November 20, 2025

Karen Ross, Secretary
California Department of Food and Agriculture
1220 N Street, Suite 400
Sacramento, CA 95814

re: **Public Comment on RSA - The Imperative for a "Compost-First" Climate Strategy**

Dear Secretary Ross:

Thank you for the opportunity to comment on the draft *Climate Resilience Strategy for California Agriculture* (RSA). We fully agree with your concerns about the uncertain future facing our farmers, ranchers, and, frankly, the entire food system and appreciate your leadership in taking these important strides towards true climate resilience.

People Food and Land Foundation (PFL) respectfully submits this letter in strong support of institutionalizing a “compost-first” strategy to maximize California's climate resilience in agriculture. The People Food and Land Foundation was one of the primary sponsors of this year's SB 279 (McNerney), a bill signed by Governor Newsom that eases permitting restrictions on farmers and ranchers for one-time biomass removals and on the expansion of community compost operations. Created in the 1970s, PFL seeks to advance the economic and social well-being of rural communities by supporting small farmers, land stewards, and regenerative practitioners.

The California Department of Food and Agriculture (CDFA) is to be commended for the effort and public outreach necessary to produce the comprehensive Climate Resilience Strategy for California Agriculture (RSA) Draft, October 2025.[1] This document provides a necessary, consolidated vision that catalogs climate challenges and integrates adaptive solutions across the agricultural sector, spanning economic sustainability (Pillar 1), natural systems protection (Pillar 2), and resilient practices (Pillar 3).[1]

However, it is PFL's position that to achieve the stated goals—particularly those related to water resilience, carbon neutrality, and reduction of chemical inputs—the RSA must formally adopt a "Compost-First" approach to soil health. **This means prioritizing compost application** not merely as one practice among many, but **as the single most critical, high-leverage mechanism for concurrently scaling multiple benefits**.

The biogeochemical reality is that soil degradation exacerbates all major climate impacts, including drought, erosion, and pest vulnerability. Conversely, healthy soil practices are foundational to multi-benefit resilience [1] (Ch 10 Context). The unique capabilities of compost, supported by rigorous scientific validation, demonstrate that it is the most efficient and scalable tool available for achieving rapid, quantifiable climate mitigation and adaptation simultaneously.

This letter presents definitive scientific evidence, particularly emphasizing the work of Dr. Whendee Silver, Professor of Ecosystem Ecology and Biogeochemistry at the University of California Berkeley, and outlines necessary policy shifts recommended to ensure that the material created through the state's organic waste mandates (SB 1383) is effectively transformed into a foundational climate asset for California agriculture.

1. Executive Summary of Key Recommendations

A "Compost-First" strategy requires focused policy modifications to the RSA:

- **Recommendation 1 (Quantifiable Climate Mitigation):** The RSA must fully integrate and utilize the demonstrable carbon sequestration rates verified by Dr. Silver's research, ensuring that compost's full climate benefit is quantified by the California Air Resources Board (CARB) and credited within the Healthy Soils Quantification Methodology.[4] This action is essential for achieving the ambitious Nature-Based Solutions (NBS) targets [1] (Introduction).
- **Recommendation 2 (Water Security Strategy):** The hydrological benefits of compost—specifically its impact on available water holding capacity (AWHC) and infiltration—must be formally quantified and recognized within RSA Chapter 2 (Water System Resilience). This recognition positions compost as a primary, non-infrastructural climate adaptation measure critical for aiding compliance with the Sustainable Groundwater Management Act (SGMA).[6]
- **Recommendation 3 (Quality and Market Integrity):** To protect growers and encourage broad uptake, the RSA must mandate coordinated action by the CDFA and the Department of Pesticide Regulation (DPR) to implement robust, feedstock-verified quality controls. This critical step safeguards the agricultural end-user from the existential risk posed by persistent herbicide contamination, thereby protecting the integrity and scalability of the entire soil health initiative.[8]

2. Foundational Science: Whendee Silver’s Research and Quantifiable Co-Benefits

The push for a "Compost-First" approach is grounded in compelling biogeochemical data that illustrates the magnitude of compost’s climate benefits, particularly in California’s extensive managed and working lands.

