

**Organic Herbicides: A Review.** William L. Patzoldt\*, Blue River Technology, Sunnyvale, CA. \*Corresponding author [william.patzoldt@bluerivert.com](mailto:william.patzoldt@bluerivert.com)

Organic herbicides have a significant role in modern agriculture. Many products on the market are based on fatty acids or essential oils and have similar characteristics and mechanisms of action. In general, these products are contact (non-systemic) and non-selective herbicides that cause loss of membrane integrity, cellular leakage, and rapid tissue necrosis upon application to unwanted plants. Furthermore, activity is enhanced with increasing temperatures and full sunlight. For fatty acids, carbon chain length appears to be important for maximum efficacy with eight to nine carbons chains being optimal (Coleman and Penner, 2006). While these herbicides are currently being used for weed management, current methods of application are a limiting factor for maximizing effectiveness in production agriculture. The introduction of computer technology, specifically artificial intelligence and machine learning with the ability to identify and treat only weeds and not crops, may offer new opportunities for the use of organic herbicides.

### **Literature Cited**

Coleman, R and D Penner. 2006. Desiccant Activity of Short Chain Fatty Acids. *Weed Tech.* 20:410-415.