

# Supplemental Report and Recommendations on Agricultural Burning

June 3, 2021

[webcast@valleyair.org](mailto:webcast@valleyair.org)

# Valley Agricultural Open Burning Mandates

- SB 705 (2003 Florez) established agricultural open burning prohibitions for the San Joaquin Valley, starting in 2005
- District implements SB 705 through Rule 4103 (Open Burning) and District's Smoke Management System (SMS)
- District "Staff Report and Recommendations on Ag Burning" must be updated every 5 years, per Rule 4103 requirements
  - Governing Board approval required prior to submittal to CARB and EPA
  - CARB must provide concurrence with District recommendations (CARB has provided concurrence on all previous reports)
  - Governing Board approved *2020 Staff Report and Recommendations on Agricultural Burning* (2020 Report) in December 2020

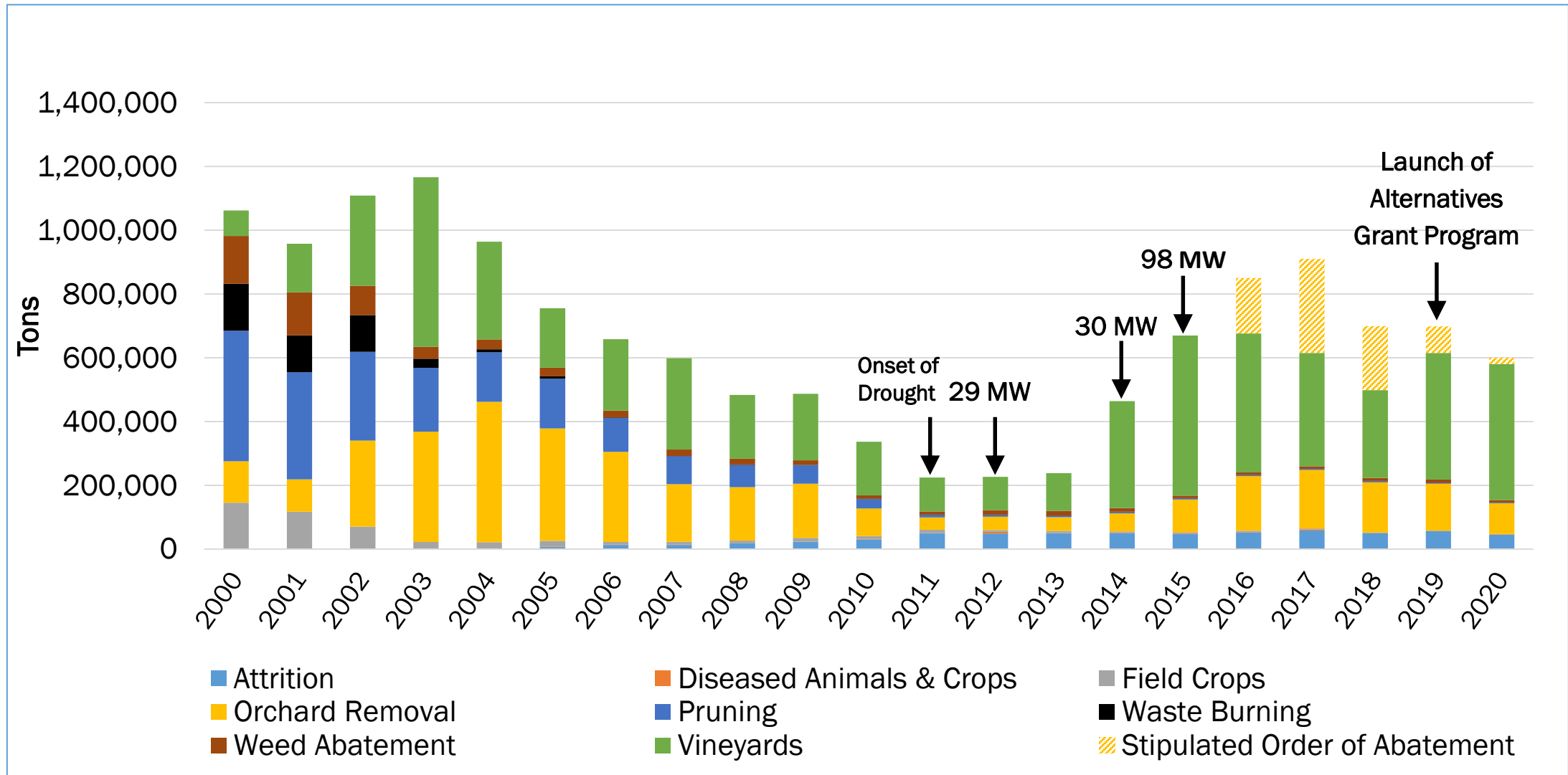
# Valley Agricultural Open Burning Mandates (cont'd)