2.1. Scientific Validation of Compost for Carbon Sequestration

Dr. Whendee Silver, a leading researcher at UC Berkeley, specializes in determining the biogeochemical effects of land-use practices on carbon losses, carbon sequestration, and greenhouse gas (GHG) cycling.[5] Her research directly addresses the vast potential of California's landscapes to store carbon, noting that grasslands alone cover 40% of the state's land area and have great capacity to sequester carbon in their soils.[4]

The critical determination from Dr. Silver's work is the quantification of durable carbon sequestration in these ecosystems. Her research found that a single, one-time application of composted organic material (sourced from agricultural and green waste) sequestered new carbon at rates of 1 metric ton (Mt) each year, a process that lasted for at least three years following the initial one-time application.[4]

This durable carbon storage is chemically superior to adding raw biomass. Compost is a stable organic input, rich in humic substances, which enhances the soil's structural integrity and ensures long-term carbon persistence, mitigating the risk of rapid remineralization back into the atmosphere.[10] This high stability makes compost a uniquely effective tool for achieving the verifiable, durable carbon storage necessary to meet California's climate targets.

The policy implications of this finding are profound when scaled across the state. The research determined that if this approach were scaled to an area covering only 25% of California's grasslands, the resultant new carbon sequestration would equal 21 million Mt of CO_2 equivalents (CO_2e).[4] This volume is sufficient to more than offset the total annual emissions from California's cattle sector (15 million Mt CO_2e) or most emissions from the commercial sector (21.6 million Mt CO_2e) based on Calforna's 2016 greenhouse gas inventory.[4] These data points demonstrate that compost enables agriculture to serve as an active climate solution for other major GHG-emitting sectors, validating the redirection of substantial public funds (such as Greenhouse Gas Reduction Fund allocations) toward the logistical and infrastructure support required for broad agricultural uptake.

2.2. Compost as the Primary Driver for Soil Health Improvement

Beyond carbon sequestration, compost application delivers foundational benefits essential for a resilient agricultural system. Compost functions as a robust soil "conditioner" that fundamentally transforms soil texture and structure.[6]

For soils dominated by clay, compost physically breaks up the dense structure, leading to improved drainage and greater root penetration. Conversely, in sandy soils, compost adds body and organic matter, dramatically increasing water retention capacity. These combined effects create optimal pore space for root growth and microbial life, while actively preventing soil compaction and allowing for better air circulation.[6] This increased soil stability directly creates a more resilient growing environment, particularly against erosion and water stress.[6]

Furthermore, compost significantly enhances nutrient cycling and reduces the need for synthetic inputs. As a stable organic input, compost decomposes gradually, releasing nutrients over time, which supports sustained plant health.[6] Beneficial microorganisms within the compost help convert these nutrients into plant-available forms [6], directly contributing to greater fertility and diminishing the reliance on rapid-release, GHG-intensive synthetic fertilizers.[11]

The popularity of this practice is borne out in implementation data: compost application is consistently one of the most selected practices funded by CDFA's Healthy Soils Program (HSP), with grant recipients routinely citing improved soil structure and partial replacement of fertilizers as key operational benefits [1] (Ch 10.1.2). The multi-year durability of C sequestration found by Dr. Silver suggests that the long-term benefit of compost application may be underestimated by current three-year program monitoring cycles (Action 10.2.1), reinforcing the need for policy to incentivize multi-year adoption and maintenance.

3. Water Resilience: Critical Adaptation in a Hotter, Drier Future

California's agriculture faces a future defined by hydrological extremes, including the intensifying "weather whiplash"—droughts interspersed with severe, heavy precipitation events [1] (Ch 2 Context). Climate change is projected to reduce California's water supplies by approximately 10% by 2040, heightening the urgency for non-consumptive on-farm water management solutions [1] (Ch 2 Context).

