



Date: December 2013

To: AASHE STARS

From: Pamela K. Joseph, Director of Communications, Office of Communications
Dr. Mark Kleffner, Professor, School of Earth Science, Division of Earth History
The Ohio State University at Lima

Re: Ohio State Lima Community Garden and Rock Garden

The Ohio State University at Lima (Ohio State Lima) is located on an expanse of 565 acres of wooded landscape in northwestern Ohio. The co-located institutions Ohio State Lima and Rhodes State College comprise the Lima Campus.

The Lima Campus students and faculty seek to enrich the campus and local Lima community with academic and community events to enrich the experience of all. In 2013, the Lima Campus Community Garden sought to expand its appeal on two fronts: an expanded community garden endeavor and incorporating a permanent rock garden into the event. The Lima Campus Community Garden is one way the campus population seeks to broaden the sustainability mind-set of the young and not-so-young.

The campus student group, the Lima Aggies, plays a significant role in the campus activities. The Aggies is open to Ag and non-Ag majors interested in agricultural activities. The club provides the opportunity for students on campus to get engaged with agriculture as well as educate the area about agriculture. The Aggies are the primary sponsor of the campus garden. In May 2013, the garden was started with seven plots along the main inner campus walking path. In the Fall 2013, during Homecoming Week, the campus event centered on bounty from the garden: freshly-picked vegetables, breads made from the garden-harvested zucchini, and baked pumpkin and sunflowers from the garden. Proceeds from the market will support efforts to expand what the garden produces next year. Future plans include a meal for the campus made from items grown on campus. In 2013, the Farmer's Marketplace was open to all faculty, staff and students at Ohio State Lima and Rhodes State College. The event was publicized to the surrounding community via local media outlets. The ongoing "sustainable" nature of this campus event is based on sound, sustainable agricultural farming techniques.

An important addition to the new Ohio State Lima community garden was made this year: a rock garden. The rock garden provides a perfect example of sustainability as practiced by the Earth's lithosphere and mantle, the portion of the Earth's interior comprised of rocks. The rock garden consists of bands of each of three types of rocks --- sedimentary, metamorphic and igneous --- and in the same order of layering in which they typically comprise the lithosphere and mantle: sedimentary rocks on top, with metamorphic rocks below them and igneous rocks underlying both. In addition to the rocks in the rock garden, this concept incorporates plants, many native to Ohio. The plants demonstrate the importance of rocks and geologic processes in our everyday lives. In addition, rocks selected for the rock garden were collected from two quarries that are the source for material to build or expand roads and highways in Ohio. Those rocks are also reused whenever roads are renovated --- the old roadbed torn up and recycled to be used as material for new or renovated roads. The rock garden provides the community serviced by the Lima campus with an excellent example of natural sustainability, as well as helping to make our community aware of the importance of our environment and its resources in our everyday lives.

This innovative concept of a campus community garden/rock garden expands the value of Ohio State Lima. This endeavor should have a lasting affect and broaden the environmental, educational, social and economic impact of the Lima campus and Lima community.

Sincerely,
Mark Kleffner, PhD
Professor of Earth Sciences



Ohio State Lima: Rock Garden – The Science Behind the Scenery

The rock garden is an important addition to the new community garden at Ohio State Lima. The rock garden provides a perfect example of sustainability as practiced by the Earth's lithosphere and mantle, the portion of the Earth's interior comprised of rocks. Igneous rocks in the Earth's mantle and lithosphere, as well as sedimentary and metamorphic rocks in the Earth's lithosphere can be melted to form magma, which then rises toward the surface, and eventually cooling and solidifying at a higher level in the mantle or lithosphere or on the surface to become a new igneous rock. Once exposed at the surface or close to the surface, igneous rocks, metamorphic rocks, and sedimentary rocks are weathered, eroded, and the products of those processes, sediments and solubles, transported and deposited, eventually becoming compacted and usually cemented to form new sedimentary rocks. Finally, when any sedimentary, igneous, or metamorphic rocks are subjected to pressure and/or heat as a result of being located at greater depths within the lithosphere than at the surface, usually by burial or subduction, they are changed into new metamorphic rocks. The lithosphere and mantle "use" igneous, sedimentary, and metamorphic rocks in a variety of processes, but the products of all of those processes eventually are recycled into rocks again. The rock garden consists of bands of each of those three types of rocks, igneous, sedimentary, and metamorphic, and in the same order of layering in which they typically comprise the lithosphere and mantle: sedimentary rocks on top, with metamorphic rocks below them and igneous rocks underlying both. In addition to the rocks in the rock garden, there will also be some plants, perhaps some native to Ohio. The plants demonstrate the importance of rocks and geologic processes in our everyday lives. If it wasn't for the rocks transported by the glaciers into Ohio during the Ice Age, the fertile soil that developed as a result of weathering of those glacial deposits would not exist, and Ohio would not have all of the required natural resources for agriculture that it does. Many of the rocks from the two quarries they were collected from were used to build or expand roads and highways in Ohio, including US 33. Those rocks are also reused, for whenever roads are renovated; the old roadbed is torn up and recycled to be used as material for new or renovated roads. The rock garden provides the community serviced by the Lima campus with an excellent example of natural sustainability, as well as helping to make our community aware of the importance of our environment and its resources in our everyday lives. The geology museum at Ohio State Lima will have a display that includes all of the information above, and direct museum visitors to the community garden and rock garden.