

OCAST >>

Oklahoma Center for the Advancement of Science and Technology



Basic Proposal Solicitation Funding Cycle for Fiscal Year 2010

Intent Deadline:

5:00 p.m., Wednesday,
September 23, 2009

(An Intent form must be
filed by the above deadline
to be eligible to apply.)

Application Deadline:

5:00 p.m., Wednesday,
October 14, 2009

**Target Contract
Start Date:**

March 1, 2010

This Solicitation may be amended by OCAST. Amendments can be found on OCAST's web site under the section "Basic Plant Science Research Solicitation Amendments." It is the responsibility of the applicant to review any such amendments and make necessary changes in the application to meet the amended solicitation requirements.

**Oklahoma Center for the
Advancement of Science
and Technology**

755 Research Parkway, Suite 110
Oklahoma City, OK 73104
Office: 405-524-1357, 1-866-265-2215
FAX 405-319-8426

Proposal preparation workshop dates,
locations and registration information are
available on the OCAST web site.

This solicitation with editable forms is
available at:

<http://www.ocast.ok.gov>

Online tools are optional and are not
required to prepare an application.

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OKLAHOMA BASIC PLANT SCIENCE RESEARCH PROGRAM FY10 FUNDING COMPETITION PROPOSAL SOLICITATION

Oklahoma Center for the Advancement of Science and Technology (OCAST)

PLEASE NOTE: An applicant can hold *one* Principal Investigator position for either a basic or applied Plant Science Research project and *one* Co-Principal Investigator position for an applied project during the FY 2010 competition funding year; Co-Principal Investigators are not allowable on basic research projects.

PROGRAM DESCRIPTION

The Basic Plant Science Research program provides seed funding to superior research projects conducted by Oklahoma-based investigators for the multiple purposes of 1) enhancing the competitiveness of Oklahoma researchers for national and international research funds; 2) furthering plant science and its application to the benefit of society; and 3) strengthening the state's biosciences industry.

Under this program, OCAST awards competitive plant science funds, through professional services contracts, to public and independent colleges and universities in Oklahoma, non-profit research institutions in the state and for-profit enterprises of special importance to the Oklahoma economy. Research funded under this program includes, but is not limited to, plant productivity, alternative use crops for bioenergy, environmental applications, chemical platforms, seed management and plant-based process applications.

The Oklahoma Plant Science Research program funds basic projects for one to two years at a minimum of \$10,000 and a maximum of \$45,000 per year. Funding awards are made on a year-by-year basis. Neither approval of a multiple-year award nor funding of any year of a contract shall automatically lead to funding in subsequent years. For each year originally awarded, funding shall be dependent upon a satisfactory annual performance evaluation and the availability of funds.

ELIGIBLE ORGANIZATIONS

Eligible organizations shall be located primarily in Oklahoma and be (1) an institution of higher education, (2) a non-profit research foundation, or (3) a private enterprise (74 O.S., Sections 5060.53/54). The "investigators are residents of the state or become residents of the state before the ninetieth day after a professional service contract has been funded by OCAST" (74 O.S., Sections 5060.54). An investigator is defined as "a person who proposes research projects and is primarily responsible for the execution of the proposed projects" (74 O.S., Section 5060.4).

ELIGIBLE APPLICANTS

The *Principal Investigator* is commonly referred to as the PI. The PI submitting an application shall be employed by, or affiliated with, an eligible applicant organization. *Investigator* is statutorily defined as

...a person who proposes research projects and is primarily responsible for the execution of the proposed projects and is employed by, or affiliated with, an institution of higher education, a non-profit research institution in Oklahoma, or a private enterprise.

INELIGIBLE PROJECTS

Projects that focus upon the following are ineligible for funding:

1. market surveys, and
2. training or technical assistance for enterprises.

* Please note that the Oklahoma Technology Commercialization Center (Tech Center) does have support for these types of projects. The Tech Center may be contacted at: i2E, Inc., 840 Research Parkway, Suite 250, Oklahoma City, OK 73104, 405-235-2305, www.i2e.org.*

EVALUATION CRITERIA

In general, in addition to evaluating the **appropriateness of the budget**, peer reviewers evaluate applications for scientific merit according to the following criteria:

1. **Significance.** Does the research address an important problem? If the aims of the application are achieved, how will scientific knowledge be advanced? What will be the effect of this research on the concepts, methods, technologies, services, or products that drive this field?
2. **Approach.** Are the conceptual framework, design, methods, and analyses, adequately developed, well integrated, well reasoned, and appropriate to the aims of the project? Does the applicant acknowledge potential problem areas and consider alternative tactics?
3. **Innovation.** Is the program original and innovative? For example, does the project challenge existing paradigms or address an innovative hypothesis or critical barrier to progress in the field? Does the project develop or employ novel concepts, approaches, methodologies, tools or technologies for this area?
4. **Investigators.** Are the investigators appropriately trained and well-suited to carry out this work? Is the work proposed appropriate to the experience level of the principal investigator and other researchers? Does the investigative team bring complementary and integrated expertise to the project (if applicable)?
5. **Environment.** Does the scientific environment in which the work will be done contribute to the probability of success? Does the proposed project benefit from unique features of the scientific environment, or subject populations, or employ useful collaborative arrangements? Is there evidence of institutional support?

ECONOMIC DEVELOPMENT

Research under the Basic Plant Science Research program is early stage and may require many years to have a meaningful impact. OCAST asks reviewers to recognize this and consider the underlying research. **Commercialization potential is not a review criterion for this program.**

REVIEW PROCESS

All applications are reviewed and ranked for funding by peer reviewers, the majority of whom reside outside the state of Oklahoma. All reviewers are approved by an advisory committee to OCAST.

Reviewer recommendations are presented to the Oklahoma Science & Technology Research & Development (OSTRaD) Board, which grants final approval for funding. The budget amount for each project recommended for funding is established by the reviewers and cannot be changed after the date of the award.