- Under SB 705, burning prohibitions may be postponed for any category of agricultural waste or crop if all of the following applies:
  - There is no economically feasible alternative means of eliminating waste
  - There is no long-term federal or state funding commitment for continued operation of biomass facilities in the Valley or development of alternatives to burning
  - Continued issuance of permits for that specific category or crop will not cause, or substantially contribute to, a violation of an applicable federal ambient air quality standard
  - CARB must concur with the District's determinations on the above points

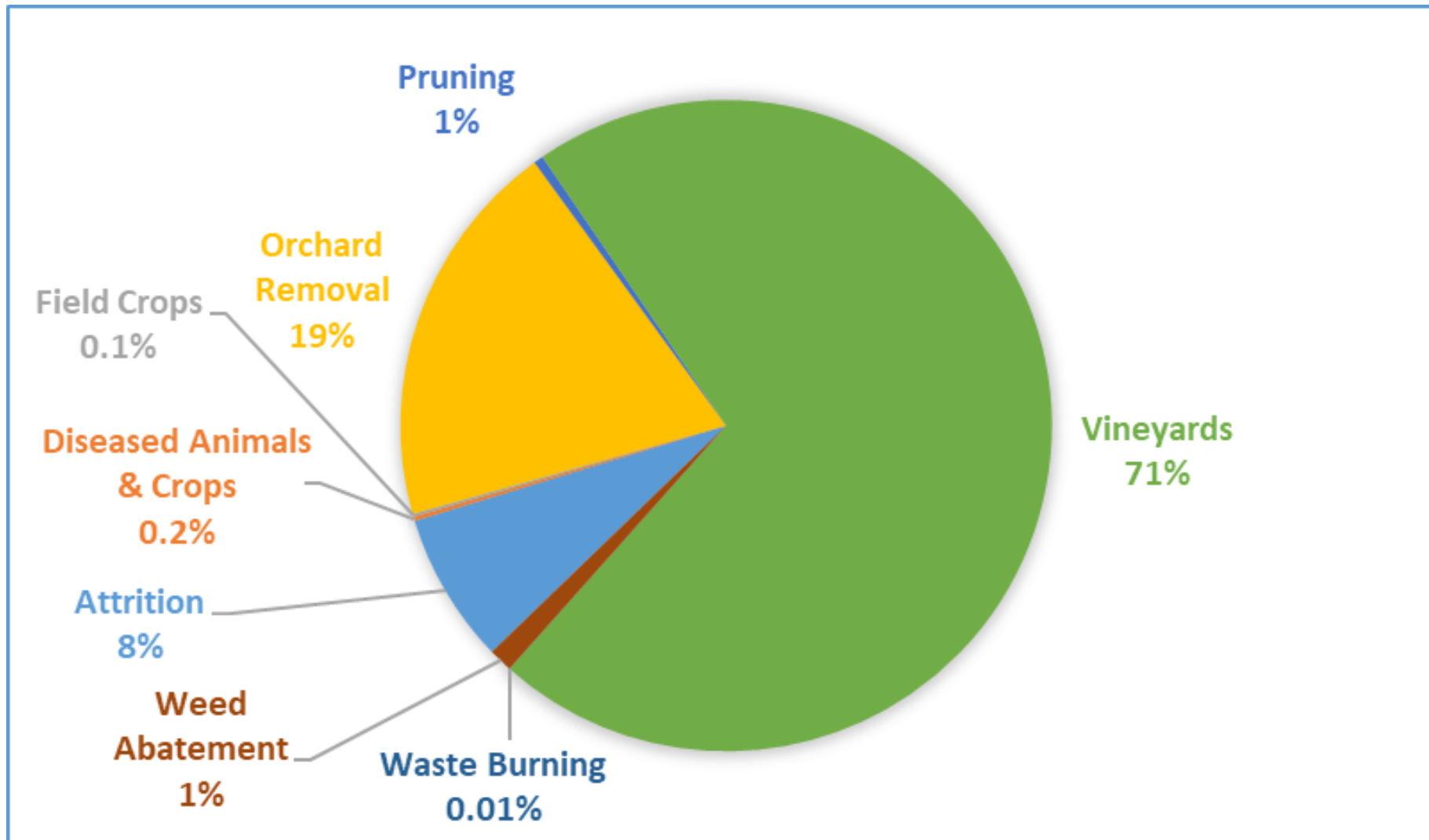
# Valley Efforts to Reduce Agricultural Open Burning

