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|  | **Illinois State University**  **Student Sustainability Fund Application** |

Primary Contact Information:

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Organization/Department: Agriculture

Project Name: Beekeeping Sustainability Project

Project Sponsors: Carl J. Wenning & Jessica Chambers

Project Lead: Katelynn Clement

Title: President Phone: (309) 262-7974

Organization/Department: Horticulture Club Email: [kdcleme@ilstu.edu](mailto:kdcleme@ilstu.edu)

**I. Detailed Project Description:**

• *Purpose:* The purpose of this proposal is to provide funding for the establishment a self-sustaining beekeeping operation on or near the University campus. This project will connect people with nature and help them become engaged environmental stewards. The program addresses the need for environmental sustainability and stewardship in a state that is undergoing increasing urbanization, changing demographics, and shifting land use. Funding is hereby requested for the development of an apiary that will contain six beehives, and for associated bees and beekeeping equipment. Until an ISU beekeeping club is recognized as a registered student organization, it will operate under the auspices of the ISU Horticulture Club.

• *Who does the project impact?* This project will impact those on campus and in the community who would like to learn more about beekeeping and even become beekeepers (such as agricultural teacher education majors, as well as members of the Horticultural Center, Sugar Grove Nature Center, and UIUC Extension’s Master Gardeners and Master Horticulturalist). Additionally, it will impact those participating in field trip programs such as those offered by the Illinois Department of Natural Resources and the Illinois Conservation Foundation. It will also impact all those needing pollination services that honeybees provide. Honeybees pollinate approximately 1/3 of all fruits and vegetables consumed by humans. Having honeybees present in the ISU Horticultural Center will greatly increase cucurbit production. Ultimately, this program might lead to the creation of a credit course in apiculture (beekeeping) within the ISU Agriculture Department.

• *How does the project relate to sustainability?* Honeybees are currently threatened by colony collapse disorder and a variety of diseases, pests, and predators. Over the past 50 years the honeybee population in the USA has dropped precipitously – primarily due to diseases and pests that have been introduced to the country through international trade. In the last two years alone, the number of honeybee colonies maintained by beekeepers has dropped some 40% on a national basis. Additionally, the vast majority of beekeepers are in their 60s and 70s, and beekeepers are becoming a dying breed. This proposal will help stem, and perhaps help reverse, the tide by providing education to diverse populations resulting in the development of new and better beekeepers.

• *How much time is necessary to complete the project (include anticipated start and completion date)?* If funded, project leaders will spend all allocated money by the end of the current fiscal year. The current plan of action is to gather all the materials at this time and to begin recruiting for a beekeeping club during early spring semester of 2012 with a one-day kickoff workshop later in the semester. During this beekeeping workshop beehives will be built, frames assembled, beeswax foundation inserted, and so forth. Students will visit an apiary to be introduced to an operating beehive. Involved individuals will then follow a plan that will lead to the creation of an apiary at the ISU Horticulture Center in Normal and/or the Sugar Grove Nature Center 8 miles southwest of Bloomington. Students will then harvest available honey in subsequent years, extract it and bottle it for sale.

• *Once completed, what is the estimated life of the completed project?* The project should be self-sustaining after the first year and will continue as long as interest is shown. Honey will be harvested and sold for profit. This money will in turn go to the continued operation of the beekeeping club and operation.

• *Will there be ongoing maintenance? What are the costs and who will maintain the project?* As with any venture, there will be ongoing maintenance and costs. Novice beekeepers (typically ISU students) supervised by one or more experienced beekeepers will provide regular management with assistance of students. All costs for maintenance (typically $100 per hive per year) will be borne by the ISU Beekeeping Club using revenue generated from honey sales, and sales of other products of the hive such as wax and pollen.

• *Where will the project be located? Have the appropriate parties been contacted, did they approve and who are they?* One or more apiaries – places where beehives are set up – will be placed at the ISU Horticulture Center on Raab Road in Normal and/or at Sugar Grove Nature Center just south of Shirley, Illinois. The directors of both sites have agreed to facilitate this effort.

*• Does the project adhere to current Illinois State University policies? If you haven’t contacted the appropriate parties or made sure the project doesn’t violate ISU policies, please do so before submitting application.* There are no policies established by Illinois State University relating to honeybees or beekeeping. The ISU Agriculture Department and the director of Sugar Grove Nature Center have consented to allow the establishment of apiaries.

*• Are there similar projects to this one on campus or elsewhere?* Not to the best of the applicants’ knowledge. This project is unique to the local area for certain.