REPORTING

Recipients are required annually to complete an *Impact Survey for Funded Projects*. Continued funding of an active OCAST service contract may be affected if the requested information is not received. By applying for a service contract, the principal investigator and the awarded institution become obligated to provide OCAST with the requested information. Principal investigators may be required to respond after the project is completed, if the project continues to produce impacts.

PERFORMANCE EVALUATION

Acceptance of a professional service contract obligates the principal investigator to submit an annual progress report sixty (60) days prior to the ending date of such contract period, except for the final contract period. A final report must be submitted thirty (30) days after the end of the final contract.

Annual project performance is evaluated by reviewers, the majority of whom reside outside the state of Oklahoma. **Continued funding is contingent upon satisfactory annual performance evaluations that verify that the PI is complying with the terms of the contracts and achieving project objectives.** Late submission of an annual progress report may result in a break between contract periods or project termination.

Evaluation of the OPSR program requires the periodic collection of information from investigators and contractors during and beyond the contract period(s). The PI and contractor must provide OCAST with the requested information during and after the funding period. This information may include, but is not limited to, Impact Survey Data, Site Visits, and Reverse Site Visits where the PI may be required to present his or her OPSR funded project related information to OCAST staff, the OSTRaD Board, members of the Oklahoma legislature, and other interested parties.

AUDITS

Oklahoma Center for the Advancement of Science and Technology will perform compliance reviews and audits of contracts executed by the agency for all OCAST programs including Plant Science Research Program. The acceptance of a Plant Science Research professional research

contract obligates the contractor to permit authorized representatives of OCAST and the state of Oklahoma to have full access to, and the right to fully examine, all such records and documentation pertaining to the project.

PREVIOUS RECIPIENT ELIGIBILITY

Any PI previously funded through an OCAST program who has a **delinquent progress report** or has not responded to other OCAST requests for information, such as impact survey data or special reports, will not be eligible to submit an application for new project funding. Any PI who has a delinquent progress report at the time of review will not be eligible for review. Any PI with a delinquent progress report at the time of award will not receive a contract until the progress report has been submitted. In the latter case, if the delinquent report has not been submitted within (60) days of the award date, OCAST will nullify the award and return the monies to the Oklahoma Plant Science Research fund.

SUBMISSION REQUIREMENTS

Oklahoma City OCAST Office:

OCAST
Programs Division
755 Research Parkway
Suite 110
Oklahoma City, OK 73104-3612

Applications are also accepted in the Tulsa office:

OCAST
Tulsa OSU campus
Main Hall
700 N. Greenwood Ave., Suite 1400
Tulsa, OK 74106-6263
Phone: 918-594-8118

1. Statement of Intent form

Only those who have submitted the required Statement of Intent by the intent deadline are eligible to submit an application. Intents must be submitted to the Oklahoma City office. After the deadline, OCAST will assign an OPSR project number and e-mail that number to the PI. Each applicant is required to place that number on the top right corner box of the OPSR application.

Statements of Intent may be faxed to 405-319-8426. It is the responsibility of the PI to ensure that OCAST receives the intent by the deadline. The OCAST fax machine may be overloaded or otherwise inoperable close to the deadline. Intents will not be accepted by e-mail.

Statement of Intent Form Deadline: 5:00 P.M., September 23, 2009

2. Application Materials

The application must be received at the Tulsa or Oklahoma City OCAST office before the deadline. This solicitation with editable forms is available online at www.ocast.ok.gov. Online tools are optional and are not required to prepare an application. **Applications will not be accepted via facsimile, e-mail or in any electronic format.** No supplemental material related to the application will be accepted after the deadline except at the request of OCAST. OCAST may return applications that are judged incomplete or inappropriately completed without review.

Application Submission Deadline: 5:00 P.M, October 14, 2009.

Applications are also accepted in the Tulsa office:

**OCAST
Tulsa OSU campus
Main Hall
700 N. Greenwood Ave., Suite 1400
Tulsa, OK 74106-6263
Phone: 918-594-8118**

Important Note Concerning Intent and Application Deadlines.

A Statement of Intent or Application that has been logged into a commercial delivery service with “delivery guaranteed” before 5:00 pm on the day of the applicable deadline will be accepted if the applicant can provide acceptable documentation that the Statement of Intent or Application was provided to the delivery service with delivery to the address above guaranteed prior to the applicable deadline date and time. OCAST recommends that all documents be submitted to OCAST several days prior to the deadline. **NO STATEMENTS OF INTENT OR APPLICATIONS WILL BE ACCEPTED AFTER THE DEADLINES. NO EXCEPTIONS ARE MADE.**

Required Materials

Each OPSR application must include the following materials:

Number of Sets	Contents
1	Original paper application, marked “original,” with appendices attached (stapled or fastened with a binder clip in the upper left corner). Prepare required Application Page forms 1-9(b) (Items 1-23) as provided. Refer to Required Attachments pages 1-7 (Items 24-33) for instructions to prepare text sections of the application including, presentation order and headings.
1	Paper set of Application Pages: 1-9(b) (Items 1-23) staple each set in upper left corner. Include in each set Items 23 and 23A for each budget year of project.
1 CD	File containing the entire application in (PDF) format including appendices.

Each OPSR application must include one signed paper original of the entire proposal(s) and one set of Application Pages 1- 9(b) (Items 1-23B). Include in each set Items 23 – 23B for each budget year(s) requested. A CD containing an electronic copy of the entire proposal as a single file using the Adobe Acrobat (.pdf) must be submitted. PSB10-XXX First Name Last Name.pdf, where XXX is the PI's three digit project number received from OCAST upon submission of the Statement of Intent Forms(s) (e.g., PSB10-001 Jessica Vinson.pdf). For identification purposes, the CD must be marked by a permanent marker or printed label using the above example.