3.1. Quantifying Hydraulic Benefits to Address Water Scarcity

Compost application provides some of the most significant, quantifiable water management benefits among all climate-smart agricultural practices. Compost's effectiveness stems from its ability to boost soil aggregation, creating a physical structure that significantly alters the soil's relationship with water.[6]

The most impressive hydraulic advantage is the dramatic increase in water-holding capacity (AWHC). Compost has been demonstrated to increase water retention by up to 16 times in sandy soils.[6] This enhanced capacity acts as a distributed water sponge across the landscape, translating directly into reduced irrigation demand—in some documented cases, lowering overall irrigation needs by 30% to 70%.[6]

Additionally, the improved soil structure increases water infiltration, preventing surface crusting and reducing surface runoff and erosion during intense rainfall events.[6] This dual benefit is critical: during dry periods, stored water is available to crops for longer periods, promoting drought resistance; during wet periods, greater infiltration mitigates flood damage and reduces soil loss [1] (Ch 2 Context). The ability of compost to both conserve scarce water in dry years and manage floodwaters in extreme wet years underscores its vital function as a buffer against climate extremes.

3.2. Policy Linkages to Water System Resilience (RSA Chapter 2)

The measurable hydraulic benefits of compost must be recognized formally within California's water policy frameworks. This level of impact allows investment in compost to be strategically re-categorized from merely a "soil health" expense to a vital component of "distributed water storage infrastructure."

- **Alleviating SGMA Pressure:** The ability of compost to enhance AWHC is a direct, non-regulatory measure to minimize dependence on groundwater pumping, thereby supporting the objectives of the Sustainable Groundwater Management Act (SGMA) to bring aquifers into balance [1] (Ch 2.4.2, Ch 2.1). Policy implementation must recognize the economic realities: technical assistance providers report that the most potent motivator for growers adopting healthy soil practices is precisely this improvement in Available Water Holding Capacity (AWHC) and the soil's enhanced ability to absorb storm runoff.[7] This feedback confirms that economic incentives supporting compost should prioritize this water-saving outcome.
- **Integration with Water Programs:** The RSA must mandate the formal linkage and quantification of benefits between the Healthy Soils Program (HSP) and the State Water Efficiency and Enhancement Program (SWEEP). By quantifying the combined water savings from compost application and irrigation efficiency technology (e.g., VFDs, soil moisture sensors) funded by SWEEP [1] (Ch 2.4.1), CDFA and DWR can more accurately value and incentivize compost use in water-stressed basins.
- **Flood-MAR Synergy:** Compost's ability to boost infiltration is also crucial for maximizing the effectiveness of Flood-MAR (Flood-Managed Aquifer Recharge) projects [1] (Ch 2.1.3). Increased surface permeability allows captured floodwaters to percolate deeper into aquifers more efficiently, making compost a key facilitating practice for large-scale water projects.

4. Sustainable Pest Management and Reduction of Chemical Inputs

A robust, biodiverse soil ecosystem is innately resilient against pests and diseases, serving as a biological defense system that reduces the agricultural sector's reliance on chemical inputs—a core objective of the Sustainable Pest Management (SPM) Roadmap articulated in RSA Chapter 7 [1] (Ch 7 Context).

4.1. Compost's Role in Integrated and Sustainable Pest Management (IPM/SPM)

Compost application cultivates a healthy ecosystem, enhancing plant vigor and nutritional uptake. This increased plant vitality better prepares crops to stave off disease and pests, complementing other Integrated Pest Management (IPM) initiatives.[12]

Compost directly contributes to the reduction of herbicides through dual mechanisms of weed suppression [13]:

1. **Physical Mulching:** When applied as a surface layer, compost physically smothers emerging weed seedlings.
2. **Allelopathic Inhibition:** Compost releases allelopathic compounds that exert a strong

anti-germinative effect, inhibiting the growth of small-seeded weed species. Research has confirmed that this effect provides significant fertilization and weed-suppression co-benefits, particularly beneficial in systems like vineyard management.[13]

Furthermore, the quality of compost production is paramount for pest control. The thermophilic (high-heat) process, requiring temperatures between 131°F and 170°F for a minimum of 15 days with five turns, effectively destroys most serious plant pathogens, insect pests, and weed seeds.[9] This controlled destruction prevents the reintroduction of soil-borne diseases and pest pressure, serving as a critical preventive step within a sustainable IPM framework.[11]

