

**SOUTH DAKOTA BOARD OF REGENTS**

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

**AGENDA ITEM: 5 – G**  
**DATE: October 6-7, 2021**

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**SUBJECT**

**SDSU & SD Department of Agriculture and Natural Sources Joint Powers Agreement – Ash Tree Herd Immunity Investigation**

**CONTROLLING STATUTE, RULE, OR POLICY**

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

**BACKGROUND / DISCUSSION**

The South Dakota Department of Agriculture and Natural Resources (DANR) desires to enter into a Joint Powers Agreement (JPA) with South Dakota State University (SDSU) to conduct an investigation of herd immunity with ash trees treated by injections with emamectin benzoate. The JPA set forth in Attachment I would run through September 30, 2022, with a total project cost not to exceed \$122,300. DANR will provide up to \$61,150 to SDSU, with SDSU providing matching funds equal to the amount paid by DANR, but not in excess of \$61,150.

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

**IMPACT AND RECOMMENDATION**

The attached JPA will allow SDSU to receive funding from DANR to conduct an investigation of herd immunity with ash trees treated by injections with emamectin benzoate.

Staff recommends approval.

**ATTACHMENTS**

Attachment I – SDSU & SD Department of Agriculture and Natural Resources JPA

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**DRAFT MOTION 20211006\_5-G:**

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

JOINT POWERS AGREEMENT  
BETWEEN  
SOUTH DAKOTA DEPARTMENT OF AGRICULTURE AND NATURAL  
RESOURCES  
RESOURCE CONSERVATION & FORESTRY DIVISION  
AND  
SOUTH DAKOTA STATE UNIVERSITY

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

I.  
GENERAL PROVISIONS

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

SDSU and DANR will perform those services described in the Work Plan, attached hereto as Exhibit A "An investigation of herd immunity with ash trees treated by injections with emamectin benzoate" and by this reference incorporated herein.

1. Services under this Agreement shall commence on the date last signed and end on September 30, 2022, unless sooner terminated pursuant to the terms hereof.

2. DANR will make payment for services as provided in Exhibit A. The total contract amount will not exceed \$122,300. The contract amount is comprised of up to \$61,150 to be paid by DANR and SDSU matching funds up to equal to the amount paid by DANR, but not in excess of \$61,150. 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.

3. 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 DANR. For this agreement, the DANR indirect rate is 13 percent. The difference between the SDSU's administrative fee and the allowed indirect rate for DANR may be used as in-kind match upon written agreement between DANR and SDSU.

4. SDSU agrees to report to DANR any event encountered during performance of this Agreement which results in injury to a person or property of third parties, or which may otherwise subject SDSU or DANR to liability. SDSU shall report any such event to DANR immediately upon discovery. SDSU's obligation under this section shall only be to report the occurrence of any event to DANR 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 DANR 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.

5. This Agreement may be terminated by DANR 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 DANR at any time with or without notice. If termination for such default is affected by DANR, any payments due to SDSU at the time of termination may be adjusted to cover any additional costs to DANR because of SDSU's default. Upon termination DANR may take over the work and may award another party an agreement to complete the work under this Agreement. If after DANR 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.

6. 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 DANR. Termination for any of these reasons is not a default by DANR nor does it give rise to a claim against DANR.

7. This Agreement may not be assigned without the express prior written consent of DANR. 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.

8. This Agreement shall be governed by and construed in accordance with the laws of South Dakota without regards to any conflicts of law principles, decisional law, or statutory provision that would require or permit the application of another jurisdiction's substantive law. Venue for any lawsuit pertaining to or affecting this Agreement shall be in Circuit Court, Sixth Judicial Circuit, Hughes County, South Dakota.

9. 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.

10. SDSU may not use subcontractors to perform the services described herein without the express prior written consent of DANR. SDSU will include provisions in its subcontracts requiring its subcontractors to comply with the applicable provisions of this Agreement, to indemnify DANR, and to provide insurance coverage for the benefit of DANR 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.

11. 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 DANR, 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.

12. 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.

13. 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

DANR 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 DANR 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 DANR, 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.
5. The parties signify their agreement to this work plan by the signatures affixed below.

IN WITNESS WHEREOF, the parties signify their agreement effective the date first written by the signatures affixed below.