- Valley has toughest restrictions on agricultural burning in state (SB 705 only applies to San Joaquin Valley)
- District operates comprehensive Smoke Management System
  - Tightly regulated and enforced
  - Only authorized when projects will not impact air quality standards, smoke-sensitive areas, cause public nuisance
- Since 2005, District has prohibited burning from a majority of field crops, prunings, orchard removals, weed abatement, and other materials
- Until 2014, restrictions reduced ag burning by 80%
- Due to changing state policies, Valley has lost significant biomass capacity (primary historical alternative to ag burning)
  - Over 20 plants in 1980s, down to 5 plants today
  - Loss of capacity has significantly impacted transition away from open burning

# Historical Agricultural Material Burned under Rule 4103 and Reductions in Biomass Capacity



# Summary of Agricultural Burning in 2020

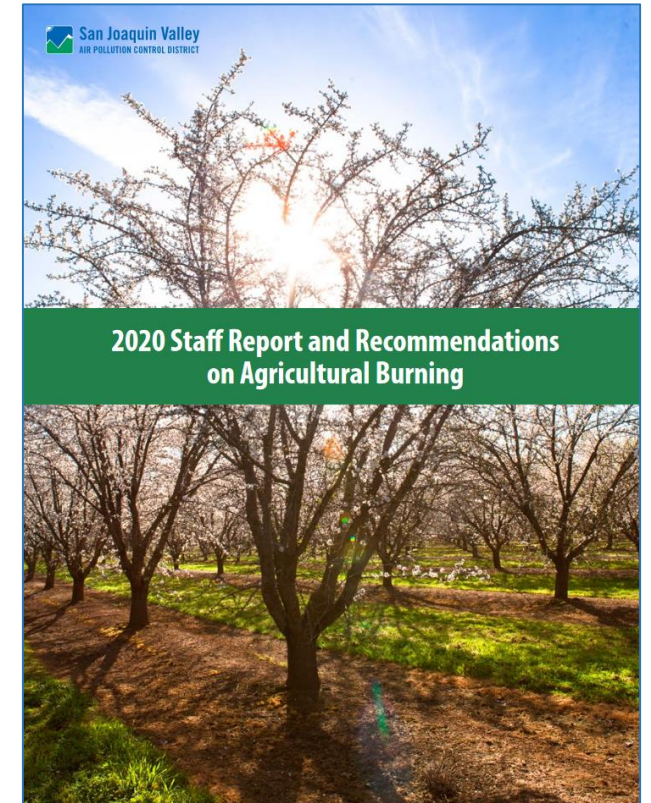


# Efforts to Identify Alternatives to Open Burning

- District Governing Board has directed staff to identify and promote cleaner alternatives to agricultural open burning
- District convened 2017 Central Valley Summit on Alternatives to Open Burning of Agricultural Waste to bring together Valley stakeholders, researchers/experts, biomass industry reps, and technology vendors
- In response to new opportunities and suggestions, District Governing Board directed staff to pursue a number of alternatives, including launch of incentive program in late 2018 to demonstrate new alternatives, such as whole orchard recycling

# District's 2020 Ag Burn Report

- 2020 Report provides staff recommendations on feasibility of further potential prohibitions on agricultural burning in the Valley, and establishes final framework for phase-out, as feasible, of remaining crop categories
  - New prohibitions on open burning reliant on newly emergent alternatives
  - Call for increased funding to assist with widespread transition to costly new alternatives
  - Call for enhanced state energy policies to support development of new bioenergy
  - Partnerships with agricultural stakeholders, CARB, and USDA-NRCS to assist with developing new alternatives





