatherwax
U.S. Department of Energy
Office of Biological and Environmental Research, SC-23.1/GTN
19901 Germantown Road
Germantown, MD 20874-1290
ATTN: Program Announcement LAB 06-03.

DOE Eligibility Criteria: Researchers from Federally Funded Research and Development Centers (FFRDCs) or DOE National Laboratories. Applicants from U.S. Colleges and universities, non-profit organizations, for-profit commercial organizations, state and local governments, and unaffiliated individuals should respond to Program Notice DE-FG02-06ER06-03. Researchers from other Federal agencies are encouraged to submit a preproposal referencing Program Notice DE-FG02-06ER06-03; if a formal proposal is encouraged, additional submission information will be provided.

USDA Eligibility Criteria: The source of USDA funds to support the FY 2006 Plant Feedstock Genomics for Bioenergy Program is the National Research Initiative (NRI) Competitive Grants Program. Except where otherwise prohibited by law, State agricultural experiment stations, all colleges and universities, other research institutions and organizations, federal agencies, national laboratories, private organizations or corporations, and individuals are eligible to apply for and to receive a competitive grant. Faculty at small and mid- sized academic institutions with limited institutional success and faculty at institutions in USDA Experimental Program for Stimulating Competitive Research (EPSCoR) entities are encouraged to apply (for definitions of small and mid-sized institutions and for EPSCoR eligibility see Part II, C., 2.(c) of the FY 2006 NRI Request for Applications at http://www.csrees.usda.gov/funding/rfas/nri_rfa.html). Applications

from scientists at non-U.S. organizations will not be accepted. Award recipients may subcontract to organizations not eligible to apply, provided such organizations are necessary for the conduct of the project. This program is listed in the Catalog of Federal Domestic Assistance (CFDA) under 10.206, Grants for Agricultural Research Competitive Research Grants.

GENERAL INQUIRIES ABOUT THIS PROGRAM ANNOUNCEMENT SHOULD BE DIRECTED TO:

SCbiomass.genomics@science.doe.gov

Agency Contacts:

Dr. Sharlene C. Weatherwax
U.S. Department of Energy
Office of Biological and Environmental Research
Phone: (301) 903-6165
Email: sharlene.weatherwax@science.doe.gov

Dr. Chavonda Jacobs-Young
United States Department of Agriculture
Cooperative State Research, Education, and Extension Service
Email: cjacobs@csrees.usda.gov

Dr. Ed Kaleikau
United States Department of Agriculture
Cooperative State Research, Education, and Extension Service
Email: ekaleikau@csrees.usda.gov

The full text of Program Announcement LAB 06-03 is available via the Internet using the following web site address: http://www.science.doe.gov/grants/grants.html.

SUPPLEMENTARY INFORMATION: Renewable energy from biomass has the potential to reduce or remove dependency on fossil fuels as well as reduce negative environmental impacts from emissions of greenhouse gases and toxic pollutants. Realizing this potential will require the simultaneous development of high yielding biomass production systems and bioconversion technologies that efficiently convert biomass energy into the forms of energy usable by industry. Most agricultural research to date has focused on enhancing the production of seeds, roots and tubers that are used for food and feed production. However, these improvements in food crops have frequently been directed towards increases in starch content with a corresponding reduction of lignocellulose accumulation. Research that seeks to increase starch content for improved nutrient qualities or to facilitate the digestion and fermentation of starch to produce sugars and other bio-based products or biofuels is not the focus of this topic.

Research proposals are solicited in the area of improved fundamental understanding of lignocellulosic accumulation and regulation that will lead to improved utilization of plant biomass for the production of fuels such as ethanol or renewable chemical feedstocks. This

notice initiates a commitment to establish a fundamental research program in biomass genomics, to provide the scientific foundation to facilitate the use of lignocellulosic materials, either primary material or agricultural residues, for bioenergy and biofuels. The rationale for developing lignocellulosic crops for energy is that less intensive production techniques and poorer quality land can be used for these crops, thereby avoiding competition with food production on better quality land.