4.2. Addressing the Contamination Risk: The Persistent Herbicide Threat

The single greatest threat to realizing the widespread, beneficial adoption of compost in California agriculture is the risk of contamination by persistent herbicides. These resilient compounds, such as Aminopyralid, are designed to survive natural decomposition and often remain active even after undergoing the high temperatures of the thermophilic composting process.[8]

If contaminated feedstocks enter the supply chain, the resultant compost can lead to catastrophic crop loss, as documented in national incidents where contamination caused nearly a million dollars in losses and affected hundreds of customers.[8] These incidents not only carry severe financial liability but also erode the public trust necessary for farmers—especially smaller, resource-limited operations—to rely on purchased compost inputs. Contamination thus poses an existential threat to the HSP goals and the scaling of organic waste diversion mandated by SB 1383.

A critical regulatory vulnerability currently exists: while CDFA and CalRecycle regulate compost quality based on pathogen reduction, heavy metals, and physical contaminants (such as film plastics, which must be 0.1% by dry weight, and overall contaminants 0.5%)[9], the regulation of persistent herbicides falls under the jurisdiction of DPR.[16] This jurisdictional disconnect means that there is no single, unified mandate for upstream testing or tracing of feedstocks (like hay or turf clippings) likely treated with persistent herbicides. To resolve this:

1. The RSA must mandate the harmonization of regulations between DPR, CDFA (through the Organic Input Material Program[9]), and CalRecycle.
2. Policy must shift the financial liability and compensation burden away from the agricultural end-user and toward the manufacturer or generator of the contaminated feedstock.[17]

5. Implementation Barriers and Policy Solutions for Scaling (RSA Chapter 10.5)

Achieving the state's ambitious NBS goal of implementing healthy soils practices on $3.1 million acres of cropland [1] (Ch 10 Context) requires resolving significant structural and regulatory barriers that currently prevent the organic waste stream from being efficiently and affordably converted into agricultural inputs.

5.1. Scaling Infrastructure and Supply Chain Logistics

California's success in organic waste diversion is directly linked to the availability of compost for agriculture [1] (Ch 10.5). To meet the SB 1383 target of 75% organic waste diversion by 2025, an estimated 27 million tons of material must be redirected from landfills.[18] This necessitates substantial infrastructure expansion.[19] While commercial capacity is growing, smaller-scale community composting hubs are often oversubscribed and underfunded, despite achieving diversion at roughly half the cost of large commercial operations.[20]

RSA Action 10.5.1 calls for supporting local jurisdictions in investing in organics diversion infrastructure [1] (Ch 10.5.1). This investment must be geographically strategic. Current organic waste generation is heavily concentrated in urbanized areas, but agricultural demand is largely in distant rural areas [1] (Ch 10.5.4). The high cost and resultant GHG emissions associated with transporting bulky compost material from urban processors to rural farmlands threaten to negate the net climate benefit. Policy must therefore prioritize *decentralized processing* or actively subsidize the logistics of urban-to-rural compost transfer, thereby treating this logistical infrastructure as a critical climate investment gap.

Furthermore, large commercial composting facility expansion is often slowed by stringent water quality permitting. Operations processing over 25,000 cubic yards must often comply with costly Waste Discharge Requirements (WDRs) that mandate engineered concrete pads and drainage.[19] CalRecycle should continue to advocate for streamlined WDR permitting via the General Order to accelerate shovel-ready projects.[19]

5.2. Streamlining On-Farm Production and Use

To promote closed-loop nutrient cycling and increase the supply of compost locally, the RSA must address existing regulatory deterrents for on-farm composting [1] (Ch 10.5.3). Farmers often face complex permitting requirements from local Air Districts, Water Boards, and Local Enforcement Agencies (LEAs) when attempting to increase the volume of compost produced or the feedstocks utilized.

