Kousik, C.S. and Thies, J.A. 2010. Response of U.S. bottle gourd (*Lagenaria siceraria*) plant introductions (PI) to crown rot caused by *Phytophthora capsici.* Phytopathology 100:S65.

Phytophthora capsici can cause severe damage to cucurbit crops grown in open fields in the southeast regions of U.S.A. In recent years there has been a growing interest in the U.S.A. in grafting watermelon plants onto various cucurbit rootstocks including bottle gourds for managing soil borne diseases. We evaluated over 200 U.S. Plant Introductions (PI) of bottle gourd for resistance to crown rot caused by *P. capsici* in the greenhouse by inoculating four week old seedlings with a zoospore suspension (10^4/ml/plant). Plants of watermelon variety 'Mickey Lee' were used as the susceptible check. This trial was conducted twice. Plants were rated on a 1–9 scale of increasing disease severity where 1 = no symptoms to 9 = plants dead. All the plants of 'Mickey Lee' were dead within 2–3 weeks after inoculation. Eleven (5.2%) of the PIs tested were resistant to *P. capsici*. Of these 11 four were resistant and 7 were moderately resistant. Variability in the level of resistance of individual plants within PIs also was observed. Based on the two evaluations, 42 PIs were evaluated again and rated four times over 50 days after inoculation. Disease development was significantly ($P = 0.05$) slower on PI 271352, PI 497351, PI491278 and PI 487482 compared to checks. These PIs can be considered as potential sources of resistance to *P. capsici*. Single plant selections from resistant PIs are being made for use in our rootstock breeding program.