RELEASE OF INFORMATION

OCAST is subject to the Open Meetings Act and the Open Records Act. However, information submitted to or compiled by OCAST with respect to marketing plans, financial statements, trade secrets, research concepts, methods or products, or any other proprietary information is confidential. OCAST may use the contents from the OPSR Statement of Intent, application abstracts and executive summaries from progress reports for publication without obtaining permission from the applicant or applicant organization.

CONTRACT-RELATED INFORMATION

Oklahoma statute requires that the mechanism for funding OPSR projects be a professional services contract between OCAST and the applicant organization(s). The Contractor is the applicant organization(s) which: 1) employs or is affiliated with the PI 2) provides research services and/or facilities for the funded project, and 3) executes the contract. If there is any inconsistency between the information contained in this Solicitation and the terms of any resulting contract, the terms of the contract are controlling.

If more than one applicant organization is involved, all applicant organizations shall be signatories to the contract; one of the parties shall be designated as the fiscal agent to receive and account for all funds. The contract shall include commitments on the part of the Contractor(s) to perform the activities described in the application and funded by OCAST. However, the obligations of each party to a contract shall be limited to that portion of the contract they have committed to perform.

Any applicant organization or principal investigator who, in OCAST's judgment, has failed to correct a material breach of contract previously awarded under any of OCAST programs will not be eligible to be awarded a new funding contract.

If a PI under an OPSR contract becomes unable to perform the proposed research, the applicant organization must inform OCAST within 10 days:

1. The official notification of resignation by the PI as an employee of one of the parties to the contract;
2. The official decision to terminate the PI as an employee of one of the parties to the contract;
3. The inability of the PI to perform the research described in the application;
4. Any occurrence which the Contractor or Fiscal Agent determines will affect the successful completion of the research project;

5. The PI leaves Oklahoma;
6. The majority of the research is not performed in Oklahoma;
7. The receipt of notification of award of concurrent funding by the PI to support any portion(s) of the research, which is supported by OCAST funds.

Any of the conditions in 1-7 above may result in the termination of the contract at the discretion of OCAST. If the PI is subsequently employed by another eligible applicant organization in the state of Oklahoma that agrees to support the research project, OCAST may consider issuing a new contract negotiated between OCAST and the new organization. If a PI cannot perform on a contract, the applicant organization may request that OCAST consider continuing the contract with a new PI.

The Contractor shall be responsible for the following:

Assuring and documenting compliance with state and federal requirements pertaining to human subjects, vertebrate animals, recombinant DNA, radioactive substances, narcotics and dangerous drugs, and/or biological hazards, which require special approval or license, before issuing a subcontract for any portion of the project funded by OCAST.

Maintaining records and accounts that properly document and account for the source and application of all project funds. All such records and accounts shall be made available on demand by OCAST for inspection and used in carrying out its responsibilities for administration of the funds.

Complying with the audit policy of OCAST and, as OCAST deems necessary, permitting authorized representatives of OCAST and the state of Oklahoma full access to, and the right to fully examine, all project records and accounts. The Contractor, or designated fiscal agent, shall provide OCAST timely copies of reports on any audits that include funds received from OCAST. The Contractor, at OCAST's request, shall provide OCAST with an independent audit report of all funds expended on each OCAST contract in which the amount of OCAST funds are awarded. In the event an audit results in the determination that the Contractor, or designated fiscal agent, has expended contract funds on unallowable costs, the Contractor, or designated fiscal agent, shall reimburse OCAST in full for all such costs.

WORKSHOPS

Proposal preparation workshops are presented by OCAST staff at no charge.

The workshops cover specifics of the solicitation with an emphasis on the instructions and procedures associated with preparing an application. These workshops are attended by proposal writers, as well as administrators at companies and institutions of higher education who wish to gain an insight into budgeting. Workshop registration is available online at www.ocast.ok.gov/.

Application Preparation Workshops - 10:00-12:00 pm

Date	Location
September 8, 2009	Stillwater
September 9, 2009	Tulsa
September 10, 2009	Ardmore
September 15, 2009	Oklahoma City
September 16, 2009	Ada

Name of Principal Investigator:

Oklahoma Basic Plant Science Research Program FY10 Statement of Intent

ONLY THOSE WHO HAVE SUBMITTED A STATEMENT OF INTENT ON OR BEFORE THE INTENT DEADLINE ARE ELIGIBLE TO SUBMIT AN APPLICATION. A Statement of Intent is required for each proposal submitted. Intents may be faxed to meet the deadline, which is **September 23, 2009 at 5:00 PM**; however, the applicant assumes the risk that the OCAST fax machine may be overloaded or otherwise inoperable close to the deadline. Intents should be mailed, faxed, or delivered to the following address:

OCAST
Programs Division
755 Research Parkway, Suite 110
Oklahoma City, Oklahoma 73104
Fax: (405) 319-8426

1. Principal Investigator (PI) Information. This person receives official notices prior to proposal submission.

Name:		Terminal Degree
Position or Title:		
Organization of Principal Investigator:		
Mailing Address: (include department, division or equivalent no P.O. Box numbers)		Phone:
		Fax:
E-mail:	URL: http://	
Signature of PI		Date

2. Title of proposal. May differ from final proposal, do not exceed 56 spaces.

3. Estimated request for OPSR funds. This amount may differ from final proposal.

Year 1 \$	Year 2 \$
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4. Five scientific or technical keywords that describe the research project.