# CARB Recommendations and Concurrence

- CARB staff's [\*San Joaquin Valley Agricultural Burning Assessment\*](#), approved by CARB Board in February 2021, supports District's 2020 Report and outlines additional recommendations:
  - Concurrence with District's 2020 Report provided through August 31, 2021
  - Crop-specific recommendations
  - Mandate for near-complete phase-out of ag burning by end of 2024, including establishment of reduction benchmarks
  - CARB commitment to seek out new state/federal funding to support accelerated phase-out of agricultural open burning
  - CARB commitment to support new bioenergy alternatives
- District to develop and make available to CARB by August 31, 2021 an updated plan that incorporates CARB's recommendations for additional concurrence after August 31, 2021 through January 1, 2025

# Funding Support Critical to Phase-out Effort

- Significant new state funding is needed to support accelerated phase-out of open burning by January 1, 2025
  - CARB recommendations highlighted and affirmed critical role state plays in securing needed state incentive funding to support transition, and addressing barriers to the establishment of new bioenergy solutions
  - Senate proposed 2021/22 State Budget included \$180 million in funding for alternatives to ag burning over a three year period (\$60 million/year)
  - Governor's proposed Budget (May Revised) includes \$150 million to address agricultural open burning in the San Joaquin Valley

# Alternative to Agricultural Open Burning Incentive Program

- November 2018, District provides funding through Alternative to Ag Open Burning Incentive Program for orchard/vineyard removals to chip or shred ag material and apply it back to land or into soil
  - Chipping with soil incorporation: **\$600/acre**
  - Chipping without soil incorporation: **\$300/acre**
  - Max incentive \$60,000/year
- Funding to Date
  - \$22 million in executed vouchers, 43,500 acres, 1.2 million tons of ag material incorporated
  - Average grant of \$25,000, 49 acres
- Guidelines and application are available at [valleyair.org/grants/alt-ag-burning.htm](http://valleyair.org/grants/alt-ag-burning.htm)



# Potential Enhancements to Alternative to Agricultural Open Burning Incentive Program

- Re-evaluate project funding cap (potentially eliminate)
- Consider increasing \$/acre funding levels for various crop types based on technological/cost barriers (i.e. vineyards)
- Developed incentive funding options for additional alternatives to open burning as necessary to support the transition, with priority for non-combustion alternatives as feasible
- Develop incentive funding options to support needed contractor fleet equipment capacity expansion (as allowed by new state funding guidelines)
- Support for pilot demonstration projects or technology advancement
- Consider enhanced funding to support for smaller farms to account for initial set-up/fixed costs
- Funding consideration for alternatives to burning of exceptions where feasible, including diseased crops, attrition, etc.

# Other Incentives Available

- Environmental Quality Incentives Program (EQIP) – USDA-NRCS
  - Provides funding to agricultural producers to address concerns in relation to natural resources
  - Funded by federal Farm Bill, allocated approximately \$1 million in funds annually for conservation management practices
- Healthy Soils Program (HSP) – CDFA
  - Provides funding for the implementation of conservation management practices that improve soil health and reduce emissions of carbon and greenhouse gas
  - Funded by cap and trade proceeds known as California Climate Investments (CCI), receiving \$40.5 million between 2016-2019

## EQIP Contact

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## HSP Contact

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# Summary of CARB Recommendations

- CARB provided concurrence on District recommendations for open burning prohibitions for the following crop categories:
  - Surface Harvested Prunings (Almond/Walnut/Pecan)
  - Raisin Trays
  - Residual Rice Stubble and Spot Burning
  - Rice Field Levees and Banks
  - Apple/Pear/Quince Prunings and Orchard Removals
  - Weed Abatement (Ponding and Levee Banks)
  - Diseased Beehives
- CARB recommended accelerated phase out schedule for the following:
  - Prohibit “large” ag operations from burning by 2022 for vineyard and orchard removals, and phase in prohibitions for smaller ag operations
  - Accelerate phase out schedule for citrus orchard removals
  - Decrease percent of acreage that can be burned of rice stubble from 25% to 20%

# Updates to District's 2020 Report and Recommendations

- In response to CARB February 2021 action, District in collaboration with CARB developed draft *Supplemental Report and Recommendations on Agricultural Burning* through public process
  - Draft Report published May 27, 2021
  - District to provide updated report to CARB by August 2021
- In developing updated report per CARB's recommendations, District and CARB have been working to address key issues
- Following slides outline District's proposed updated prohibition schedule for affected crop types, per CARB recommendations, for varying farm sizes, including definitions for "large" farms impacted in 2022

