



WSU Mount Vernon Northwestern Washington Research & Extension Center

WASHINGTON STATE UNIVERSITY



NWREC PLANT GROWTH FACILITY

WSU Mount Vernon NWREC faculty carry out research and education programs that help solve problems and create new economic opportunities for area farmers and the agricultural community. Research conducted in the new NWREC Plant Growth Facility will lead to better understanding of how environmental factors impact crop growth and development, crop disease diagnosis, soil bioassays, soils and crop nutrient analyses, new crop varieties, new plant propagation methods, and other practical impacts for area farmers. For example, the annual *Spinach Soil Bioassay* identifies pathogen-infested fields, saving Skagit seed growers and companies hundreds of thousands of dollars per field each year. These critical outcomes are essential for keeping Skagit County farmers and agricultural businesses economically competitive and resilient in a rapidly changing and challenging local and global marketplace.

NEW GREENHOUSE AND GROWTH CHAMBER STUDIES

PLANT PHYSIOLOGY

- ♥ *Temperature effects on pollen and ovule development and impacts on pollination across blueberry cultivars. (DeVetter)*
- ♥ *Pollination requirements and cross pollination benefits in blueberry. (DeVetter)*
- ♥ *Characterize temperature and light effects on floral bed development across blueberry cultivars. (DeVetter)*
- ♥ *Developing new efficient and effective grafting methods for melon crops (Miles)*
- ♥ *Propagating tea cuttings to establish new nursery crop opportunities (Miles)*

PLANT DISEASE

- ♥ *Screening assays for evaluating cultivar resistance to potato diseases. (Mattupalli)*
- ♥ *Effect of edaphic factors on disease development by soilborne pathogens of potato and blueberry. (Mattupalli)*
- ♥ *Correlation between daylength and pathogen sensitivity for daylength-sensitive seed crops such as spinach. (du Toit)*
- ♥ *Evaluating pathogen control methods under day-length and temperature conditions representative of seasonal diversity. (du Toit)*
- ♥ *Perform research on plant pathogens that require quarantine or USDA APHIS PPQ [regulated/approved] containment. (du Toit)*

SOIL SCIENCE

- ♥ *Assessment of soil health, mineralizable carbon and nitrogen incubations across diverse cropping systems. (Griffin LaHue)*
- ♥ *Mineralization dynamics of common fertility amendments for organic blueberries. (LaHue)*
- ♥ *Determine nutrient release from organic matter amendments to predict potential benefits for diverse soil types and production systems. (Griffin LaHue)*
- ♥ *Predicting nitrogen release from soil organic matter for blueberry production. (LaHue)*

PHASE 1 | HEADHOUSE

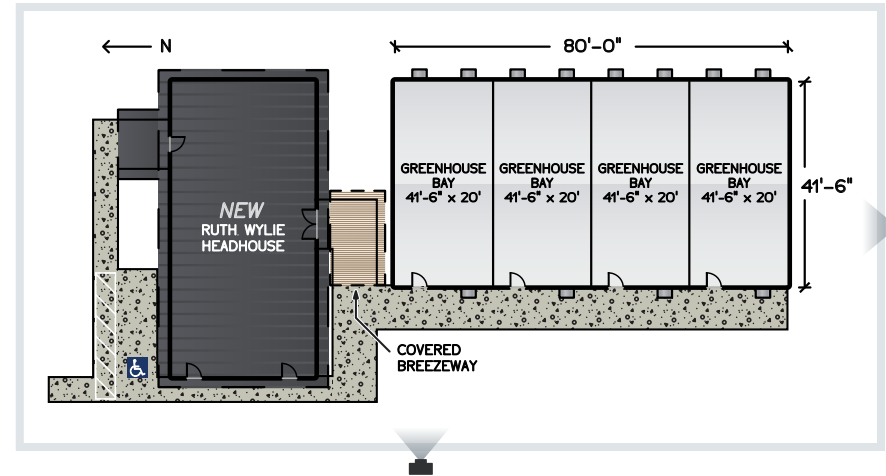
PHASE 1 OF THE WSU MOUNT VERNON NWREC PLANT GROWTH FACILITY IS COMPLETE.

The *Ruth Wylie Headhouse* building includes a 900 square foot research office, a 610 square foot field laboratory, and an equipment room to operate the Phase 2 greenhouse. Phase 2 of the Plant Growth Facility will include a 4,000 square foot greenhouse. We have received a Skagit County Economic Development Grant of \$250,000 toward Phase 2 and are seeking matching funds to enable us to construct the new Plant Growth Facility.

FOR MORE INFORMATION ABOUT THIS PROJECT OR TO DONATE...

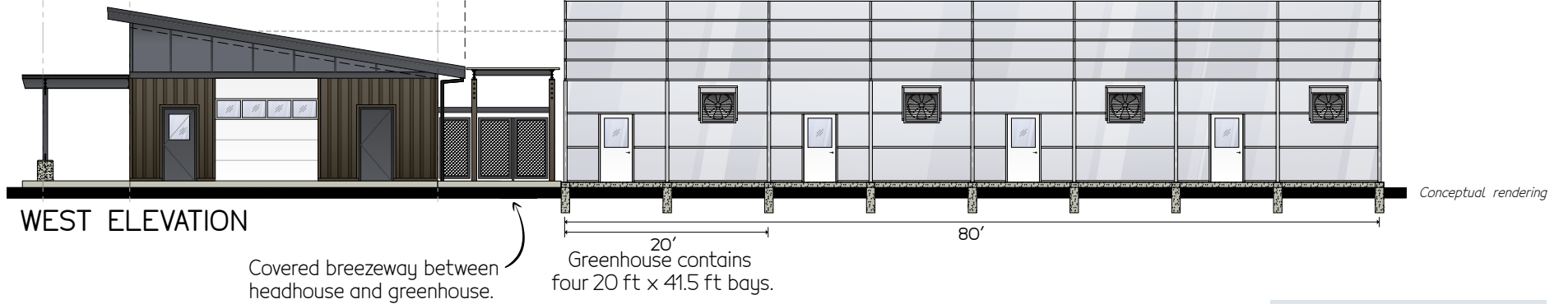
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SHEA SARALECOS, DIRECTOR OF DEVELOPMENT | shea.saralecos@wsu.edu | 509-335-3764

PHASE 2 | GREENHOUSE



PHASE I:
HEADHOUSE (COMPLETE)

PHASE II: PROPOSED GREENHOUSE

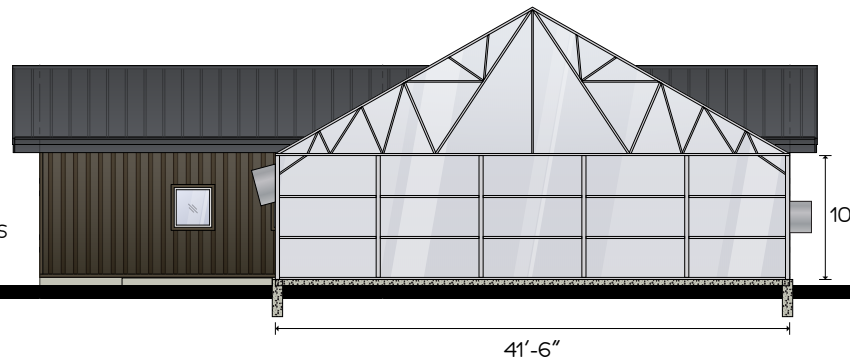


Covered breezeway between headhouse and greenhouse.

Greenhouse contains four 20 ft x 41.5 ft bays.

GREENHOUSE BAYS
10 feet below gutters

SOUTH ELEVATION



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