Name of Principal Investigator:

5. Describe the proposed project. Do not exceed 100 words.

6. Will any of these be used in the project?

Human subjects		Yes	<input type="checkbox"/>	No
Biological hazards		Yes	<input type="checkbox"/>	No
Vertebrate animals		Yes	<input type="checkbox"/>	No
Narcotics/dangerous drugs		Yes	<input type="checkbox"/>	No
Recombinant DNA		Yes	<input type="checkbox"/>	No
Radioisotopes		Yes	<input type="checkbox"/>	No

7. Research Area. From the chart select a single research area that best describes the research.

<input type="checkbox"/> AGROCHEMICALS <input type="checkbox"/> BIOCHEMISTRY <input type="checkbox"/> BIOMASS CONVERSION <input type="checkbox"/> ECOLOGY <input type="checkbox"/> ENABLING BIOTECHNOLOGIES <input type="checkbox"/> ENERGY CROP PRODUCTION <input type="checkbox"/> ENVIRONMENTAL ISSUES <input type="checkbox"/> OTHER <i>Research/Science/Technology Area Not Listed Above</i> <i>*Specify</i> _____	<input type="checkbox"/> FOREST PRODUCTS <input type="checkbox"/> GENETICS <input type="checkbox"/> MOLECULAR BIOLOGY <input type="checkbox"/> NUTRITION/PUBLIC HEALTH <input type="checkbox"/> PROCESS APPLICATIONS <input type="checkbox"/> SEEDS <input type="checkbox"/> WHOLE PLANT PHYSIOLOGY
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8. Signature of Principal Investigator

	Date:
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Oklahoma Basic Plant Science Research Program FY10 Proposal Application

1. **Title.** Limited to 56 characters.

2. **Amount of OCAST Funds Requested.**

Year 1 \$	Year 2 \$
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3. **OPSR Project.** Check one.

Resubmission	<input type="checkbox"/> Yes	<input type="checkbox"/> No	If so, what year?
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4. **Research Area.** Check one category.

<input type="checkbox"/> AGROCHEMICALS	<input type="checkbox"/> FOREST PRODUCTS
<input type="checkbox"/> BIOCHEMISTRY	<input type="checkbox"/> GENETICS
<input type="checkbox"/> BIOMASS CONVERSION	<input type="checkbox"/> MOLECULAR BIOLOGY
<input type="checkbox"/> ECOLOGY	<input type="checkbox"/> NUTRITION/PUBLIC HEALTH
<input type="checkbox"/> ENABLING BIOTECHNOLOGIES	<input type="checkbox"/> PROCESS APPLICATIONS
<input type="checkbox"/> ENERGY CROP PRODUCTION	<input type="checkbox"/> SEEDS
<input type="checkbox"/> ENVIRONMENTAL ISSUES	<input type="checkbox"/> WHOLE PLANT PHYSIOLOGY
<input type="checkbox"/> OTHER <i>Research/Science/Technology Area Not Listed Above</i>	
*Specify: _____	

5. **Principal Investigator (PI) Information.**

Name of Principal Investigator	Terminal Degree
Position or Title	
Address: <i>Include Organization and Department, Division or Equivalent; no P.O. Box numbers.</i>	Phone
	Fax
	County
E-mail	URL http://
I hereby accept responsibility for the scientific conduct of the project and for providing the materials required for contract performance evaluation. I give consent for the materials in this application to be viewed, as required by members of the OCAST staff, Board, Plant Science Research Committee and review panels.	
Signature of PI	Date

6. **Research performance site physical location** (name of organization and address)

PI Name:	Project Number: PSB10 -
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7. Official Signing for applicant organization

Name	
Title	
Name of Applicant Organization	
Address: <i>Include Organization and Department, Division or Equivalent; no P.O. Box numbers</i>	Phone
	Fax
	County
E-mail	URL http://
Organization NAICS code	Organization Federal Employee Identification Number (FEI)

8. Designated contract official

Show official designated as the Contracting Official for the project. This is the official to whom OCAST will send all award of contract correspondence including (1) the award letter, (2) requests for information and documentation, (3) the initiated contract, (4) the executed contract and (5) progress report and performance evaluation information and requests. If multiple applicants, the designated Contracting Official is responsible for sharing contractual information with all other applicant organizations.	
Name	
Title	
Name of Applicant Organization Acting as Designated Contract Official	
Address: <i>Include Organization and Department, Division or Equivalent; no P.O. Box numbers</i>	Phone
	Fax
	County
E-mail	URL http://

9. Signature of official signing for applicant organization

Certification and acceptances. I certify that the statements and budget figures herein are true and complete. I accept the obligation to comply with the laws of the state of Oklahoma and the requirements of OCAST as they pertain to the performance of this project. I further affirm that none of the funds provided for this project will be used to undertake any research which has abortion as its propose as defined in Oklahoma Statute (O.S. 63, Sections 1 - 730)	
Signature of official signing for applicant organization	Date

PI Name:	Project Number: PSB10 -
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10. *Signature of principal investigator*

I hereby accept responsibility for the scientific conduct of the project, for providing the materials required for annual contract performance evaluation and for providing the information requested in the annual project impact survey. I give consent for the materials in this application to be viewed, as required, by members of the OCAST staff, board, PSRC and review panels. I further affirm that none of the funds provided for this project will be used to undertake any research which has abortion as its purpose as defined in Oklahoma Statute (O.S. 63, Sections 1 - 730)

Signature of principal investigator	Date

11. *Performance Sites.*

(Please include the name of the organizations, department or division, address, county, telephone numbers, e-mail and web site.)

Regulatory Compliance.

IMPORTANT: ITEM 31 PROVIDES INSTRUCTIONS FOR PREPARING THIS FORM AND APPENDIX I.

12. Human Subjects?

Is institutional approval pending?

<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
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Is institutional approval in Appendix I?

<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
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<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
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13. Vertebrate Animals?

Is institutional approval pending?

<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
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Is institutional approval in Appendix I?

<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
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<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
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14. Recombinant DNA?

Is institutional approval pending?

<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
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Is institutional approval in Appendix I?

<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
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<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
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15. Biological hazards? (If Yes, complete Section D of Appendix I)

<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
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16. Narcotics/Dangerous Drugs?

