

**SOUTH DAKOTA BOARD OF REGENTS**

**Academic and Student Affairs**  
**Consent**

**AGENDA ITEM: 3 – F**  
**DATE: October 2-4, 2018**

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**SUBJECT**

**Herbicide Injury Study Joint Powers Agreement – SDSU & SD Department of Agriculture**

**CONTROLLING STATUTE, RULE, OR POLICY**

[BOR Policy 5:3](#) – Agreements and Contracts

**BACKGROUND / DISCUSSION**

The South Dakota Department of Agriculture (DOA) desires to contract with South Dakota State University (SDSU) to investigate and survey the impact of herbicide use on trees in community and rural forests. The Joint Powers Agreement will commence upon signing and run through May 31, 2020. DOA will provide up to \$47,000 to SDSU to complete the work, with SDSU providing non-federal matching funds, as provided for in Attachment I.

BOR Policy 5:3 (“Contracts Requiring Board Action...D. Joint powers agreements”), requires Board approval of Joint Powers Agreements (JPA). As such, Board of approval of the JPA set forth in Attachment I is necessary.

**IMPACT AND RECOMMENDATION**

The attached JPA will allow SDSU to receive up to \$47,000 to conduct the investigation and survey on the impact of herbicide use on trees in community and rural forests set forth in Attachment I.

Staff recommends approval.

**ATTACHMENTS**

Attachment I – Herbicide Injury Study JPA

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**DRAFT MOTION 20181002\_3-F:**

I move to approve the Joint Powers Agreement set forth in Attachment I.



**SOUTH DAKOTA DEPARTMENT OF AGRICULTURE  
RESOURCE CONSERVATION & FORESTRY DIVISION  
AND SOUTH DAKOTA STATE UNIVERSITY  
HERBICIDE INJURY ON TREES  
JOINT POWERS AGREEMENT**

This Agreement made and entered into by and between the South Dakota Department of Agriculture, Resource Conservation and Forestry Division, an agency of the State of South Dakota, 523 East Capitol Ave., Pierre, SD 57501-3182, (hereinafter "SDDA") and the South Dakota State University, 1015 Campanile Ave, SAD 200, Box 2201, Brookings, SD 57007 (hereinafter "SDSU").

I.  
GENERAL PROVISIONS

A. SDDA and SDSU hereby enter into this Agreement in consideration of and pursuant to the terms and conditions set forth herein.

1. SDSU and SDDA will perform those services described in the Work Plan, attached hereto as Exhibit A "Investigation and Survey of Herbicide Injury on Trees in Community and Rural Forests" and by this reference incorporated herein.

2. Services under this Agreement shall commence on upon signing and end on May 31, 2020, unless sooner terminated pursuant to the terms hereof.

3. SDDA will make payment for services as provided in Exhibit A. The total contract amount will not exceed \$47,000. SDSU will provide matching expenditures that at least equal the total contract amount. Payments will be made upon submission of non-cash vouchers from SDSU. Documentation of expenditures is necessary to show that the required match for federal funds has been met by SDSU.

4. SDSU may charge an administrative fee or indirect charge equal to the indirect rate allowed by the United States Forest Service for federal grants provided to SDDA. For this agreement, the SDDA indirect rate is 22.1 percent. The difference between the SDSU's administrative fee and the allowed indirect rate for SDDA may be used as in-kind match.

5. SDSU agrees to report to SDDA any event encountered in the course of performance of this Agreement which results in injury to a person or property of third parties, or which may otherwise subject SDSU or SDDA to liability. SDSU shall report any such event to SDDA immediately upon discovery. SDSU's obligation under this section shall only be to report the occurrence of any event to SDDA and to make any other report provided for by their duties or applicable law. SDSU's obligation to report shall not require disclosure of any information subject to privilege or confidentiality under law (e.g., attorney-client communications). Reporting to SDDA under this section shall not excuse or satisfy any obligation of SDSU to report any event to law enforcement or other entities under the requirements of any applicable law.

6. This Agreement may be terminated by SDDA or SDSU hereto upon thirty (30) days written notice. In the event SDSU breaches any of the terms or conditions hereof, this Agreement may be terminated by SDDA at any time with or without notice. If termination for such default is effected by SDDA, any payments due to SDSU at the time of termination may be adjusted to cover any additional costs to SDDA because of SDSU's default. Upon termination SDDA may take over the work and may award another party an agreement to complete the work under this Agreement. If after SDDA

terminates for a default by SDSU it is determined that SDSU was not at fault, then SDSU shall be paid for eligible service rendered and expenses incurred up to the date of termination.