Significant advances in breeding, molecular genetics, and genomic technologies provide an opportunity to build upon the existing knowledgebase of plant biology to be able to confidently predict and manipulate their biological function for bioenergy resources.

Specific areas of interest include:

- Elucidation of the regulation of genes, proteins and metabolites for manipulation of recalcitrant lignocellulosics for improved productivity, processing, or growth characteristics on marginal environmental conditions (e.g. drought tolerance);
- Development of novel technologies to facilitate the analysis and manipulation of cell wall structure and composition for both breeding and basic research;
- Genomic approaches leading to identification of genetic markers enabling more efficient plant breeding or manipulation;
- Enhanced fundamental knowledge of the structure, function, and organization of plant genomes leading to improved feedstock characterization;
- The use or development of model biological systems is acceptable; however, a specific statement must be provided on the linkage of the model to current or future biomass energy crops. The use or augmentation of existing genomic information and resources is strongly encouraged.

Projects that would involve field demonstrations or testing or empirical screening for biomass quality characteristics will not be considered for funding. Projects requesting support solely for whole genome sequencing will not be considered for funding. Any requests for genome sequencing (e.g., for development of novel biomass model plant systems) should provide clear justification for the need for the sequence, efficient use of any currently available sequence information, and a coherent description of how this new genome sequencing will lead to improvements in feedstock characterization and bioenergy resources. Such requests will be coordinated with existing programmatic and technical capabilities and capacity at the DOE Joint Genome Institute and thus should not be included in the budget request and justification.

This announcement strongly encourages individual investigators as well as interdisciplinary teams that assemble a range of expertise into a coordinated approach; for the latter situation, applicants must include a clear plan describing the individual contributions of each participant, as well as the overall management scheme.

Preproposals

Potential researchers must submit a brief preproposal that consists of two to three pages of narrative describing the research objectives, the technical approach(s), and the proposed team

members and their expertise. The intent in requesting a preproposal is to save the time and effort of researchers in preparing and submitting a formal project proposal that may be inappropriate for the program. Preproposals will be reviewed relative to the scope and research needs as outlined in the summary paragraph and in the SUPPLEMENTARY INFORMATION. The preproposal should identify, on the cover sheet, the title of the project, the institution, principal investigator name, telephone number, fax number, and e-mail address. No budget information or biographical data need be included, nor is an institutional endorsement necessary.

Program Funding

It is anticipated that up to $3 million total will be available for multiple awards to be made in FY 2006 for the Plant Feedstock Genomics for Bioenergy: A Joint Research Solicitation-USDA, DOE. The number of awards will be contingent on satisfactory peer review, the availability of appropriated funds, and the size of the awards. Proposals may request project support for up to three years, with out-year support contingent on the availability of funds, progress of the research, and programmatic needs. Annual budgets are expected to range from $100,000 to $500,000 total costs, unless there is prior approval from the Program Manager. Neither DOE nor USDA is under any obligation to pay for any costs associated with the preparation or submission of a proposal. DOE and USDA reserve the right to fund, in whole or in part, any, all, or none of the proposals submitted in response to this Notice.

DOE and USDA will make final funding decisions based on the results of the peer review and internal programmatic review. USDA agrees to abide by DOE's proposal review procedures. Researchers selected for funding may be required to provide additional information. The proposal will then be forwarded to the appropriate offices for funding in accordance with each agency's procedures. Awards will be given at each agency's discretion. Proposals that USDA agrees to fund will be sent to the agency for final negotiations and implementation of awards. Researchers selected for funding by USDA will be requested to submit paper copies of their proposals with all associated USDA forms. These Application Forms may be downloaded from the USDA website at http://www.csrees.usda.gov/funding/forms.html.

Proposals selected for funding by USDA will be asked to comply with the USDA 20 percent limit on indirect cost rates (see 4.6 Indirect Costs below)

If a project is funded, beginning in the first year of funding, at least one member of the project team will be required to attend annual investigator meetings; these meetings may be held in conjunction with internationally attended genomics meetings (e.g. Plant and Animal Genome) or jointly with other DOE or USDA program meetings (e.g. the Genomics:GTL program meeting). Reasonable travel expenses may be submitted as part of the project budget.