<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
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If the registrant is not the PI, state name and address of the individual whose registration number from the Oklahoma State Bureau of Narcotics and Dangerous Drugs and the U. S. Drug Enforcement Administration will be used.	
Name:	
Telephone:	e-mail:
Address:	
Use number:	

17. Radioisotopes?

<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
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State name, address and radioactive use number of the individual under whom radioisotopes will be purchased, stored and used.	
Name:	
Telephone:	e-mail:
Address:	
Use number:	

18. *Statement of purpose*

Describe in 150 words or less how the proposed project fulfills one or more the following purposes: plant productivity, renewable biomass, plant-based environment applications and chemical platforms, plant-based solutions to improve nutrition, human and/or animal health or performance, process applications, and seed management and the development of new products and services that shall form the basis of new, high technology plant science/agriculture industry for this state.

PI Name:**Project Number: PSB10 -****19. Complete the Table of Contents page numbers.**

Required Forms	Page
Application Forms (Items 1 –18)	1 - 5
Table of Contents (Item 19)	6
Abstract (Item 21)	7
Budget (Item 23), Sub-contract Budget if needed (Item 22.A) – Do not include unused pages.	8, a, b
	9, a, b
Required Attachments	
Budget Justification Pages (Item 24)	
Biographical Information and Other Support (Item 25)	
Previous OCAST Support, and Other Support (Item 26)	
Facilities, instrumentation and resources (Item 27)	
Letter of Commitment (Item 28)	
Research Plan (Item 29)	
Literature Cited (Item 30)	
Appendix I (Item 31) IRB Materials and Certifications	
Appendix II (Item 32) Resubmission Materials	
Other Appendix (Item 33) Additional Appendices - 5 page limit	

20. Title. Limited to 56 characters.

21. Abstract. Within the space provided, concisely describe the proposal including specific aims and methodology, with special reference to its long-term benefit.

22. Five Scientific key words

PI Name:	Project Number: PSB10 -
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Prepare a budget for each year.

23. Project Budget. Direct Costs Only. In addition, carefully prepare a Budget Justification to accompany each year that is requested (see Item 24).

Year 1

Personnel Applicant Organization(s) Only		Effort	Amount Requested (In Dollars Only)		
Name	Title or Position	HR/WK	OCAST	Matching	TOTALS
	PI		-0-	-0-	-0-
Subtotal					
Travel					
Subtotal					
Supplies (Itemize by category)					
Subtotal					
Equipment (List items over \$500)					
Subtotal					
Contractual Services (Itemize, if over \$2,000 use 22A)					
Subtotal					
Patient Care Cost		OUTPATIENT			
		INPATIENT			
Alterations and Renovations					
Subtotal					
Other Direct Costs (Itemize)					
Subtotal					
TOTAL DIRECT COSTS					

OCAST Approval:	Date:
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Prepare a Contract budget for each year.

23A. Contractual Service Breakout. Include and complete this form if Contract Services on Item 23 is over \$2,000. Direct Costs Only. In addition, carefully prepare a Budget Justification to accompany each year that is requested (see Item 24).

Year 1

Personnel Applicant Organization(s) Only		Effort	Amount Requested (In Dollars Only)		
Name	Title or Position	HR/WK	OCAST	Matching	TOTALS
Subtotal					
Travel					
			Subtotal		
Supplies <i>(Itemize by category)</i>					
			Subtotal		
Equipment <i>(List items over \$500)</i>					
			Subtotal		
Contractual Services <i>(Itemize)</i>					
			Subtotal		
Patient Care Cost	OUTPATIENT				
	INPATIENT				
Alterations and Renovations					
			Subtotal		
Other Direct Costs <i>(Itemize)</i>					
			Subtotal		
TOTAL DIRECT COSTS					

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OCAST Approval:	Date:
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PI Name:	Project Number: PSB10 -
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Prepare a budget for each year.

23. Project Budget. Direct Costs Only. In addition, carefully prepare a Budget Justification to accompany each year that is requested (see Item 24).

Year 2

Personnel Applicant Organization(s) Only		Effort	Amount Requested (In Dollars Only)		
Name	Title or Position	HR/WK	OCAST	Matching	TOTALS
	PI		-0-	-0-	-0-
Subtotal					
Travel					
Subtotal					
Supplies (Itemize by category)					
Subtotal					
Equipment (List items over \$500)					
Subtotal					
Contractual Services (Itemize, if over \$2,000 use 22A)					
Subtotal					
Patient Care Cost		OUTPATIENT			
		INPATIENT			
Alterations and Renovations					
Subtotal					
Other Direct Costs (Itemize)					
Subtotal					
TOTAL DIRECT COSTS					

OCAST Approval:	Date:
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PI Name:	Project Number: PSB10 -
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Prepare a Contract budget for each year.

23A. Contractual Service Breakout. Include and complete this form if Contract Services on Item 23 is over \$2,000. Direct Costs Only. In addition, carefully prepare a Budget Justification to accompany each year that is requested (see Item 24).

Year 2

Personnel Applicant Organization(s) Only		Effort	Amount Requested (In Dollars Only)		
Name	Title or Position	HR/WK	OCAST	Matching	TOTALS
Subtotal					
Travel					
Subtotal					
Supplies <i>(Itemize by category)</i>					
Subtotal					
Equipment <i>(List items over \$500)</i>					
Subtotal					
Contractual Services <i>(Itemize)</i>					
Subtotal					
Patient Care Cost	OUTPATIENT				
	INPATIENT				
Alterations and Renovations					
Subtotal					
Other Direct Costs <i>(Itemize)</i>					
Subtotal					
TOTAL DIRECT COSTS					

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OCAST Approval:	Date:
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Oklahoma Basic Plant Science Research Program

FY10 PROPOSAL APPLICATION

REQUIRED ATTACHMENTS

IMPORTANT NOTE: STRICTLY ADHERE TO THE FORMAT PRESCRIBED.

