

ONION (*Allium cepa* ‘Century’)  
Internal bulb rot; *Pantoea* spp.  
External bulb rot: *Enterobacter* spp.,  
*Rouxiella* spp.

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### Evaluation of neck-clipping length on post-harvest incidence of external and internal bacterial bulb rot in onion, Georgia 2022.

Four rows of ‘Century’ onions were transplanted into 6-ft beds (panels) on 10 Dec at the Vidalia Onion and Vegetable Research Center, Lyons, GA. The fertility program was consistent with University of Georgia Extension Service recommendations. Experimental design consisted of a randomized complete block with four replications. Treated plots were 20-ft long and were separated on each side by non-treated border panels. Plots were separated by a 3 ft bare-ground buffer within the row. Thrips and disease management program was followed according to the UGA Cooperative Extension recommendation. Natural infection was relied upon. At harvest maturity, onion bulbs were undercut using a bed ridge frame undercutter (Parma Inc.) followed by a three-day field curing period. Following curing, dried necks of onion bulbs were clipped manually at four different lengths; 1-in., 2-in., 3-in. and close-to the shoulder of the bulb (0-in.). Roots were also clipped but care was taken not to clip too close to the basal plate. Onion bulbs from each replicate plot (four replicates) were bagged and stored at 4°C for one month. After period of storage, onion bulbs were individually cut using a sterile knife to determine the incidence of internal rot. Data for mean incidence of bacterial external and internal bulb rot were analyzed using the Fisher’s protected LSD test at  $P \leq 0.05$  (SAS version 9.4, SAS Institute, Cary, NC). Total accumulated rainfall was 5.5 in. between Mar and Apr. The average high and low temperatures for the month of Dec (2021) were 55 and 42° F, respectively and for the month of Apr (2022) were 74 and 61° F, respectively.

Internal bulb rot was evaluated in onion bulbs after a month of storage. The onion neck-clipping length had a significant effect on internal bulb rot incidence but not on the external rot. Significantly higher incidence of internal bulb rot was observed with the neck-clipping length of one inch or when the necks were cut close to the shoulders compared with the two and three inches. Internal rot was associated with mainly *Pantoea* spp., *Enterobacter* spp. *Rouxiella* spp. based on arbitrarily-collected symptomatic samples. Bulb rot due to post-harvest fungal pathogens (*Botrytis* sp. and *Aspergillus* sp.) was not observed.

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Onion neck-clipping length (in.)	Internal rot incidence (%) <sup>z</sup>
Three	10.0 b <sup>y</sup>
Two	11.5 b
One	18.0 a
Cut-close to shoulder of onion bulb	18.5 a
<i>P-value</i>	0.003

<sup>z</sup>Mean internal bulb rot incidence was calculated as number of bulbs with internal rot/total number of bulbs evaluated × 100.

<sup>y</sup>Means followed by the same letter(s) within each column are not significantly different according to Fisher’s protected LSD test at  $P \leq 0.05$ .