Recent legislative efforts are designed to alleviate these restrictions [11]:

- **SB 279:** This bill expands the excluded activity exemption for composting by eliminating the maximum square-foot condition and increasing the total volume of feedstock/compost authorized on-site. Crucially, it authorizes composting operations to sell or give away up to $5,000 \text{ cubic yards}$ of product annually, creating new economic opportunities for agricultural waste management.[11]
- **AB 411:** This measure promotes resilience by authorizing the composting of livestock carcass waste resulting from routine mortality events, supporting closed-loop nutrient management and providing a robust, on-farm solution during extreme heat emergencies when traditional rendering capacity may fail [1] (Ch 4.1.3).

The RSA must mandate that the interagency task force (Action 10.5.3) formalize these legislative changes immediately, translating the intent of SB 279 and AB 411 into clear, regionally standardized guidance that eliminates permitting friction for agricultural producers seeking to manage their own organic residues [1] (Ch 10.5.3).

5.3. Research Gaps and Future Focus (RSA Action 10.5.4)

Action 10.5.4, which seeks to identify compost research gaps, is vital for long-term viability [1] (Ch 10.5.4). Key research priorities should include:

1. **Contaminant Remediation:** Supporting research into robust methods for testing, tracing, and remediating persistent herbicides and other contaminants, ensuring compost safety.
2. **Emissions Quantification:** Comparative studies evaluating the full lifecycle GHG, Volatile Organic Compound (VOC), and ammonia emissions from compost production and use versus alternative organic waste fates (e.g., biomass burning) [1] (Ch 10.5.4). This will fully quantify the *net air quality benefit* of the compost pathway, linking directly to RSA Chapter 9: Clean Air Communities.

Furthermore, guidance for farmers must be enhanced (Action 10.5.2) to educate them on sourcing certified, high-quality material—such as that registered through CDFA's Organic Input Material Program or certified through the US Compost Council's Seal of Testing Assurance (STA).[9]

The preceding analysis highlights the integrated benefits of a Compost-First strategy:

Synthesis of Compost-First Soil Health Co-Benefits

Benefit Area	Quantified Impact (Silver/Ext. Research)	Mechanism of Resilience	Relevant RSA Objective
Carbon Sequestration	1 Mt C/acre/year for 3 years (W. Silver, Grasslands) [4]	Stable organic inputs (humic substances) maximize durable carbon persistence in soil [10]	Advance Climate-Smart and Healthy Soils Practices (Ch 10)
Water Retention/ Infiltration	Up to 16 times increase in Available Water Holding Capacity (AWHC) in sandy soils [6]	Improved soil aggregation and pore space prevents runoff and enables deeper infiltration [6]	Ensure a Water System for Food System Resilience (Ch 2)

Fertility & Soil Health	Improved forage production and fertility post-application [4]	Gradual nutrient release; enhanced soil structure; increased microbial activity and vitality [11]	Protect Natural Systems Critical to Agriculture (Pillar 2)
Chemical Reduction	Demonstrated anti-germinative effect, reducing weed pressure and need for herbicides [13]	Allelopathic compound release; thermophilic destruction of most weed seeds and pathogens [14]	Deploy Sustainable, Adaptable, and Integrated Pest Management (Ch 7)

The RSA must resolve the current operational hurdles to leverage these benefits:

Compost Supply Chain: Scaling Challenges and Policy Solutions

Challenge Area	Observed Policy/Regulatory Barrier	Consequence of Barrier	Proposed Policy Solution (CDFA RSA Enhancement)
Product Quality Assurance	Risk of persistent herbicide (e.g., Aminopyralid) contamination.[8] Lack of synchronized DPR/CDFA/CalRecycle testing mandates.[9]	Loss of grower trust; catastrophic crop damage; failure to meet HSP adoption goals.[8]	Mandate proactive, upstream feedstock tracing and mandatory testing for persistent herbicides; define clear liability standards.
Infrastructure Capacity	Insufficient processing facilities to meet SB 1383 diversion targets (27 M tons by 2025).[19] Logistical conflict in urban-to-rural transport.	Organic waste continues to generate methane in landfills.[18] High transportation costs negate environmental benefit.	Prioritize decentralized infrastructure funding proximal to high-demand agricultural regions (Action 10.5.1).