Items 24 through 35 in the application section are prepared on 8 ½ x 11-inch white paper with not less than 0.5-inch margins with a font size not smaller than 10-pt, with single to 1.5 spacing. Fonts for the text of the proposal must be Arial, Helvetica, Palatino, Computer Modern, or Georgia. Use the presentation order and headings as shown below. Section text length page limitations include text, inserted graphs, charts, and figures as part of the total section page length. If a section is not applicable, it must be acknowledged by number and title and indicated as “Not Applicable.” The name of the PI should appear on **every page** of the application attachments in the upper left corner.

Do not use binders or notebooks, rubber bands, or regular paper clips. OCAST recommends a black binder clip or staple in the left corner and colored sheets to set-off major sections of the proposal as reviewers find such proposals easier to read. Do not type text on colored sheets.

24. Budget justification. Required attachment (4 pages maximum). Carefully prepare a detailed accompanying explanation of the budget. The budget justification section plays an important role in the review process. Award amounts are established by the reviewers and cannot be modified after the date of award. Excessive or unexplained costs are cut by reviewers. Request only the amount necessary to conduct the research. Complete the required items for **each** year of requested funding. List the costs requested for performance of the proposed project. If obvious budget items are omitted, the PI should provide information in the Budget Justification regarding the alternative resources available.

Personnel. Monies from the Oklahoma Plant Science Research Fund may not be used to replace or augment any part of the salary of (1) any full-time faculty member at an Oklahoma college or university or (2) any person of equivalent status in an organization other than a university or college if he or she is the PI or collaborator on an Oklahoma Plant Science Research Contract. Salaries or stipends for technicians, postdoctoral associates, students or other staff important to the success of the project are appropriate personnel costs which may become part of a professional service contract.

List the names and positions of all personnel involved in the project, both professional and nonprofessional, whether or not salaries are requested. Estimate the hours per week on the project for all personnel. List the dollar amounts separately for each individual for salary and fringe benefits. Fringe benefits may be requested to the extent that they are treated consistently by the applicant organization as a direct cost to all sponsors.

Note: For each professional, state the hours per week the project will be worked on. In computing salary charges to an Oklahoma Plant Science Research Contract, an individual's base salary must represent the total authorized annual compensation that an applicant organization would be prepared to pay for a specified work period, whether an individual's time is spent on government sponsored research, teaching or other activities. The base salary must exclude income that an individual may be permitted to earn outside of full-time duties to the applicant organization.

Professional travel. Describe including the purpose of the travel, the number of trips, the destination and the number of individuals for whom funds are requested. The Reviewer

approved amount may not be increased and budgeted funds do not carry over to a subsequent contract year.

Supplies. Itemize supplies such as glassware, chemicals and animals in separate categories. If animals are involved, state how many are to be used, their unit purchase cost and their unit care cost.

Equipment. List separately each item of equipment with a unit acquisition cost of \$500 or more. In most cases, reviewers have denied requests for computers unless they are dedicated to the project.

Subcontracted services. Itemize and justify any work on the project that is going to be contracted.

Patient care costs. Include inpatient and outpatient charges only if they are an integral part of the research supported by a professional service contract. Provide the names of the hospitals to be used and the amounts requested for each. Indicate in detail the basis for estimating costs in this category, including the number of patient days, estimated cost per day and cost per test or treatment. Patient care costs do not include patient travel and per diem costs; request these costs in the *Other Expenses* category.

Alterations and renovations. Costs of building construction per se are not permissible charges. If the costs of essential alterations of facilities are requested (i.e., repairs, removal or installation of partitions, shielding or air conditioning), itemize such costs by category and justify each fully. When applicable, indicate the square footage involved and provide the basis for the costs, such as an architect's or contractor's detailed estimate. When possible, submit a line drawing of the alterations being proposed.

Other direct costs. Itemize other expenses, such as publication costs, page charges and books by category and unit cost. Itemize and justify such items as patient travel and per diem costs, donor fees, rentals, leases and computer costs. Reimbursement is allowable for personal expenses incurred by human subjects participating in the project, including travel with an escort if required. This reimbursement is applicable for all classes of research subjects, including inpatients, outpatients, donors and normal volunteers regardless of employment status. Travel associated with data gathering must be listed in this category, fully explained and detailed (miles, number of trips, duration, number of participants, travel locations, etc.) in the Budget Justification.

Indirect costs are disallowable. If an organization requires direct cost reimbursement for project-specific utility or compliance costs, these should appear as specific line items in the budget along with both the method of calculation and an explanation for their inclusion.

25. *Biographical Information and Other Support. Required attachment (4 pages maximum for each individual).* Begin with the PI. Do not designate co-principal investigators for a Basic Plant Science Research Project.

Name and Title

Education (provide education, baccalaureate through postdoctoral; include institution and location, degree year conferred and field of study; begin with baccalaureate or other initial professional education, such as nursing or biotechnology associates degree.)

Positions and Honors. List in chronological order previous positions, concluding with your present position. List any honors.

A. Selected Publications

B. Research Support

For each project give the source of the support, identifying number, project title, name of investigator, time or percent of effort on the project by the professional named, annual direct costs and entire period of support. If part of a larger project, provide the titles of both the parent grant and the subproject and give the annual direct costs for each. Briefly describe the contents of each item. If any of these overlap, duplicate or are being replaced or supplemented by the present application, justify and delineate the nature and extent of the scientific and budgetary overlaps or boundaries. Include abstracts (does not count as a part of the page limit, when attached as a separate page(s) within this section) of all funded and pending grants.