FY 2006 USDA support for this Plant Feedstock Genomics for Bioenergy solicitation is authorized in 7 U.S.C. 450i(b). The NRI Competitive Grants Program supports research grants addressing key problems of national and regional importance to agriculture, forestry, and related sciences. The biomass and plant feedstock is a key component to the sustainability of U.S. agriculture, forestry, and environmental health.

Submission Information

Full Proposal

The Department of Energy will accept Full Proposals by invitation only, based upon the evaluation of the preproposals. After receiving notification from DOE concerning successful preproposals, researchers may prepare formal proposals. The Project Description must not exceed 15 pages, including tables and figures, but exclusive of attachments. The proposal must contain an abstract or project summary, short vitae, and letters of intent from collaborators, if appropriate.

Full proposals adhering to DOE Field Work Proposal format (Reference DOE Order 412.1) are to be prepared and submitted consistent with policies of the investigator's laboratory and the local DOE Operations Office. Laboratories may submit proposals directly to the SC Program Office listed above. A copy should also be provided to the appropriate DOE Operations Office.

The instructions and format described below should be followed. You must reference Program Announcement LAB 06-03 on all submissions and inquiries about this program.

OFFICE OF SCIENCE
GUIDE FOR PREPARATION OF SCIENTIFIC/TECHNICAL PROPOSALS
TO BE SUBMITTED BY NATIONAL LABORATORIES

Proposals from National Laboratories submitted to the Office of Science (SC) as a result of this program announcement will follow the Department of Energy Field Work Proposal process with additional information requested to allow for scientific/technical merit review. The following guidelines for content and format are intended to facilitate an understanding of the requirements necessary for SC to conduct a merit review of a proposal. Please follow the guidelines carefully, as deviations could be cause for declination of a proposal without merit review.

1. Evaluation Criteria

Proposals will be subjected to formal merit review (peer review) and will be evaluated against the following criteria which are listed in descending order of importance:

(a) Scientific and/or technical merit of the project;
(b) Appropriateness of the proposed method or approach;
(c) Competency of the personnel and adequacy of the proposed resources; and
(d) Reasonableness and appropriateness of the proposed budget.

The evaluation process will include program policy factors such as the relevance of the proposed research to the terms of the announcement and the Department's programmatic needs. External peer reviewers are selected with regard to both their scientific expertise and the absence of conflict-of-interest issues. Non-federal reviewers may be used, and submission of a proposal constitutes agreement that this is acceptable to the investigator(s) and the submitting institution.

2. Summary of Proposal Contents

- Field Work Proposal (FWP) Format (Reference DOE Order 5700.7C) (DOE ONLY)
- Proposal Cover Page
- Table of Contents
- Budget (DOE Form 4620.1) and Budget Explanation
- Abstract (one page)
- Narrative (main technical portion of the proposal, including background/introduction, proposed research and methods, timetable of activities, and responsibilities of key project personnel)
- Literature Cited
- Biographical Sketch(es)
- Description of Facilities and Resources
- Other Support of Investigator(s)
- Appendix (optional)

2.1 Number of Copies to Submit

A complete formal FWP in a single Portable Document Format (PDF) file must be submitted through the DOE ePMA system (https://epma.doe.gov) as an attachment. To identify that the FWP is responding to this program announcement, please fill in the following fields in the "ePMA Create Proposal Admin Information" screen as shown:

Proposal Short Name:
Fiscal Year:
Proposal Reason:
Program Announcement Number: Lab 06-03 *
Program announcement Title: Plant Feedstock Genomics for Bioenergy: A Joint USDA, DOE Research Program Announcement *
Proposal Purpose:
Estimated Proposal Begin Date:
HQ Program Manager Organization:

* Please use the wording shown when filling in these fields to identify that the FWP is responding to this program announcement.

