

DOUGLAS A. DUCEY
Governor



C.R. WATERS
Chairman

ARIZONA LEAFY GREENS FOOD SAFETY COMMITTEE

1688 W. Adams Street, Phoenix, Arizona 85007
(602) 542-0945 | FAX (602) 542-0898

April 27, 2021

Sonia Salas
Western Growers
15525 Sand Canyon
Irvine, CA 92618

RE: Leafy Greens Guidance Comments

Greetings Ms. Salas,

The Arizona LGMA appreciates the efforts of Western Growers in revitalizing the metrics review process and for providing this opportunity to give input for the continuous improvement of the Commodity Specific Food Safety Guidelines for the Production and Harvest of Lettuce and Leafy Greens. The attached document represents a review of the proposed CA LGMA Soil Amendment comments by the AZ LGMA Technical Subcommittee. We concur with the CA LGMA on many points. Where we differ, the AZ LGMA Technical Subcommittee's comments are noted and we have included some additional suggestions with regards to the following:

1. Maintain the acceptance criteria for fecal coliforms at <1,000 MPN/gram of total solids (dry weight basis) rather than dropping the value to <100 MPN/gram. The acceptance criteria appears in Table 3 parts 7a, 7b, and 7c. Research is ongoing through FDA and other entities with regards to the risks associated with fecal coliforms in soil amendments. At this time AZ prefers to stay in alignment with the FDA's Produce Safety Rule criteria of <1,000 MPN/gram for fecal coliforms.
2. Maintain sampling protocols aligned with the CA Code of Regulations regarding composting (n=12). Compost and fertilizer producers are a regulated industry. While we support the concept of increasing sampling sizes in order to obtain a higher probability of detection, in this case, the CA LGMA has not identified the sampling protocols for the suggested n=60 sample set. Statistical evaluation of the n=60 for smaller lot sizes has not been performed. In order to make an informed decision for the overall industry, additional information is needed.
3. AZ LGMA offers alternative language regarding lot information declared on COA's. As voted on within the CA LGMA, lot sizes that were sampled were to be listed on COA's. It has come to our attention, that this practice may divulge proprietary business information. Suggested language was shared with AZ LGMA and CA LGMA. In the event that CA was not able to obtain approval, we offer the suggested language approved at the most recent AZ LGMA Technical Subcommittee meeting.

These items are reflected in the attached document and highlighted in yellow. Questions may be directed to the Arizona LGMA Administrator at (602) 542-0945 or tlopez@azda.gov. We look forward to the open discussion by all interested parties.

Sincerely,

Teresa Lopez, Administrator
Arizona Leafy Greens Marketing Agreement

The 100MPN fecal coliform count lacks scientific support (published papers, data sets, etc.) aside from a suggested number from an industry expert. While we don't discount the individual's suggestion the current 1000mpn maximum is a universally accepted count with published literature of support. When the Produce Safety Rule was introduced it accepted compost as a validated method with a zero day interval to harvest, and the language of adequate curing was introduced into the LGMA from this rule. It should be noted that there is extensive published literature on compost management (insert citations)

United States Department of Agriculture. **Natural Resources Conservation Service**. Part 637 Environmental Engineering National Engineering Handbook. [February 2000]
<https://directives.sc.egov.usda.gov/viewerFS.aspx?id=3850>

California Compost Quality Council. **Compost Maturity Index**. [June 2001]
https://woodsend.com/wp-content/uploads/2019/09/Compost-Maturity-Index_CA-Compost-Quality-Council_Buchanan_Brinton_2001.pdf

Oregon State University. **Interpreting Compost Analyses**. [October 2018].
<https://catalog.extension.oregonstate.edu/em9217/html>

Taking material from an immature feedstock in a thermophilic state to a stable humus rich material in a psychrophilic state, where all of the immature feedstocks have been exhausted, are the fundamentals of proper composting. There are published resources to assess if the materials have met these indicators that would thereby describe the material as being acceptable for the high-end sensitive crops of leafy greens. Indicators such as

- C:N Ratio-- A ratio of <15:1 is considered well cured, mature compost. Other references suggest compost is mature if C:N is <20.
- NO₃-N and NH₄-N-- If NH₄-N is > 25 ppm compost may not be adequately cured. NO₃-N increases throughout the curing stages therefore Nitrate-N levels >250 ppm are considered a well cured compost. Also, the NH₄:NO₃ ratio of <1 describes a well cured compost.
- pH-- High pH levels, >8.6, can indicate CO₂ is still being evolved and compost is not stable. However, alkaline environment feeder stocks and water sources limit achieving a cured compost with a pH <8.0. In an alkaline soil environment, a pH of <8.3 often is well cured.
- PFLA, phospholipids fatty acids--Microbial community diversifies after thermophylic – mesophylic stages. The presence of fungi and other populations increase.
- Solvita*

State to the final user of the material that is safe to use

The 100MPN target is an unsupported indicator that takes the LGMA community from looking at published supported indicators to assess the true safety of composted material.

Lastly the 45 day, rule unique to LGMA, was based upon improperly composted materials. Should California move forward with the 100MPN maximum then I hope they will consider reducing the 45-day harvest interval as the forwarded proposal is equating to a risk reduction. Does this also mean a shortened die off time?