- i. **List and attach abstracts for selected ongoing and completed (during the past three years) research projects. Begin with the projects that are most relevant to the research proposed in this application. Briefly indicate the overall goals of the projects and responsibilities of the person listed.**
- ii. **List applications pending review.**
- iii. **List applications planned to be submitted prior to the anticipated start date of the Oklahoma Plant Science Research award.**

26. **Previous OCAST funding. Required attachment (1 page maximum).** If a previous recipient of OCAST funding, list all awards and briefly describe the results of these efforts (e.g. publications and non-OCAST funding received).
27. **Facilities, instrumentation and resources. Required attachment (1 page maximum).** Describe any specialized facilities, instrumentation and/or resources necessary and available for this project.
28. **Letter of Commitment. Required attachment.** OCAST requires all applicants to submit a *Letter of Commitment* from an official authorized to commit the resources of the applicant organization (i.e., department, division, or unit head) detailing organizational plans and commitments on the applicant's behalf. These comments should include plans and commitments beyond the tenure of the proposed research. The letter should also include commitments for such items as equipment, computer services, facilities, and release time for key personnel and/or technical and clerical support which the organization will provide for the project. This information is essential to document that applicants will have the facilities and time necessary to conduct the proposed research and the opportunity to follow-up promising results.

Letters of Recommendation. OCAST encourages applicants in the early stages of their research careers to also submit up to two (2) letters of recommendation from individuals able to evaluate the applicant's scientific potential.

29. **Research plan. Required attachment (15 pages maximum, counting figures, graphs, and charts).** This section should be carefully prepared. **It must contain a detailed description of the proposed work to be undertaken in the format shown below.** Applications lacking a complete Research Plan may be returned without review.

Organize sections 1 - 4 of the Research Plan to answer these questions: (A) What do you intend to do? (B) Why is the work important? (C) What has already been done? (D) How are you going to do the work? The Research Plan should be prepared in the following format:

Specific Aims: List the broad, long-term objectives and the goal of the specific research proposed. e.g., to test a stated hypothesis, create a novel design, solve a specific problem, challenge an existing paradigm or clinical practice, address a critical barrier to progress in the field, or develop a new technology.

Background and Significance: Briefly sketch the background of the proposed project, critically evaluate existing knowledge and specifically identify the gaps that the project is intended to fill. State concisely the importance of the research described in this application by relating the specific aims to longer-term objectives. If the aims of the application are achieved, state how scientific knowledge or clinical practice will be advanced. What is the innovation? Describe the effect of these studies on the concepts, methods, technologies, treatments, services or preventative interventions that drive this field.

Preliminary Studies: Provide an account of the PI's progress, which led to formulating the proposed project, as well as any other information that will assist the reviewers in assessing the competence of the PI for performing the project.

Research Design and Methods: Discuss in detail the research design and the clinical framework, procedures, and analyses to be used to accomplish the specific aims of the project. Describe the protocols to be used. Provide a tentative sequence or timetable for the investigation. Include the means by which the data will be analyzed and interpreted. Discuss any new methodology and its advantage over existing methodologies. Discuss the potential difficulties and limitations of the proposed procedures and the alternative approaches to achieve the aims. Point out any procedures, situations or materials that may be hazardous to personnel and the precautions that will be exercised.

30. Literature cited. Required attachment. The literature cited does not count toward the page limitations. **Do not scatter complete literature citations throughout the text. Number the references in order of appearance, and provide the complete citations, which correspond to the numbers, in a list at the end of the Research Plan.** Each citation must include the names of all the authors, the name of the book or journal, volume number, page numbers and year of publication. Although no page limitation is specified for this part of the application, make every attempt to be judicious in compiling a relevant and current bibliography.

31. Appendix I. Institutional Approvals and Certifications Required attachment.

Institutional approvals and certifications are not required at the time of submission of the application or prior to the OCAST peer review process, unless the applicant organization requires such approval prior to submission. If approvals have been received, include documentation of institutional approval and certifications in Appendix I.

No OCAST Plant Science Research award will go to contract without institutional approvals and/or certifications when the research involves:

human participants, human derived materials, human data
vertebrate laboratory animals
recombinant DNA
biological hazards
narcotics/dangerous drugs
radioisotopes

On a separate sheet(s) address the following issues (as needed) below and include in Appendix I:

Human Subjects. First, identify the sources of the potential human subjects, human derived materials or human data. Describe the characteristics of the subject population, state the anticipated number, age, gender, ethnic background and state of health. Identify the criteria for inclusion or exclusion. Explain the rationale for the use of special classes of subjects, such as fetuses, pregnant

women, children, institutionalized mentally disabled, prisoners or others, especially those whose ability to give voluntary informed consent may be in question.

Second, describe the recruitment and consent procedures to be followed, including the circumstances under which consent will be solicited and obtained, who will seek it, the nature of information to be provided to prospective subjects and the methods of documenting consent. (A copy of the consent form must be provided if requested by OCAST.)

Third, describe any potential risks--physical, psychological, social, legal or other--and assess their likelihood and seriousness. Describe alternative methods, if any, that were considered and why they need not be used.

Fourth, describe the procedures for protecting against or minimizing any potential risks and include an assessment of their likely effectiveness. Include a discussion of confidentiality safeguards, where relevant, and arrangements for providing medical treatment if needed.

Fifth, describe and assess the potential benefits to be gained by the subjects, as well as the benefits that may accrue to society in general, as a result of the planned work.

Finally, discuss the risks in relation to the anticipated benefits to the subjects and to society.

If human subjects, human derived materials or human data are to be used in this project, complete Item 12, and if IRB approval has been received, submit documentation of institutional approval (IRB) in Appendix I.

Research on human subjects, derived materials or data utilizing resources awarded under the Oklahoma Plant Science Research Program must follow federal guidelines as promulgated in 45 CFR. In addition, **these funds may not be used to "undertake any research which has abortion, as defined by Section 1-730 of Title 63 of the Oklahoma Statutes, as its purpose" (74 O.S., Section 5054).**

The federal regulation is available from Office of Human Research Protection, <http://www.hhs.gov/ohrp/>. The regulation provides a systematic means, which is based on generally accepted ethical principles, for protecting the rights and welfare of individuals who may be exposed to the possibility of physical, psychological or social injury while they are participating as subjects in research, development or related activities. The regulation extends to the human fetus (either in utero or ex utero), the dead, organs, tissues and body fluids as well as graphic, written or recorded information derived from human sources. It covers activities which present no physical risk to the subject but which may create legal risks or expose subjects to public embarrassment or humiliation through breach of confidentiality or invasion of privacy.