On-Farm Production	Complex local permitting and volume restrictions (Air/Water Boards, LEAs) [1] (Ch 10.5.3).	Discourages efficient, local, closed-loop composting of agricultural residues (e.g., manure, crop waste).	Standardize exemptions and implement legislative intent (SB 279/ AB 411) through unified, mandatory regulatory guidance (Action 10.5.3).
Adoption Barriers	Upfront application costs and operational uncertainty (e.g., in SGMA basins).[7]	Adoption is limited despite high perceived benefits (AWHC is a key motivator).[7]	Integrate compost benefits into SGMA accounting (water credit) and increase HSP grant cycles and longevity to fund multi-year adoption [1] (Ch 2.4.2, Ch 10.2.1).

6. Recommendations for Actionable Policy Integration

To institutionalize the "Compost-First" approach, the CDFA Climate Resilience Strategy for California Agriculture (Draft, October 2025) must be updated to include the following specific, cross-cutting policy actions:

6.1. Strengthening Pillar 3: Advance Climate-Smart and Healthy Soils Practices (Chap 10)

- **New Action 10.1.3 (Institutionalizing Silver's Research):** The RSA should mandate a formal update to the CARB/CDFA Healthy Soils Quantification Methodology (HSP) to incorporate the specific, demonstrable, and multi-year carbon sequestration rates verified by Dr. Silver's research in Californian agroecosystems. This ensures that compost projects receive full financial crediting commensurate with their long-term climate mitigation value (up to 1 Mt C/acre/year).[4]
- **Enhancing Action 10.5.2 (Quality and Sourcing):** Expand guidance developed for Technical Assistance (TA) providers on selecting and verifying compost quality, emphasizing feedstock transparency and the critical risks posed by persistent herbicides. The CDFA must commit to publishing annual quality control reports in coordination with DPR and CalRecycle to maintain grower trust.[9]
- **Refining Action 10.5.3 (Regulatory Clarity):** The existing interagency task force (CDFA, CalRecycle, CARB, Water Boards) must be directed to immediately publish a unified, simplified regulatory guidance manual for on-farm composting, specifically addressing the recent statutory updates (SB 279/AB 411). This standardization is necessary to eliminate localized permitting friction and accelerate the transition to closed-loop, on-farm organic waste management [1] (Ch 10.5.3).

6.2. Integrating Compost into Pillar 1: Support a Thriving and Resilient Food Sector (Chapter 1)

- **Link to Circular Bioeconomy (Action 1.4.2):** The RSA must explicitly name compost production and utilization as the *premier example* of agricultural circular bioeconomy development. Policy prioritization should favor incentives for regional partnerships that coordinate urban organic waste diversion with rural agricultural demand, effectively linking the state's waste mitigation mandate (SB 1383) to rural economic vitality and soil health goals [1] (Ch 1.4.2).

6.3. Integrating Compost into Pillar 2: Protect Natural Systems Critical to Agriculture

- **Water System Resilience (Chapter 2):**
  - **New Action 2.4.3 (Hydrological Credit):** Direct DWR and CDFA to incorporate measured or rigorously modeled water retention benefits (AWHC, infiltration) derived from verified compost application as a formal credit or measurable metric within regional water management plans. This integration provides a powerful, non-consumptive solution to assist agricultural operators in SGMA basins facing land fallowing decisions, recognizing compost investment as a form of distributed water infrastructure.[6]

- **Pest Management (Chapter 7):**
  - **New Action 7.1.5 (Proactive Quality Control):** Mandate formal CDFA/DPR collaboration to establish a statewide system for mandatory testing and tracing of persistent herbicide compounds in compost feedstocks destined for agricultural use. This proactive quality assurance measure is essential to ensure that the adoption of compost, intended to reduce chemical reliance, does not inadvertently introduce dangerous contaminants that undermine food safety and economic viability.[8]

7. Conclusions and Final Synthesis

The evidence clearly demonstrates that a coordinated, "Compost-First" approach is not merely desirable but foundational to the success of the Climate Resilience Strategy for California Agriculture. Compost application, validated by the foundational research of Dr. Whendee Silver, delivers the largest verifiable climate mitigation benefit—sufficient to offset the entire cattle sector’s emissions—while simultaneously providing the critical hydrological resilience needed for a hotter, drier future.