7. This Agreement depends upon the continued availability of appropriated funds and expenditure authority from the Legislature for this purpose. If for any reason the Legislature fails to appropriate funds or grant expenditure authority, or funds become unavailable by operation of law or federal funds reductions, this Agreement will be terminated by SDDA. Termination for any of these reasons is not a default by SDDA nor does it give rise to a claim against SDDA.

8. This Agreement may not be assigned without the express prior written consent of SDDA. This Agreement may not be amended except in writing, which writing shall be expressly identified as a part hereof, and be signed by an authorized representative of each of the parties hereto.

9. This Agreement shall be governed by and construed in accordance with the laws of South Dakota. Any lawsuit pertaining to or affecting this Agreement shall be venued in Circuit Court, Sixth Judicial Circuit, Hughes County, South Dakota.

10. SDSU will comply with all federal, state and local laws, regulations, ordinances, guidelines, permits and requirements applicable to providing services pursuant to this Agreement, and will be solely responsible for obtaining current information on such requirements.

11. SDSU may not use subcontractors to perform the services described herein without the express prior written consent of SDDA. SDSU will include provisions in its subcontracts requiring its subcontractors to comply with the applicable provisions of this Agreement, to indemnify SDDA, and to provide insurance coverage for the benefit of SDDA in a manner consistent with this Agreement. SDSU will cause its subcontractors, agents, and employees to comply, with applicable federal, state and local laws, regulations, ordinances, guidelines, permits and requirements and will adopt such review and inspection procedures as are necessary to assure such compliance.

12. Any notice or other communication required under this Agreement shall be in writing and sent to the address set forth above. Notices shall be given by and to Gregory Josten on behalf of the SDDA, Dr. James J. Doolittle on behalf of SDSU, or such authorized designees as either party may from time to time designate in writing. Notices or communications to or between the parties shall be deemed to have been delivered when mailed by first class mail, provided that notice of default or termination shall be sent by registered or certified mail, or, if personally delivered, when received by such party.

13. In the event that any court of competent jurisdiction shall hold any provision of this Agreement unenforceable or invalid, such holding shall not invalidate or render unenforceable any other provision hereof.

14. All other prior discussions, communications and representations concerning the subject matter of this Agreement are superseded by the terms of this Agreement, and except as specifically provided herein, this Agreement constitutes the entire agreement with respect to the subject matter hereof.

II.  
JOINT POWERS

- A. SDDA and SDSU agree to the following provisions pursuant to the Joint Powers Act (SDCL 1-24):
1. This Agreement does not establish a separate legal entity as contemplated by SDCL 1-24-5. The cooperative undertaking described herein will be financed and conducted under the provisions of this agreement by SDDA and SDSU respectively. Each party has responsibilities under the terms of this Agreement and no joint board or joint administrator will be used. Purchase and maintenance of equipment used to fulfill the agreement will be undertaken by the respective agencies as described herein. No real property will be purchased to use for this Agreement.
  2. A copy of this Agreement will be filed by SDDA, with the Attorney General and Legislative Research Council not more than 14 days after the execution as required by SDCL 1-24-6.1.
  3. All parties must comply with Title VI of the Civil Rights Act of 1964 (P.L. 88-352, 42 U.S.C 2000d) and, in accordance with Title VI of that act, no person in the United States shall, on the grounds of race, color, or national origin, be exclude from participating in, be denied the benefits of, or be otherwise subject to discrimination under any program or activity for which the applicant receives Federal financial assistance and will immediate take any measures necessary to effectuate this agreement.
  4. Nothing in this Agreement shall be construed as an indemnification by one party or the other for liabilities of a party or third party for property loss, or damage, or death, or personal injury arising out of the performance of this Agreement. Any liabilities or claims for property loss, or death, or personal injury by a party or its agents, employees, contractors or assigns or by third persons, arising out of and during this agreement shall be determined according to applicable law.

In witness hereto, the parties signify their agreement by affixing their signatures.

SDDA

BY: \_\_\_\_\_ Dated this \_\_\_ Day of \_\_\_\_\_, 2018.  
William Smith, Director  
SD Department of Agriculture

BY: \_\_\_\_\_ Dated this \_\_\_ Day of \_\_\_\_\_, 2018.  
Dr. Dustin Odekoven, Acting Secretary  
SD Department of Agriculture

SDSU

BY: \_\_\_\_\_ Dated this \_\_\_ Day of \_\_\_\_\_, 2018.  
James Doolittle, Associate VP Research Assurance and Sponsored Programs  
SD State University

## Exhibit A

### Investigation and Survey of Herbicide Injury on Trees in Community and Rural Forests

#### Introduction

Herbicides have long been used in communities and on agricultural lands across the country. However, in the Midwest and Great Plains region, due to the dominance of cropland and pastures, the use of herbicides is widespread. Glyphosate, atrazine, 2,4-D, and dicamba are widely used agricultural herbicides with some of the highest usage, measured in pounds per acres, in the croplands of the Midwestern and Great Plains states. The past several years there has been an increase in herbicide drift complaints from small communities surrounded by agricultural fields and landowners with crop windbreaks or woodlots, as the use of glyphosate-resistant crops became common place. The problem became compounded with the introduction of dicamba-resistant soybeans. During 2017, thousands of herbicide drift complaints alleged damage to community trees, windbreaks, and rural woodland, due to the suspected application of dicamba to soybean fields throughout the region.

