



Story by **CAROL HUNTER**  
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# MISSOURI'S



**The Powell Center's daylily garden, left, has more than 130 varieties donated by the Mo-Kan Hemerocallis Society. Intern Michele Bremer helps tend the plants. Above, Jim Greene of the Powell Center staff displays a walking stick cabbage in the international garden.**

**BETTY CROCKER** has no recipe for cabbage like this. The stalk is about four feet tall, with a bunch of leaves clustered at the top. And the recipe for preparing this vegetable calls for shellac.

Welcome to the international garden at the Powell Horticultural and Natural Resources Center, where more than 130 vegetables from five areas of the world were grown this past summer. The vegetable in question, a walking stick cabbage, is native to an island in the English Channel. As its name implies, this cabbage provides a sturdy stalk suitable for a cane when varnished.

The international garden is just one display at Mizou's 580-acre Powell Center, located 30 miles east of Kansas City near Kings-

ville, Mo. In addition to bountiful gardens, the acreage that was once a dairy farm and then a Boy Scout camp is dotted with perennial and annual flower beds, ornamental grasses, ponds, rolling hills, nature trails and wooded terrain. The land was made available to the University by the Powell Foundation in 1984.

Under Mizou's tutelage, the center combines education, display and research. Urban-dwellers or the elderly might consider a square-foot garden, in which each vegetable is allowed one square foot. "You plant as many seeds as space allows," explains Natalia Howard, BS Agr '86, the center's education and events coordinator. All of the center's vegetables, as well as its peren-

# OUTDOOR CLASSROOM



**Square-foot gardens produced a cornucopia of vegetables at the Powell Center this summer. Dwarf plants are especially suited to the 4-by-4 foot plots, which are popular with the elderly and urban dwellers.**



## Impatiens are photographed by Natalia Howard, education coordinator.

nil flowers, are grown from seed.

Each four-by-four foot garden on display at the center should provide a summer's worth of fresh vegetables for one person, Howard says. Just one of the square-foot gardens this summer produced dwarf Danish Brussels sprouts, marigolds, Tennessee green pod beans, red fire lettuce, purple danube kohlrabi, oak leaf lettuce and carrots.

In the organic garden, "We're working with nature instead of using chemicals for pest management," Howard says. Strong-smelling herbs serve double duty by interfering with insects' ability to sniff out plants they favor. Compost improves the soil's fertility and structure.

Leaky hose irrigation is another technique demonstrated at the Powell Center. Made from recycled tires, the hose "sweats" to provide moisture to plants. "It can be used to apply water-soluble fertilizer, and it keeps the water off the foliage," says Joe Hobson, BS Agr '86, the center's interim director. Burying the hose a few inches sends water directly to the roots, he adds.

The system appears successful. Excluding the international garden, the Powell Center produced 15,095 pounds of vegetables on about 13,000 square feet of land this past year, as of Aug. 4. Many of these vegetables were donated to local families, a

senior center and a high-school home economics class.

**THE POWELL CENTER** also is a testing ground for College of Agriculture researchers developing plants especially suited to Missouri's climate. In a horticulture tissue laboratory on Campus, Professors Victor Lambeth, Ron Taven and Chaoxi Dai developed a hardy azalea for the state's extreme weather conditions. The new flower should bloom at the center this spring.

Lambeth also volunteers as a judge for vegetable trials conducted by All-America Selections, a non-profit educational organization. The center is one of 28 AAAS trial grounds in the United States and Canada.

Home landscapers can be the judge of the Powell Center's flowers. Some 55 varieties of annuals—flowers that last just one season—will bloom this spring. The perennial garden displays 114 varieties.

Even a collection of prairie plants gives landscaping ideas. Howard, who planted the grasses as a summer intern in 1985, selected drought-tolerant plants that are resistant to insects and diseases. "They require minimal maintenance, too," she says.

For the interior decorator, the center includes a garden of plants suitable for ornamental arrangements. Eucalyptus and

baby's breath were harvested in early autumn.

The Powell Center's future harvests should be even more fruitful. To better serve Missourians, Environmental Planning and Design of Pittsburgh was hired to develop a master plan for the center. The firm is using suggestions from the center's staff, Mizzou faculty, alumni and an advisory board. One of the first priorities will be a visitors center.

Because most of the Powell Center land is undeveloped, there is much potential for growth, Hobson says. Those who wish to assist in the center's development may send tax-deductible contributions, payable to the University of Missouri, to Route 1, Box 90, Kingsville, Mo. 64061. Write to the same address to be added to the center's mailing list.

"The Powell Center is unique because it has elements of a botanical garden, nature center and arboretum," Howard says. "But most of all, it's a place to learn." □

**The center is open to visitors from dusk until dawn daily except Christmas; however, staff members are available only on weekdays.**

**Workshops, hikes, tours and children's programs are offered year 'round. For information, call (816) 566-2600.**

## UNCOMMON HARVEST



Grains amaranth is high in protein.

**IMAGINE** a Midwestern farmer harvesting kiwi fruit. Soybeans, sure. But kiwis? Well, even soybeans were a novelty at one time. But then came World War II. Lard was scarce, and soybeans provided fats and oils with the added bonus of being unsaturated.

The next generation of new crops could sprout from a depressed farm economy. "It's not something for which you would abandon corn, soybeans and cattle, but it might provide for some diversification," says Dr. Kenneth Schneeberger, assistant dean for research in the College of Agriculture.

Mizzou researchers are experimenting with hardy kiwi at the Powell Horticultural and Natural Resources Center, located 30 miles east of Kansas City. Alternate grains have cropped up at six other University research centers in Columbia, Mount Vernon, New Franklin, Novelty, Portageville and Spickard. Plots of crambe, grains amaranth, buckwheat, mungbeans, castorbeans, sunflowers and sesame were grown this past year.

"Different soils and climates in these regions gave us some idea of the potential for crops we didn't know much about," Schneeberger says. The plots also are a testing ground for new technologies for growing the alternate crops.

Crambe and grains amaranth showed the most promise in Mizzou's studies. Crambe is an imported oilseed used in many American products, such as nylons, transparent films and lubricants for steel processing. In fact, the United States imports 150,000 tons of

crambe a year. Because of its many uses, the Office of Critical Materials in Washington is interested in domestic production of crambe, Schneeberger says.

Grains amaranth could be blended with wheat for a more nutritious flour. In addition, the high-protein grain might even be popped. "We hope to explore with an agribusiness firm the potential for grains amaranth as a snack food," Schneeberger says.

Marketing research, he says, is an important part of the new-crops venture. But it may be awhile before some of these crops go to market. "We need a few years of data before we can encourage farmers to take the risk with these crops. For now, we won't go beyond encouraging small acreages where farmers know they can market and sell their product."

At the onset, growing alternate crops might be 50 percent more expensive than corn or soybeans. "Learning more about production practices will bring the cost down," Schneeberger predicts. Extension agents are showing Missourians techniques for growing alternate berry and vegetable crops as part of Alternatives for the '80s, a research and extension effort.

Last year, the University invested \$25,000 in alternate crops and garden activities around the state. "We're doing this for all farmers in Missouri," Schneeberger says. The investment is only pennies per farm, but it could reap valuable dividends for Missouri agriculture. □