The immediate policy challenge is logistics and quality assurance. By resolving the implementation barriers related to regulatory complexity (Action 10.5.3) and safeguarding the supply chain against contamination (Action 7.1.5), the CDFA can ensure that the organic waste stream mandated by SB 1383 is fully utilized as a potent, distributed climate asset. This integrated strategy transforms waste management into climate adaptation, driving long-term stability across California's agricultural landscape.

The People Food and Land Foundation and our healthy soils coalition stand ready to assist the Department in every way possible in making the future of California as resilient as possible.

Because we know when California leads, the rest will follow.

Sincerely,

ANDY SHRADER
Senior Advisory

JOHN HEYWOOD
Executive Director

People Food and Land Foundation

Works cited

1. RSA_PublicCommentDraft.PDF
2. Climate Resilience Strategy for California Agriculture out for Public Comment, https://attra.ncat.org/climate-resilience-strategy-for-california-agriculture-out-for-public-comment/
3. Climate Resilience Strategy for California Agriculture, https://www.cdfa.ca.gov/climate/
4. The Potential of Grassland to Help Mitigate Climate Change - UC Center Sacramento, https://uccs.ucdavis.edu/sites/g/files/dgvnsk12071/files/inline-files/Policy_Brief_Silver_V1.pdf
5. Whendee Silver - Environmental Science, Policy & Management, https://ourenvironment.berkeley.edu/people/whendee-silver
6. The Impact of Composting on Soil Health and Plant Growth - Arborist Now, https://arboristnow.com/news/the-impact-of-composting-on-soil-health-and-plant-growth/
7. Connecting Soil Health and Water in California - Berkeley Food Institute, https://food.berkeley.edu/wp-content/uploads/2023/07/2022-05-Soil-Health-and-Water.pdf
8. Persistent Herbicides and Compost Don't Mix, https://www.compostingcouncil.org/page/blog-persistent-herbicides
9. Understanding California Regulations for Compost and Digestate - AgroCertify, https://agrocertify.com/news/understanding-california-regulations-compost-and-digestate
10. Sustainable Agriculture Through Agricultural Waste Management: A Comprehensive Review of Composting's Impact on Soil Health in Moroccan Agricultural Ecosystems - MDPI, https://www.mdpi.com/2077-0472/14/12/2356

11. California's Healthy Soils Initiative - On-Farm Compost Resources - CDFA, https://www.cdfa.ca.gov/healthysoils/ofcwg.html
12. Harnessing the Power of Compost for Natural Pest Control - EcoSafe Zero Waste, https://ecosafe.green/blogs/news/harnessing-the-power-of-compost-for-natural-pest-control
13. Exploitation of the Herbicide Effect of Compost for Vineyard Soil Management - MDPI, https://www.mdpi.com/2076-3298/12/6/190
14. Managing Pests in Gardens: Fruit: Environmental Disorders: Composting—UC IPM, https://ipm.ucanr.edu/PMG/GARDEN/FRUIT/ENVIRON/composting.html
15. Cal. Code Regs. Tit. 14, § 17852 - Definitions | State Regulations - Cornell Law School, https://www.law.cornell.edu/regulations/california/14-CCR-17852
16. State Herbicide Contacts - US Composting Council, https://www.compostingcouncil.org/page/StateHerbicideContacts
17. Clopyralid and other Pesticides Persistent in Compost | San Francisco Environment Department (SFE), https://www.sfenvironment.org/policy/clopyralid-and-other-pesticides-persistent-compost
18. California's Short-Lived Climate Pollutant Reduction Strategy - CalRecycle Home Page, https://calrecycle.ca.gov/organics/slcp/
19. Analysis of the Progress Toward the SB 1383 Organic Waste Reduction Goals - CalRecycle, https://www2.calrecycle.ca.gov/PublicNotices/Documents/12337
20. Why Community Composting Is Critical To California's Infrastructure - BioCycle, https://www.biocycle.net/community-composting-california/
21. OARS - Healthy Soils Program Incentive Grants - Recipient Resources - CDFA, https://www.cdfa.ca.gov/oars/healthysoils/Resources-HSPIncentives.html