POTENTIAL IMPACTS OF BUFFER ZONES ON FLORIDA STRAWBERRY

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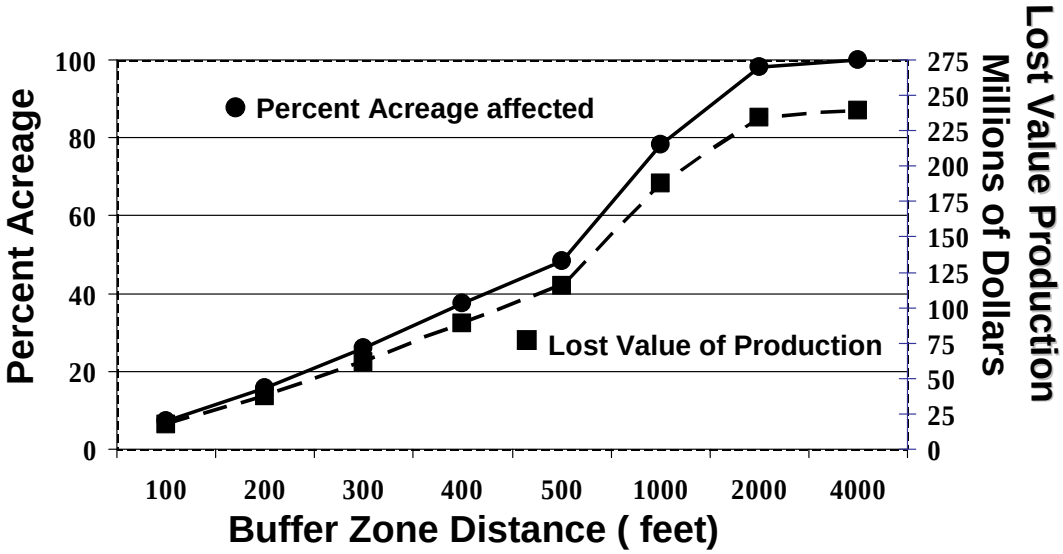
EPA is proposing to implement requirement for possibly substantial buffer zones surrounding fumigant treated fields. Based on measurable distance and regulatory requirement for any specific fumigant used, buffer zones will restrict where fumigant field treatments and crop production, relative to any occupied structure or human activity, can legally occur. As a result, there is significant grower concern that the practical uses of chloropicrin (and other fumigants) as a pest management tool will be eliminated because EPA has proposed the implementation of large buffer zones, as much as 4724 feet (0.9 miles), surrounding fumigant treated fields. The objective of studies reported herein were therefore to characterize acreage and economic impacts from lost production for implementing buffer zone restrictions of 100, 200, 300, 400, 500, 1000, 2000, and 4000 feet surrounding each Hillsborough County Florida strawberry field.

These analyses reported herein used ArcGIS mapping and buffer tool software to indicate that buffer zone requirements of 2000 feet or more will virtually eliminate 100% of strawberry production in Hillsborough County, FL **(**Fig. 1**).** In general, and using adjusted centroid values, the results for imposing buffer zones of 100, 200, 300, 400, 500, 1000, 2000, 4000 feet will cost Hillsborough County strawberry growers approximately $16.0, $34.3, $56.1, $81.0, $105.0, $170.1, $213.0, and $217.0 million dollars, respectively, by reducing available land by 7.4, 18.8, 25.8, 37.3, 48.4, 78.4, 98.1, and 100%, respectively. The impact of implementing increasing buffer zone distances on the disappearance of farmable acreage is illustrated in Figure 2. It demonstrates that if acceptable regulatory changes in proposed buffer zone restrictions do not occur, Florida strawberry growers will either have to move to new production sites in which buffers are not at issue, or accept significant yield penalties following use of other, less effective, pest and crop management tactics.

The sheer magnitude of these economic impacts will surely make use of soil fumigants like chloropicrin, metam potassium, metam sodium, or other coformulated fumigants with these compounds impractical for growing strawberry in Hillsborough County because of the relative proximity of occupied structures to production fields. Clearly, the rapid implementation of buffer zones could have disastrous economic consequences to the Florida Strawberry industry. It is hoped that some reasonable compromise can be obtained and that the time needed to develop new rate and emission reducing strategies will be factored into any EPA timetable to broadly implement buffer zone requirements for Chloropicrin and other essential fumigants.