**II. Budget and Financing:**

• *Provide an itemized budget including and not limited to:*

*o Full project costs*

8-frame beehive kits, each with 7 medium boxes: (6)@$391.50 $2349.00

3 brood and 4 super boxes – 65/8” (7)@$13.50

queen excluder (1)@$6.20

inner cover (1)@$8.95

outer cover (1)@$24.50

screened bottom board (1)@$17.25

hive stand (1)@$13.75

61/4” frames, 7 for each box (56)@$1.75

beeswax foundation for frames (56)@$0.72

Box frame rest/frame spacers (84)@$0.50 $ 42.00

Hardware for assembling beehives: $ 123.00

frame wire $4.25

eyelets $6.50

eyelet punch $3.25

nails $10

glue $5

1 gal. paint with primer (2)@$30

1 gal. copper napthenate wood preservative (2)@$17

Pressure-treated 4”x4”, 12-ft pieces of lumber (4) $ 75.00

10” smoker (3)@$39.30 $ 117.90

Hive tool (3)@$6.95 $ 20.85

Hooded cotton/poly bee suites: $1117.50

(2S, 3M, 4L, 4XL, 2XXL)@$74.50

Bee gloves (5S, 10L)@$18.95 $ 284.25

Boot bands (6)@$3.59 $ 21.54

Frame grabber (2)@$7.95 $ 15.90

Division board feeder (6)@$3.99 $ 23.94

4-lb. granulated sugar (24)@$3.00 $ 72.00

2-lb package of honeybees (6)$75 $ 450.00

Ranger power extractor kit (1)@$989.00 $ 989.00

Capping scratcher (2)@$11.95 $ 23.90

Solar wax melter (1)@$62.95 $ 62.95

Glass for solar wax melter (1)@$20.00 $ 20.00

12 oz. honey bear bottles and caps $ 635.70

(6 cases of 250)@$105.95

Honey bear bottle labels (6 roles of 250)@$5.95 $ 35.70

Rubber stamper (1)@$10 $ 10.00

Bottling bucket kit (12)@$36.00 $ 432.00

Bottling bucket filters (12)@$5.25 $ 63.00

Lid removing tool (2)@$7.75 $ 15.50

Honey analyzer (1)@$395.00 $ 395.00

Bee brush (2)$4.15 $ 8.30

Frame cleaner (2)@$4.25 $ 8.50

Control products for pests and diseases: $ 154.90

Fumagilin (1)@$42.75

Paramoth (2)@$33.95

Mite Away Quick Strips (1)@$15.95

480*ml* Honey-B-Healthy feeding stimulant with $ 20.75

essential oils (1)@$20.75

*Bees at Work* signs (12)@$16.50 $ 198.00

Nectar plant seeds for sewing adjacent fields $1500.00

Posts for signs (12)@$15 $ 180.00

*First Lessons in Beekeeping* book (20)@$8.95 $ 179.00

Pick up of supplies from Hamilton, IL $ 165.00

(300mi)@$0.55/mi

*TOTAL Request:* **$9800.08**

*o Operation and maintenance costs.*

As mentioned above, this project will be self-sustaining with the sale of honey and other hive products offsetting the annual maintenance cost of the hives.

* *Include information regarding vendor(s), contractors, etc.* Materials, in the main, will be purchased from Dadant of Hamilton, IL, America’s oldest and largest manufacturer of beekeeping supplies. Honeybee packages will be purchased from a reputable supplier in the southern USA. A few additional items will be purchased from other reputable dealers.
* *Return on Investment (if applicable).* As indicated previously, products of the hive – primarily honey – will be bottled and sold through such locations as farmers’ markets and on a one-to-one basis. All income will be returned to the ISU Beekeeping Club in order to sustain the club and its activities in the future.
* *Financial Sources*

o *Will the student sustainability fund be funding 100% of the project?* Yes, with the exception of materials brought in by established beekeepers for use with the beekeeping course and operation of the beehives. However, once the ISU Beekeeping Club becomes a registered student organization, it will apply for funds made available though ISU student activity fees.

o *Are there other funding sources available for the project such as grants, ticket sales, etc?* Not to the best of our knowledge.

o *Have you researched to see if other sources are available?* Not directly, but the uniqueness of this project suggests that little if any funding is available from other sources.

o *If other funds are available, have you applied for funding? If not why? If so, from where and when will you be notified if you received the funding?* Not applicable.

o *If your project is denied funding from the student sustainability fund will it move forward?* No.

*If you have not searched for alternative funding please do so. It is preferred that the student sustainability fund not be the sole source funding. Sharing the costs of projects from multiple funding sources ensures that the student sustainability fund can support more projects. A small fee may be added to your proposal to provide an identification tag. The cost will vary depending on the item and its location.*

**III. Timeline**

1. *Please provide a detailed timeline of the project that includes documentation for the following:*
2. *Work orders/Material orders* Materials will be ordered and picked up from Hamilton, IL, shortly after funds are awarded – perhaps in March 2012.
3. *Shipping information.* It will be much more economical to pick up materials from Dadant at Hamilton, IL, rather than to ship them. Travel costs amount to $165 and have been included in the request for funding.
4. *Installation time estimation.* Once materials are obtained – March – an introductory beekeeping workshop will be held. This will take place during spring 2012 and will include construction of basic beehives consisting of three medium brood boxes each. Over the course of the autumn semester the ISU Beekeeping club membership will be further built up and monthly or semi-monthly talks will be presented in preparation of installing bees in their hives during the spring of 2013. During the autumn of 2012 additional work will be done building more brood chambers and honey supers (4 for each hive) that will be used to gather honey from the 3-chamber brood boxes.