SDSU

STATE OF SOUTH DAKOTA

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Print/ Signature)

\_\_\_\_\_  
Hunter Roberts  
Secretary  
South Dakota Department of Agriculture  
and Natural Resources

\_\_\_\_\_  
(title)

## Exhibit A

### An investigation of herd immunity with ash trees treated by injections with emamectin benzoate

#### Summary

Emerald ash borer (EAB) (*Agrilus planipennis*) is a lethal threat to North American ash (*Fraxinus* spp). The survival of untreated trees is less than one or two percent. The most common strategies for community management of this insect is by removing infested trees and treating trees. Another possible strategy to reduce treatment costs is examine whether herd immunity is an effective tool for managing EAB. This study will evaluate the effectiveness of this strategy and determine what percentage of trees must be treated to achieve this indirect protection from EAB.

#### Background

Herd immunity is a strategy mentioned in community EAB management plans. Herd immunity occurs when treating a portion of a population extends indirect protection to untreated members. If a percentage of ash trees in a community are treated, this may provide protection to nearby untreated trees. This strategy could decrease the cost of EAB management. However, there is little research data to support its application. An identified interest of the Forest Service Pesticide Impact Assessment Program is the efficacy of trunk injection of emamectin benzoate.

If ash trees are treated by trunk injection with emamectin benzoate:

- 1) Is herd immunity an effective strategy for slowing tree mortality?
- 2) If so, what is the percentage of trees that must be treated to provide indirect protection to nearby untreated trees and over what distance does this protection occur?

#### Overview

The study will be in Sioux Falls South Dakota where EAB was confirmed in 2018. Sioux Falls requires all commercial EAB applicators to 1) only use trunk injections, and 2) tag and report the location, diameter, insecticide product, and rate for every tree treated regardless of ownership. Approximately 15% of the 84,000 ash have been treated in the community to date.

Objective #1 – Determine whether herd immunity is an effective management strategy.

Using Sioux Fall's treated trees database, trees treated in 2018 and 2020 will be selected and all untreated ash within a 90 m radius of these ash examined for current or past EAB infestations.

Objective #2 – Determine what percentage of trees must be treated to achieve herd immunity.

Neighborhoods with clusters of treated ash trees will be selected and untreated ash within a 90 m radius of the cluster inspected for present or past EAB infestations.

Note: This study/project involves the use of pesticides, but the findings are not intended to be submitted to the U.S. Environmental Protection Agency in support of a research or marketing permit. This research is therefore not covered by the Federal Insecticide, Fungicide, and Rodenticide Act Good Laboratory Practices regulations. The results of such a study may not be accepted by the EPA if the study is submitted to EPA at a later date.

#### Methods

Trees treated with emamectin benzoate in neighborhoods with ash density greater than 8 trees/ha and where EAB is present will be sampled. One hundred ash trees, between 30 and 40 cm dbh, treated in 2018 and repeated in 2020, will be selected. Circles will be established around each treated tree at 15, 30, 60 and 90 m intervals. Every untreated ash larger than 2.5-cm within each circle will be examined to determine current or past EAB infestation. An aerial lift and climbers will be used to conduct canopy inspections to determine whether an ash tree is infested and by dissecting branches samples to determine how long it has been infested. At least 50 neighborhoods with grouping of treated ash, where adjacent property owners have treated anywhere from two to 20 trees will be studied in a similar manner as above. We will utilize zero-inflated generalized liner models to assess the effect of treating on untreated trees over time.

### Outcomes

A formal report of the results and our conclusions submitted to the granting agency and Sioux Falls. The report on the value of herd immunity will be posted on the DANR website. The report will discuss whether our results indicate herd immunity has an application in management, and if so, what percentage of the ash population may require treating and the distances in which nearby ash receive indirect protection.

The results will also be prepared for submission to *Arboriculture & Urban Forestry*, a peer-review journal widely read by city foresters in the United States and Canada. The results, whether they show herd immunity works, or not, will be of value to communities preparing to manage this insect or are in the initial phase of an infestation.

Budget	Requested funds	Non-federal match	Match source
Salary	\$38,000	\$37,860	SDSU
Travel for collection	\$3,500	\$3,000	Industry (tree companies)
Travel for meetings			
Travel for others	\$543		
Contracting	\$9,250	\$4,000	SD Arborist Association
Equipment		\$2,500	SDSU
Supplies	\$750		
Overhead	\$9,107	\$13,790	Unrecoverable overhead from SDSU at rate of 46%
Totals	\$61,150	\$61,150	