No reliable information exists to describe characteristic symptoms on common tree species, or the concentration threshold between symptomatic (injured) and asymptomatic (non-injured) trees. Accurate diagnoses of herbicide injury is difficult as damage symptoms may appear very similar to those of other agents and factors. Unlike biotic agents - insects, mites, and pathogens - there are no signs, only symptoms so the impact of the herbicide is often lost among the other factors that can mimic its symptoms.

#### Objectives

As the use of herbicide resistant crops becomes more common, we need to have better information on the identification and impact of low-levels or repeated applications of these common herbicides. Trees presenting symptoms will have foliage collected and analyzed for herbicides, identification of the active ingredients, and the parts per billion (ppb) within the foliage tissue. Collection will be throughout the regions and representative of community, windbreak and forest trees.

This data, combined with images and descriptions of the injury, will be used to build a data base of information for forest health foresters to use to determine what herbicide may be responsible for the symptoms expressed by an injured tree and what ppb are a threshold for damage. Furthermore, data will be geospatially linked, to allow for further future analysis of patterns and geographic correlations.

#### Methods

The proposed project will involve forest health personnel from states across the Midwest and Great Plains: Illinois, Indiana, Iowa, Missouri, Nebraska and South Dakota. The forest health specialists of the six states will oversee collection of leaves from trees presenting symptoms of possible herbicide injury. The data and sample collection will be made by forest staff from each state as well as other partners to include the professional green industry, cooperative extension, conservation districts, and municipalities.

Since the symptoms of drift can be mimicked by other agents, additional information will be collected from the site including the symptom pattern on the plant, a description of the symptoms and whether they appear on the newest leaves or the foliage at the base of the shoot, pattern to damage in the adjacent trees and vegetation, the surrounding vegetation, and any identified abiotic or biotic agents that may be contributing to the symptom pattern. Photographs will also be taken of the leaves and tree.

Small twigs with leaves presenting symptoms will be cut from four sides of the canopy and the leaves will be separated by hand. To avoid external contamination, nitrile gloves will be worn when handling and packaging the foliage. Enough leaves will be collected to fill a ½-gallon bag. The composite sample will be packaged in a perforated paper bag within the mailing box and sent overnight to South Dakota State University. South Dakota State University will be the lead agency for the study with Dr. John Ball, SD Extension Forestry Specialist and SD Department of Agriculture Forest Health Specialist, the principal investigator.

Samples that cannot be sent that day may be stored in a freezer until mailing, but samples will be sent as soon as possible. The sample information will be recorded once it arrives at the lab and the foliage stored at -20°C until analysis. The samples will be ground and analytes extracted. Gas chromatography will be used as the one method of analysis with residues reported as part per billion (ppb). An enzyme-linked immunosorbent assay (ELISA) test will also be utilized for the dicamba analysis.

Approximately 50 to 200 samples will be taken in each state. The samples will be collected from state lands in Illinois, Iowa, and Missouri and from both state and private lands in the remaining states. The sampling will begin May 2019 and be completed by August 2019. The analysis of the samples will be completed by fall 2019 and a report prepared of the findings will be completed by May 2020.

### Outcomes

The results of this project will be disseminated to all interested parties and stakeholders through two main channels. First, a publication will be created as a reference for herbicide injury on the species of interest, to include information regarding typical symptoms and residue concentration thresholds associated with symptomatic trees. The publication will describe symptoms presented with each herbicide as well as information on the ppb for injury. The publication will be available on each of the cooperating states' forest health website and we will record the number of download or viewing for a one-year period.

Second, a GIS data layer will be created and shared with partners to facilitate further study of the data collected in this project.

Budget	Requested funds	Non-federal match	Match source
Salary		\$30,300	Time for state cooperators to collect samples in the field and graduate student at SDSU to compile data.
Travel for collection		\$ 7,500	Mileage and per diem for state cooperators to collect samples in the field.
Travel for meetings			
Travel for others			
Contracting	\$38,490		SDSU Plant Diagnostic Lab will perform the testing.
Equipment			
Supplies			
Overhead	\$ 8,509	\$ 9,199	Based on a Federal overhead rate of 22.1% for FY2019. 23.9% is unrecovered overhead to SDSU.
Totals	\$46,999	\$46,999	