2. *Please specify whether the project is ongoing or has a specific start and finish date*

1. *If it is ongoing, please indicate parties that will be responsible for continuation of the project.* This project will be ongoing. Those two university personnel named at the top of this application (Wenning and Chambers) will be responsible for seeing to it that the work is completed as expected in a timely fashion.
2. *If the project only requires one action, please include important dates in the timeline.* Not applicable.

**IV. Energy, Economic, Social and Environmental Impact**

1. *If the project is energy related, answer the following questions.* Not applicable.
2. *Estimated energy produced or saved annually and for the life of the product. Include documentation supporting your claim.*
3. *Compare energy use and cost to all relevant energy sources.*
4. *Who’s qualified to maintain the product, does the university currently staff this person or will a specialist need to be contracted? How much will it cost to maintain the product over its projected lifetime?*
5. *How will the product be decommissioned? Is there a cost associated with decommissioning, what will it be?*
6. *What are the social impacts of the project? I.E. how does it benefit the faculty, staff, and students of ISU?*
7. *What are the environmental benefits of the project?*
8. *Provide any additional information about the project you deem necessary for approval.*
9. *If the project is not energy related, answer the following questions.*
10. *Who is going to be benefit from the project? What if any will be the economic, social or environmental impact of the project?* In particular, this project will benefit those who either choose to become beekeepers and those who would like to teach about beekeeping (such as agricultural education majors). Because this will be a non-profit venture with all proceeds returned to the Beekeeping Club, no individual will benefit economically from money generated from the sale of hive products. However, those who grow cucurbits (various [squashes](http://en.wikipedia.org/wiki/Squash_(plant)), [melons](http://en.wikipedia.org/wiki/Melon), and [gourds](http://en.wikipedia.org/wiki/Gourd), including crops such as [cucumber](http://en.wikipedia.org/wiki/Cucumber), [pumpkins](http://en.wikipedia.org/wiki/Pumpkins), [luffas](http://en.wikipedia.org/wiki/Luffa), and [watermelons](http://en.wikipedia.org/wiki/Watermelon)) at the ISU Horticultural Center will benefit from increased pollination provided by honeybees.
11. *If this is an event, who can attend, how will it be advertised, and who will be involved?* One major “event” associated with this project will be the beekeeping short course to be offered during the spring of 2012. The workshop will be open free of charge to ISU students and members of the community will also be permitted to participate for a small fee. The event will be advertised though local media such as *The Pantagraph* and by working with organizations such as the Sugar Grove Nature Center and the UIUC Cooperative Extension Service.
12. *If equipment is being purchased, who is qualified to use it, what is the projected life of the project, and how will the equipment be decommissioned?* The beekeeper leading this group – including a number of area beekeepers who will also assist with this effort – is highly qualified to use all materials. The expected life of the project is “into the foreseeable future” with no end date in view. Nearly all beekeeping materials are made out of wood. If decommissioned, the materials will be disposed of in an ecologically friendly manner.
13. *Will the equipment require additional inputs? If so, where will the inputs come from and what are costs associated?* No.
14. *If this is for educational curriculum, who can take the course and/or training?* This project in the future might become a for-credit ISU course depending upon the demand. If such a course were developed and approved, the most likely participants would be Agriculture majors as well as Agriculture education majors who will become teachers in Illinois schools.
15. *Provide any additional information about the project you deem necessary for approval.* The project is a joint effort of ISU students, area beekeepers, the ISU Agriculture Department, and several local entities such as the ISU Horticulture Center and Sugar Grove Nature Center. Beekeeper Dr. Carl Wenning from the ISU Physics Department will serve a technical expert. He is an internationally known beekeeper with a long record of contributions to the field. His beekeeping CV is available at the following URL: <http://www.phy.ilstu.edu/pte/personal.htm>

**V. Summary**

*Please briefly summarize the proposed project. The summaries of projects that are selected will be available online.*

Beekeeping Sustainability Project: This project is designed to allow for the development of an apicultural outreach, including the establishment of an apiary with 6 beehives, under the auspices of ISU’s Horticulture Club in cooperation with the ISU Agriculture Department.

**Completed applications should be emailed to: SGASustainability@ilstu.edu by January 30, 2012**