A CD and three copies of the proposal would also be appreciated, submitted using the following, by U.S. Postal Service Express Mail, any commercial mail delivery service, or when hand-carried to:

Dr. Sharlene C. Weatherwax
U.S. Department of Energy
Office of Biological and Environmental Research, SC-23.1/GTN
19901 Germantown Road
Germantown, MD 20874-1290
ATTN: Program Announcement LAB 06-03.

3. Detailed Contents of the Proposal

Adherence to type size and line spacing requirements is necessary for several reasons. No researcher should have the advantage, or by using small type, of providing more text in their proposals. Small type may also make it difficult for reviewers to read the proposal. Proposals must have 1-inch margins at the top, bottom, and on each side. Type sizes must be 11 point. Line spacing is at the discretion of the researcher but there must be no more than 6 lines per vertical inch of text. Pages should be standard 8 1/2" x 11" (or metric A4, i.e., 210 mm x 297 mm).

3.1 Field Work Proposal Format (Reference DOE Order 5700.7C) (DOE ONLY)

The Field Work Proposal (FWP) is to be prepared and submitted consistent with policies of the investigator's laboratory and the local DOE Operations Office. Additional information is also requested to allow for scientific/technical merit review.

Laboratories may submit proposals directly to the SC Program office listed above. A copy should also be provided to the appropriate DOE operations office.

3.2 Proposal Cover Page

The following proposal cover page information may be placed on plain paper. No form is required.

Title of proposed project
SC Program announcement title
Name of laboratory
Name of principal investigator (PI)
Position title of PI
Mailing address of PI
Telephone of PI
Fax number of PI
Electronic mail address of PI
Name of official signing for laboratory*
Title of official
Fax number of official
Telephone of official
Electronic mail address of official
Requested funding for each year; total request
Use of human subjects in proposed project:
    If activities involving human subjects are not planned at any time during the proposed project period, state "No"; otherwise state "Yes", provide the IRB Approval date and Assurance of Compliance Number and include all necessary information with the proposal should human subjects be involved.
Use of vertebrate animals in proposed project:
    If activities involving vertebrate animals are not planned at any time during this project, state "No"; otherwise state "Yes" and provide the IACUC Approval date and Animal Welfare Assurance number from NIH and include all necessary information with the proposal.

Signature of PI, date of signature
Signature of official, date of signature*

*The signature certifies that personnel and facilities are available as stated in the proposal, if the project is funded.

3.3 Table of Contents

Provide the initial page number for each of the sections of the proposal. Number pages consecutively at the bottom of each page throughout the proposal. Start each major section at the top of a new page. Do not use unnumbered pages and do not use suffices, such as 5a, 5b.

3.4 Budget and Budget Explanation

A detailed budget is required for the entire project period and for each fiscal year. It is preferred that DOE's budget page, Form 4620.1 be used for providing budget information*. Modifications of categories are permissible to comply with institutional practices, for example with regard to overhead costs.

A written justification of each budget item is to follow the budget pages. For personnel this should take the form of a one-sentence statement of the role of the person in the project. Provide a detailed justification of the need for each item of permanent equipment. Explain each of the other direct costs in sufficient detail for reviewers to be able to judge the appropriateness of the amount requested.

Further instructions regarding the budget are given in section 4 of this guide.

* Form 4620.1 is available at web site: http://www.science.doe.gov/grants/Forms-E.html

3.5 Abstract

Provide an abstract of less than 400 words. Give the project objectives (in broad scientific terms), the approach to be used, and what the research is intended to accomplish. State the hypotheses to be tested (if any). At the top of the abstract give the project title, names of all the investigators and their institutions, and contact information for the principal investigator, including e-mail address.

3.6 Narrative (main technical portion of the proposal, including background/introduction, proposed research and methods, timetable of activities, and responsibilities of key project personnel).

The narrative comprises the research plan for the project and is limited to 15 pages (maximum). It should contain enough background material in the Introduction, including review of the relevant literature, to demonstrate sufficient knowledge of the state of the science. The major part of the narrative should be devoted to a description and justification of the proposed project, including details of the methods to be used. It should also include a timeline for the major

activities of the proposed project, and should indicate which project personnel will be responsible for which activities.

