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Bent Creek Institute Receives Grant from The N.C. Biotechnology Center to Advance Natural Biotechnology Work

ASHEVILLE – The North Carolina Arboretum’s Bent Creek Institute (BCI) was recently awarded a \$73,450 grant that will expand its role as a leader in the natural biotechnology field.

The North Carolina Biotechnology Center awarded the grant to Dr. Joe-Ann McCoy, director of BCI’s Germplasm Repository, to develop a North Carolina Endophyte Germplasm collection. The germplasm collection along with its resulting research will provide opportunities for natural biotechnology applications, and health and wellness product development.

Endophytes are fungi or bacteria that live within a plant for all or part of its life without causing disease. All known plants contain endophytes and emerging research indicates these fungi and bacteria may provide benefits to the plants they inhabit, such as resistance to drought and pests, similar to the gut microflora in humans.

Endophytes have also been shown to produce compounds that may combat harmful pathogens and – in some instances – even cancer in animals and humans. Taxol, a drug often used to combat cancer in humans originated from the bark of the Pacific Yew tree (*Taxus brevifolia*), which has recently been found to harbor an endophyte which produces tamoxifen, the chemical of interest.

McCoy’s role at BCI is to establish diverse collections of native medicinal plant germplasm and to curate those collections through the long-term storage of seed, DNA, vouchers, endophytes and associated data. She also identifies and provides appropriate species for research projects with collaborative scientists and manages data collection and research to improve germplasm collection methods.

McCoy completed her doctorate in plant physiology from Clemson University and was recruited to BCI a few years ago from Iowa where she served as medicinal plant curator for the USDA North Central Regional Plant Introduction Station and the NIH ISU Center for Research on Dietary Supplements. She has worked with various aspects of medicinal plant collection, propagation and analytical research for the past 13 years.

As a leader in the natural biotechnology field, BCI is well-positioned to research, preserve, and create a sustainable path toward product development for increased health and wellness. As part of The North Carolina Arboretum, BCI’s work is rooted in respect for biodiversity and seeks to translate research innovations into environmentally sensitive and sustainable economic advantage for the state.

Unlocking the secrets of WNC’s biodiversity through documented, peer-reviewed science will provide results for use in alternative and complementary medical treatment of human disease and tap into international natural products commerce, a global industry assessed at \$200 billion growing annually at 14%.

The ground-breaking work of the BCI and its partners, combined with WNC’s biodiversity, history and existing culture of natural product and alternative therapies suggests a statewide strategy to position WNC as the location for federal research, regulatory and certification programs. For more information, visit www.bentcreekinstitute.org.

***The mission of The North Carolina Arboretum is to cultivate connections between people and plants.
Visit www.ncarboretum.org for more information or call 828.665.2492.***

The NC Arboretum is located next to the Blue Ridge Parkway entrance at Milepost 393. From I-26, take Exit 33 and follow Blue Ridge Parkway signs for two miles to the entrance ramp. Arboretum grounds are open 7 days a week. For property hours and parking fee information, visit www.ncarboretum.org/plan-a-visit. For information, call 828.665.2492 or visit www.ncarboretum.org