The major focus of a project (for example, on a medical procedure) may not be the sole determinant of the types of risks involved or the need for additional protection. The safeguarding and confidentiality of medical records and other forms of data collected on individuals and groups, the use of such data by the investigator conducting the original research, the concurrent uses of the data by other investigators and the use of the data for research purposes at a later time are considered within the scope of this policy.

The regulation requires institutional assurances, including the implementation of procedures for review and the assignment of responsibilities for adequately protecting the rights and welfare of human subjects. **Safeguarding the rights and welfare of human subjects is the responsibility of the applicant organization.** In particular, the applicant organization is responsible for ensuring that the activity described in the application and any additional information relating to human subjects, derived materials or data are reviewed and approved by an institutional review board (IRB) defined in statute as:

a committee composed of (at least) investigators, lay representatives, and legal counsel . . . for the express purpose of determining the appropriateness of any research involving human subjects (74 O.S., Section 5060.4).

The above stated federal requirements have been adopted by the Oklahoma Plant Science Research Committee and OCAST.

Vertebrate Animals. If vertebrate laboratory animals are to be used in this research project, complete **Item 13**, and submit, if available, documentation of **institutional approval in Appendix I**. On a separate sheet state the species, strains, ages and numbers of the animals involved. If the animals are in short supply, costly or to be used in large numbers, provide the rationale for their use and their numbers. Describe the procedures for adequate care of any animals involved. Describe the procedures to avoid unnecessary discomfort, pain or injury to the animals, such as surgical anesthesia, post-trauma analgesia, tranquilizing drugs and comfortable restraining devices; include this information in Appendix I.

In recent years, there have been extensive changes in federal requirements for the use of vertebrate animals in research. Investigators, their projects and their institutions must adhere to these requirements beginning with the date of submission of a proposal.

As part of its compliance with these regulations, an applicant institution must duly constitute a review committee to assist in assuring humane treatment and care of animals

Recombinant DNA. If recombinant DNA technology will be used in the project, complete **Item 14**, and submit, if available, documentation of **institutional approval in Appendix I**. On a separate sheet state the level of containment to be used and explain why this level is appropriate for the proposed project; include this information in Appendix I.

Applicant institutions are required to comply with Federal guidelines regarding the application of recombinant DNA technology as of the date of application submission. The applicant institution must establish an institutional biosafety committee which must judge appropriate proposals and approve only those that conform to the guidelines.

Biological Hazards. If any contact with infectious agents or substances containing them is anticipated, complete **Item 15**, and on a separate sheet identify any potential biological hazards, explain procedures to protect individuals from infection or injury, state the level of containment to be used and explain why it is appropriate; include this information in Appendix I.

Various barrier techniques are advised when work is performed with potentially infectious agents or with substances that may contain infectious agents. A guide to the level of containment for infectious agents based upon the recommendations of the Center for Disease Control may be obtained from the U.S. Government Printing Office Washington, D.C. 20402, HHS publication NO. (CDC) 88-8395, entitled *Biosafety in Microbiological and Biomedical Laboratories*.

It is the sole responsibility of the Contractor—the applicant institution, who is the employer of, or affiliated with, the PI—to maintain a safe working environment and to make any changes required by subsequent regulations or law. **The biological hazards must be satisfactorily addressed if a proposed plant science research project is to receive funding.**

Narcotics and Dangerous Drugs Letter. The use of narcotics and dangerous drugs is regulated by the Oklahoma State Bureau of Narcotics and Dangerous Drugs and by the Drug Enforcement Administration of the U.S. Department of Justice. The PI must identify the individual or organization under whose auspices narcotics or dangerous drugs will be used.

If these substances will be used in the project, the PI must do as follows: (1) Check yes on **Item 16**, and (2) include a letter in Appendix I which states the registration number with the Oklahoma State Bureau of Narcotics and Dangerous Drugs and the U.S. Drug Enforcement Administration to be used in this project. If the registrant is not the PI, the PI must (1) provide the registrant's name, title, address and phone number in **Item 16** and (2) submit a letter from the responsible individual which (a) states the registration number with the Oklahoma Bureau of Narcotics and Dangerous Drugs and the U.S. Drug Enforcement Administration and (b) grants permission for its use in this project. **Item 16 must be satisfactorily completed and the required letter submitted, as appropriate, if a proposed plant science research project is to receive funding.**

Radioisotopes Letter. Use of radioactivity is regulated by the U.S. Nuclear Regulatory Commission. Appropriate licenses must have been obtained by the applicant organization as well as the PI, his or her sponsor or a responsible colleague. If radioisotopes are to be used in the performance of the proposed project, the PI must proceed as follows: (1) complete **Item 17**, and (2) if the responsible individual is someone other than the PI, include in **Appendix I** a letter granting permission for the use of radioisotopes in this project under this license. **Item 17 must be satisfactorily completed and the required letter submitted, as appropriate, if a proposed plant science research project is to receive funding.**

32. **Appendix II. Required attachment if resubmitting an application. Resubmissions:** Persons resubmitting an application submitted to a previous OPSR competition must prepare a separate appendix that includes the following:

a letter that responds to the reviewers' comments from the previous review and notes all changes in the new research plan.
a copy of the previously submitted application and
all reviews of that application.

33. **Other Appendix:** The applicant may also include a maximum of five (5) pages of additional material printed on one side of each page. For example, a glossy photograph of an item that is included in reduced form within the 15-page research plan, abstracts of papers accepted for publication, or patent abstracts and claims. Do not use this Appendix to circumvent page limits of the research plan or other sections.

THIS IS THE LAST PAGE OF THE SOLICITATION