Fig. 1. Impact of new EPA proposed Buffer Zone restrictions on percentage Florida strawberry acreage affected and net value of loss production (millions of dollars) in Hillborough County, FL using adjusted tax parcel centroid values for buffer zone distance determinations. Lost production value is calculated as a percentage of 7300 acres harvested in 2006.



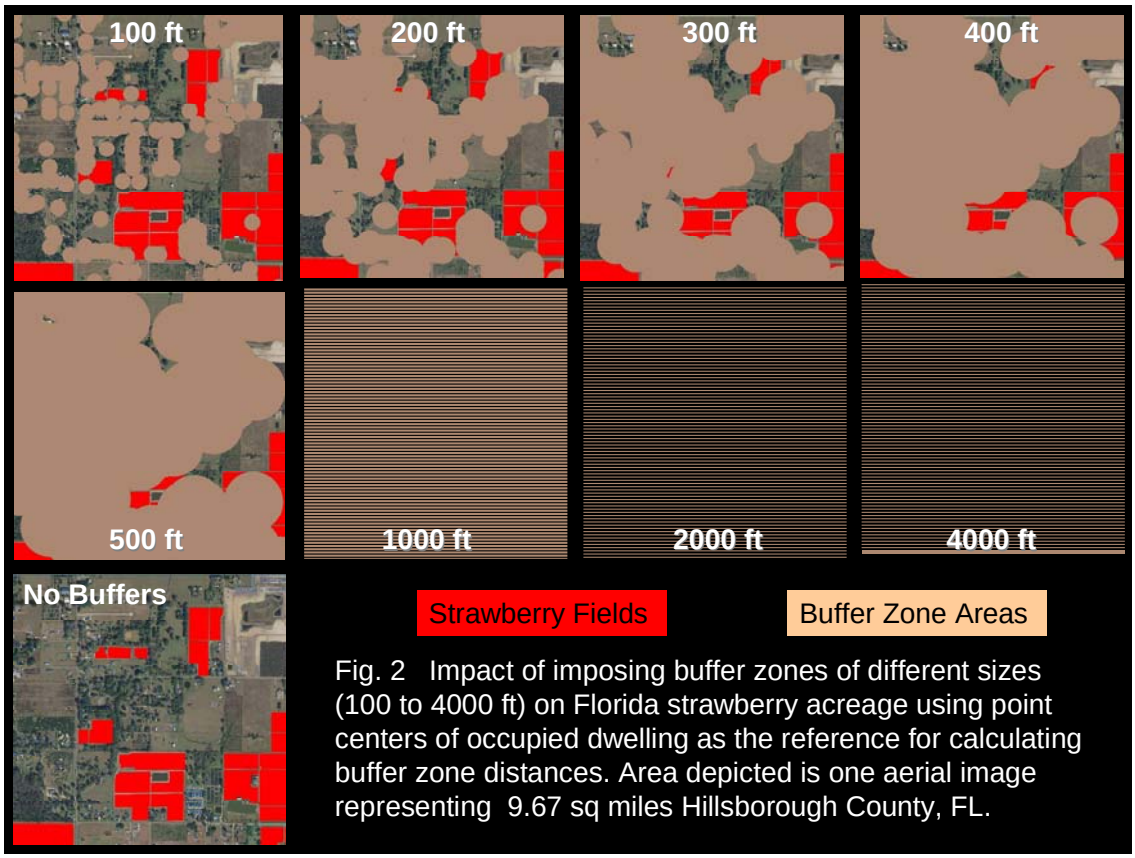


Fig. 2 Impact of imposing buffer zones of different sizes (100 to 4000 ft) on Florida strawberry acreage using point centers of occupied dwelling as the reference for calculating buffer zone distances. Area depicted is one aerial image representing 9.67 sq miles Hillsborough County, FL.