If any portion of the project is to be done in collaboration with another institution (or institutions), provide information on the institution(s) and what part of the project it will carry out. Further information on any such arrangements is to be given in the sections "Budget and Budget Explanation", "Biographical Sketches", and "Description of Facilities and Resources".

3.7 Literature Cited

Give full bibliographic entries for each publication cited in the narrative.

3.8 Biographical Sketches

This information is required for senior personnel at the institution submitting the proposal and at all subcontracting institutions (if any). The biographical sketch is limited to a maximum of two pages for each investigator.

To assist in the identification of potential conflicts of interest or bias in the selection of reviewers, the following information **must be provided in each biographical sketch.**

> **Collaborators and Co-editors:** A list of all persons in alphabetical order (including their current organizational affiliations) who are currently, or who have been, collaborators or co- authors with the investigator on a research project, book or book article, report, abstract, or paper during the 48 months preceding the submission of the proposal. Also include those individuals who are currently or have been co-editors of a special issue of a journal, compendium, or conference proceedings during the 24 months preceding the submission of the proposal. If there are no collaborators or co-editors to report, this should be so indicated.
>
> **Graduate and Postdoctoral Advisors and Advisees:** A list of the names of the individual's own graduate advisor(s) and principal postdoctoral sponsor(s), and their current organizational affiliations. A list of the names of the individual's graduate students and postdoctoral associates during the past five years, and their current organizational affiliations.

For USDA: If a proposal is recommended for funding USDA, the researcher must submit the following on Form CSREES-2007 Conflict of Interest: (a) All co-authors on publications within the past four years, including pending publications and submissions; (b) all collaborators on projects within the past four years, including current and planned collaborations; (c) all thesis or postdoctoral advisees/advisors within the past four years; and (d) all persons in your field with whom you have had a consulting or financial arrangement within the past four years, who stand to gain by seeing the project funded. This form is necessary to assist program staff in excluding from application review those individuals who have conflicts of interest with the personnel in the grant application. The program contact must be informed of any additional conflicts of interest that arise after the proposal is submitted.

3.9 Description of Facilities and Resources

Facilities to be used for the conduct of the proposed research should be briefly described. Indicate the pertinent capabilities of the institution, including support facilities (such as machine shops), that will be used during the project. List the most important equipment items already available for the project and their pertinent capabilities. Include this information for each subcontracting institution (if any).

3.10 Other Support of Investigators

Other support is defined as all financial resources, whether Federal, non-Federal, commercial, or institutional, available in direct support of an individual's research endeavors. Information on active and pending other support is required for all senior personnel, including investigators at collaborating institutions to be funded by a subcontract. For each item of other support, give the organization or agency, inclusive dates of the project or proposed project, annual funding, and level of effort (months per year or percentage of the year) devoted to the project.

3.11 Appendix

Information not easily accessible to a reviewer may be included in an appendix, but **do not use the appendix to circumvent the page limitations of the proposal.** Reviewers are not required to consider information in an appendix, and reviewers may not have time to read extensive appendix materials with the same care they would use with the proposal proper.

The appendix may contain the following items: up to five publications, manuscripts accepted for publication, abstracts, patents, or other printed materials directly relevant to this project, but not generally available to the scientific community; and letters from investigators at other institutions stating their agreement to participate in the project (do not include letters of endorsement of the project).

4. Detailed Instructions for the Budget (DOE Form 4620.1 "Budget Page" may be used).

4.1 Salaries and Wages

List the names of the principal investigator and other key personnel and the estimated number of person-months for which DOE funding is requested. Proposers should list the number of postdoctoral associates and other professional positions included in the proposal and indicate the number of full-time-equivalent (FTE) person-months and rate of pay (hourly, monthly or annually). For graduate and undergraduate students and all other personnel categories such as secretarial, clerical, technical, etc., show the total number of people needed in each job title and total salaries needed. Salaries requested must be consistent with the institution's regular practices. The budget explanation should define concisely the role of each position in the overall project.

