

### **Abstract**

*Asparagus officinalis* spears cv. 'Brock Improve' were fumigated with 0, 50, 250, 500 or 1000 ppb 1-MCP for 12 hr at 20°C and then held at 20°C with 90% RH. Fiber and lignin contents increased with storage corresponding to the increasing toughness of the spears indicated by increasing shear-press force. 1-MCP reduced fiber and lignin formation and toughening. Such inhibitory effect of 1-MCP increased with increasing concentration of up to 500 ppb. The effectiveness of 1-MCP declined at higher concentration of 1,000 ppb. Peroxidase activity followed similar trend as fiber and lignin content. It was also inhibited by 1-MCP which was most effective at 500 ppb. However, peroxidase activity did not coincide with lignin content during the first 2 days of storage.