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Field experiments were conducted at Bixby, OK, in 2007. Four compost treatments and an unamended control were compared for field production of eight (spring) or four (fall) red radish (*Raphanus sativus* L.) cultivars. Treatments were either spent mushroom substrate or yard waste compost spread over plots to an average depth of 2.5 or 5 cm and preplant-incorporated. Radishes were direct seeded into prepared plots and subsequently grown using standard cultural practices. Harvested roots were evaluated for yield and marketability. Samples of median-sized marketable roots were shredded and juice was analyzed in the laboratory for content of the major pungency compound, 4-methylthio-3-butenyl isothiocyanate (MTBITC). In the spring, mean concentrations of MTBITC ranged from 15 to 19  $\mu\text{mol}$  per 100 g juice in roots from the four compost treatments, and differences were not significant ( $\alpha = 0.05$ ). There were not enough roots to analyze from the unamended control plots due to herbicide toxicity. Cultivars differed in mean concentration of MTBITC, ranging from a high of 28  $\mu\text{mol}$  per 100 g juice for 'Cherry Belle' to a low of 10  $\mu\text{mol}$  per 100 g juice for 'Crunchy Royale'. In the fall, mean concentrations of MTBITC ranged from 4 to 10  $\mu\text{mol}$  per 100 g juice in roots from the four compost treatments. Differences were not significant ( $\alpha = 0.05$ ), and there were no differences from the control value of 7  $\mu\text{mol}$  per 100 g juice. The mean concentration of MTBITC was 8  $\mu\text{mol}$  per 100 g juice for the four cultivars tested in the fall, and the cultivars did not differ. Results indicate that the tested compost treatments did not affect pungency of red radish roots.

*Specified Source(s) of Funding:* Hatch and Private Industry

## (218) Adaptation of Introduced Peppers in Guizhou, China

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Guizhou is one of the leading pepper production provinces in China and annual yield of dried peppers could reach one million tons. To increase the diversity of cultivated pepper varieties, forty-three cultivars from commercial growers in U.S. were introduced and evaluated for their performance in Guizhou (China). Although the germination rate of all introduced *Capsicum* seeds were stated 98% or higher, the germination percentages in Guizhou ranged from 20% to 100%. Ornamental peppers had germination rates 80% or higher and the perfect germination was obtained from 'Explosive Ember'. Sweet bell peppers germinated from 56% ('Sweet Pimento Lipstick') to 85% ('Green to Red Bell'). Hot (spicy) peppers had highly variable germination rates from 20% ('Jalapeno') to 93% ('Andy F<sub>1</sub>'). Germination indexes were 0.20 ('Hungarian Hot Wax') to 8.03 ('Numex Joe Parker'). Average germination days were from 9 to 23 days. Although 'Numex Joe Parker' took more than three weeks to germinate, it germinated uniformly. The growth of plants was measured by height, number of branches, and canopy. 'Jalapeno' was the shortest plants at 24cm, while 'Numex Joe Park' reached 78.8cm. Number of branches, defined as bearing fruits, was from 3 ('Jalapeno') to 20 ('Red Caribbean Habanero'). The canopy ranged from 730 (cm<sup>2</sup>, 'Long Pepper Mix') to 3,600 (cm<sup>2</sup>, 'Hungarian Hot Wax'). 'Andy F<sub>1</sub>', 'Numex Joe Parker', and other 33 cultivars should grow Guizhou growing conditions well. 'Jalapeno' and other seven cultivars should be further evaluated for their adaptation.

*Specified Source(s) of Funding:* Guizhou Normal University

## (219) Early Onion Harvest Options in the Pacific Northwest

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In the U.S. Pacific Northwest, onions are typically direct seeded in February through March, harvested from late August through October, and marketed out of storage from October through March. An earlier harvest could be advantageous for processors, increasing the period when locally produced onions are available. Research at the Oregon State University Malheur Experiment Station evaluated whether earlier harvests might be possible by producing bulbs from transplants and sets. Transplants could be produced in the winter and planted in March. Transplants produced in unheated "low tunnel" cold frames had inferior performance compared to transplants produced in a heated greenhouse. Transplants produced from field-grown over wintering varieties performed inconsistently. Onion bulb production from greenhouse-grown transplants or transplants from Arizona can be harvested 4–6 weeks earlier than bulbs