4.2 Equipment

DOE defines equipment as "an item of tangible personal property that has a useful life of more than two years and an acquisition cost of $25,000 or more." Special purpose equipment means equipment which is used only for research, scientific or other technical activities. Items of needed equipment should be individually listed by description and estimated cost, including tax, and adequately justified. Allowable items ordinarily will be limited to scientific equipment that is not already available for the conduct of the work. General purpose office equipment normally will not be considered eligible for support.

For USDA: Nonexpendable equipment is defined as tangible property, including exempt property, charged directly to the award having a useful life of more than one year and an acquisition cost of $5,000 or more.

4.3 Domestic Travel

The type and extent of travel and its relation to the research should be specified. Funds may be requested for attendance at meetings and conferences, other travel associated with the work and subsistence. In order to qualify for support, attendance at meetings or conferences must enhance the investigator's capability to perform the research, plan extensions of it, or disseminate its results. Consultant's travel costs also may be requested.

4.4 Foreign Travel

Foreign travel is any travel outside Canada and the United States and its territories and possessions. Foreign travel may be approved only if it is directly related to project objectives.

4.5 Other Direct Costs

The budget should itemize other anticipated direct costs not included under the headings above, including materials and supplies, publication costs, computer services, and consultant services (which are discussed below). Other examples are: aircraft rental, space rental at research establishments away from the institution, minor building alterations, service charges, and fabrication of equipment or systems not available off- the-shelf. Reference books and periodicals may be charged to the project only if they are specifically related to the research.

a. Materials and Supplies

The budget should indicate in general terms the type of required expendable materials and supplies with their estimated costs. The breakdown should be more detailed when the cost is substantial.

b. Publication Costs/Page Charges

The budget may request funds for the costs of preparing and publishing the results of research, including costs of reports, reprints page charges, or other journal costs (except costs for prior or early publication), and necessary illustrations.

c. Consultant Services

Anticipated consultant services should be justified and information furnished on each individual's expertise, primary organizational affiliation, daily compensation rate and number of days expected service. Consultant's travel costs should be listed separately under travel in the budget.

d. Computer Services

The cost of computer services, including computer-based retrieval of scientific and technical information, may be requested. A justification based on the established computer service rates should be included.

e. Subcontracts

Subcontracts should be listed so that they can be properly evaluated. There should be an anticipated cost and an explanation of that cost for each subcontract. The total amount of each subcontract should also appear as a budget item.

For USDA: If consulting, collaborative arrangements, or subcontractual arrangements are included in the application, these arrangements should be fully explained and justified. The rate of pay for any consultant must be included, if known at the time of application. Letters of intent or other evidence should be provided to show that collaborators have agreed to participate. For each arrangement involving the transfer of substantive programmatic work or the provision of financial assistance to a third party, a proposed statement of work, vita, and a budget must be supplied. In multi-state/territory applications, a budget and budget narrative must be included for each state/territory involved. The lead state/territory and each participating state/territory must be identified.

4.6 Indirect Costs

Explain the basis for each overhead and indirect cost. Include the current rates.

For USDA: As prescribed by section 1462 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3310), USDA limits indirect cost rates to 19 percent of total Federal funding for applicable direct costs. Section 709 of the FY 2006 Consolidated Appropriations Act (Public Law 109-97) limits indirect costs to 20 percent of the total Federal funds provided under each award. Therefore, when preparing budgets, applicants should limit their requests for recovery of indirect costs to the lesser of their institution's official negotiated indirect cost rate or the equivalent of 20 percent of total Federal funds awarded. Another method of calculating the maximum allowable is 25 percent of the total direct costs. If no rate has been negotiated, a reasonable dollar amount (equivalent to or less than 20 percent of total Federal funds requested) in lieu of indirect costs may be requested, subject to approval by USDA. This same indirect cost limitation applies to subcontracts. If USDA funds a project through this solicitation, the indirect cost rate will be adjusted to a maximum of 20 percent, and the award

level will be adjusted accordingly. To accommodate the USDA limit on indirect costs, applicants may be required at the time of award to submit a revised budget.