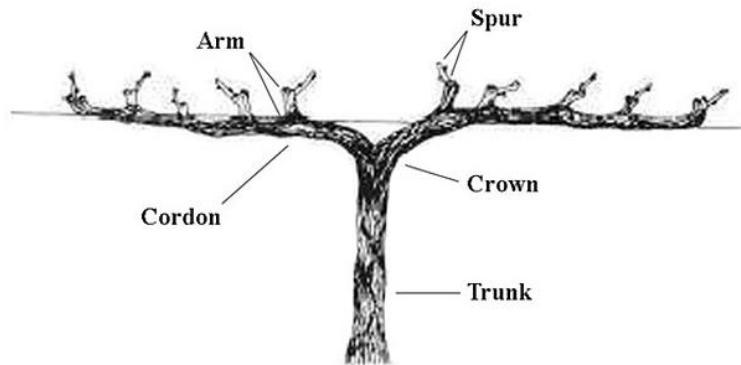
# Methodology for Establishing Phase-out Schedules

- Phase-out schedules recommended to maximize reduction of tonnage of material burned as early as possible, taking into account feasibility of alternatives for different crop types
- Consistent with CARB recommendations, smallest ag operations given most flexibility and longest time to adjust to phase-outs, prior to near-complete ban of open agricultural burning in 2025
- Significant support will be needed to assist with transition away from open burning in coming years due to limited availability and high cost of alternatives



# Feasibility Considerations for Vineyards

- Cordon (or spur-pruned) vineyards account for majority of grapes in Valley, wire in cordon head presents significant challenge for chipping/incorporation
  - Currently limited alternative disposal options besides burning
  - Chipping/soil incorporation not yet viable due to feasibility issues with removing wire
  - Significant costs associated with exposed wire removal
  - Wire contamination in field represents safety risk
- Cane-pruned vineyards have own challenges due to high cost of alternatives
- District considering demonstration projects to evaluate alternatives to burning



*Image credit from left: Wineshop, 2021; Fellows, 2019*

# Additional Feasibility Considerations

- Citrus
  - Citrus orchard material not historically accepted by biomass facilities, soil incorporation for citrus lacks research, stump disposal outstanding issue due to not being able to be chipped
- Small Orchard Removals
  - High per-project cost/high set-up cost limits feasibility, limited chipping fleet, long wait times for farmers to have fields incorporated affects planting schedules



Image credit: Cox, 2020

# Proposed Phase-out Schedule: Vineyard Removal

**Jan 1, 2022**

**CORDON**

Prohibit burning at ag operations >2,000 acres

**CANE**

Prohibit burning at ag operations >500 acres



**Tonnage Reduced 48%**  
**Acreage Reduced 12,490**



**Operations Impacted 141 (10%)**

**Jan 1, 2023**

**CORDON**

Prohibit burning at ag operations >1,000 acres

**CANE**

Prohibit burning at ag operations >250 acres



**Tonnage Reduced 60%**  
**Acreage Reduced 15,814**



**Operations Impacted 251 (18%)**

**Jan 1, 2024**

**CORDON**

Prohibit burning at ag operations >250 acres

**CANE**

Prohibit burning at ag operations >100 acres



**Tonnage Reduced 80%**  
**Acreage Reduced 21,088**



**Operations Impacted 515 (37%)**

**Jan 1, 2025**

**CORDON**

Prohibit all vineyard removal open burns

**CANE**

Prohibit all vineyard removal open burns



**Tonnage Reduced 100%**  
**Acreage Reduced 26,235**



**Operations Impacted 1,380 (100%)**

# Proposed Phase-out Schedule: Citrus Orchard Removals

Jan 1, 2021

- Prohibit burning at ag operations >500 acres
- Prohibit burning of removals >40 acres at a single location per year
- Maintain case-by-case determination for removals 15-40 acres at ag operations ≤500 acres



Tonnage Reduced  
31%



Acreage Reduced  
550



Operations Impacted  
28 (8%)

Sept 1, 2021

- Lower ag operation acreage threshold to >200 acres
- Lower removal size threshold to >30 acres
- Maintain case-by-case for removals 15-30 acres at ag operations ≤200 acres



Tonnage Reduced  
53%



Acreage Reduced  
951



Operations Impacted  
75 (21%)

Jan 1, 2022

- Prohibit all citrus removal open burns except removal projects ≤ 15 acre for small operations (less than 500 acres)

