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Phytophthora blight caused by *Phytophthora capsici* is a major concern in vegetable production in Georgia and other southeastern states. Studies were conducted to determine the diversity of *P. capsici* from vegetable crops in Georgia. Sporangia of the isolates ranged from 38.5 to 55.8 µm in length with length to width ratios ranging from 1.4 to 2.0. The diameters of oospores ranged from 24.8 to 30.4 µm, with no considerable differences among isolates from different hosts. All the isolates tested could grow at 35°C, but growth rates of the isolates differed at all the temperatures evaluated. Studies with susceptible and tolerant bell pepper cultivars under greenhouse conditions indicated that there were significant differences among the isolates in aggressiveness. The majority of the isolates were sensitive to 100 ppm of mefenoxam but insensitive to 100 ppm of cyazofamid, while all the isolates were sensitive to fluopicolide or mandipropamid. EC_{50} values in suppressing mycelial growth, zoospore germination, and sporangium production averaged 0.2, 2.7 and 1.7 ppm for fluopicolide and 0.02, 6.6 and 0.02 ppm for mandipropamid. Analysis of the variability of *P. capsici* isolates in Georgia using different molecular markers indicated that the isolates were genetically distinct. These results suggest that *P. capsici* populations infecting vegetable crops in Georgia are genetically diverse, which should be considered in developing resistant cultivars or other disease management programs.