*Remaining citrus subject to Small Orchard Removal phase outs*



Tonnage Reduced  
100%

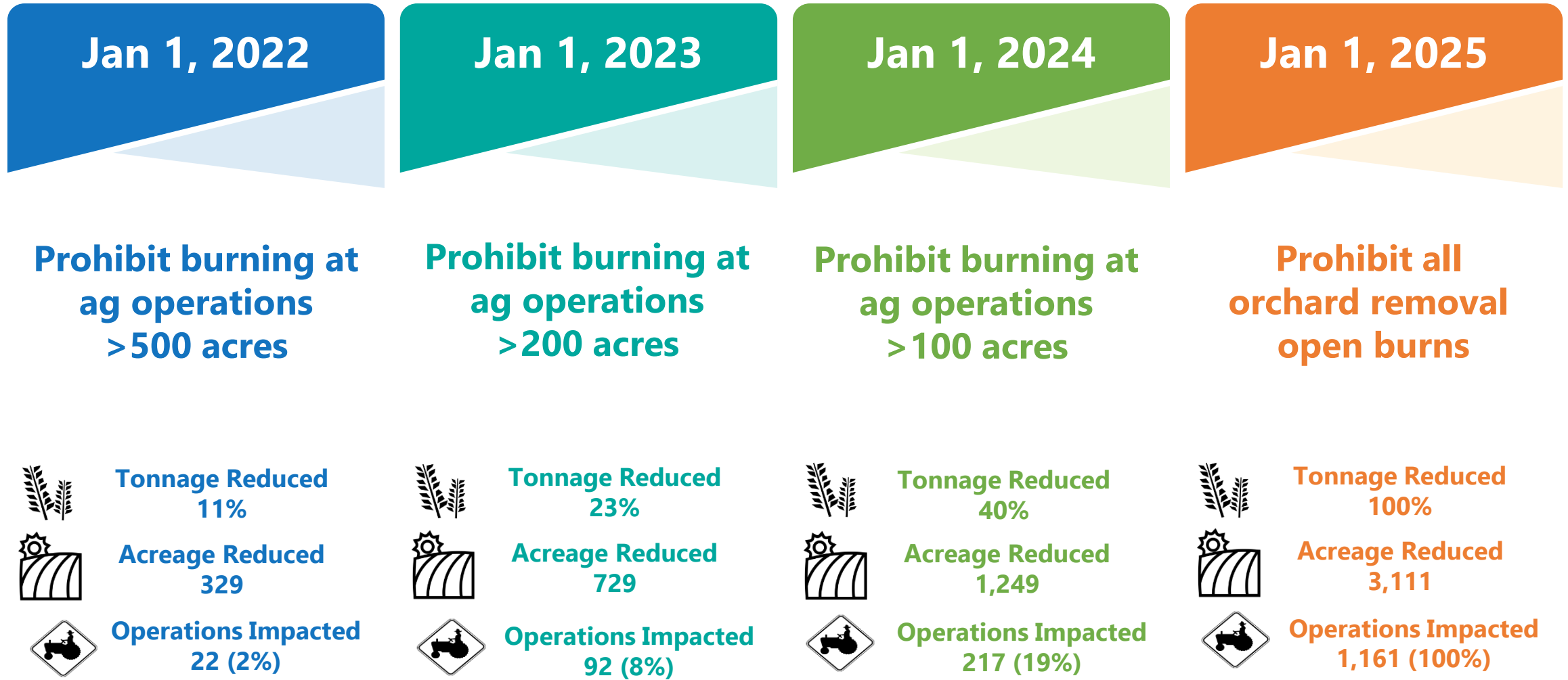


Acreage Reduced  
1,786



Operations Impacted  
361 (100%)

# Proposed Phase-out Schedule: Small Orchard Removals



# Proposed Phase-out Schedule: Surface Harvested Prunings

Jan 1, 2021

Prohibit surface harvested pruning open burns >20 acres

Jan 1, 2022

Prohibit open burning  $\leq 20$  acres at ag operations >200 acres



Tonnage Reduced  
14%



Acreage Reduced  
367



Operations Impacted  
149 (16%)

Jan 1, 2023

Lower ag operation threshold to >50 acres



Tonnage Reduced  
34%



Acreage Reduced  
902



Operations Impacted  
325 (35%)

Jan 1, 2025

Prohibit all pruning open burns



Tonnage Reduced  
100%



Acreage Reduced  
2,689

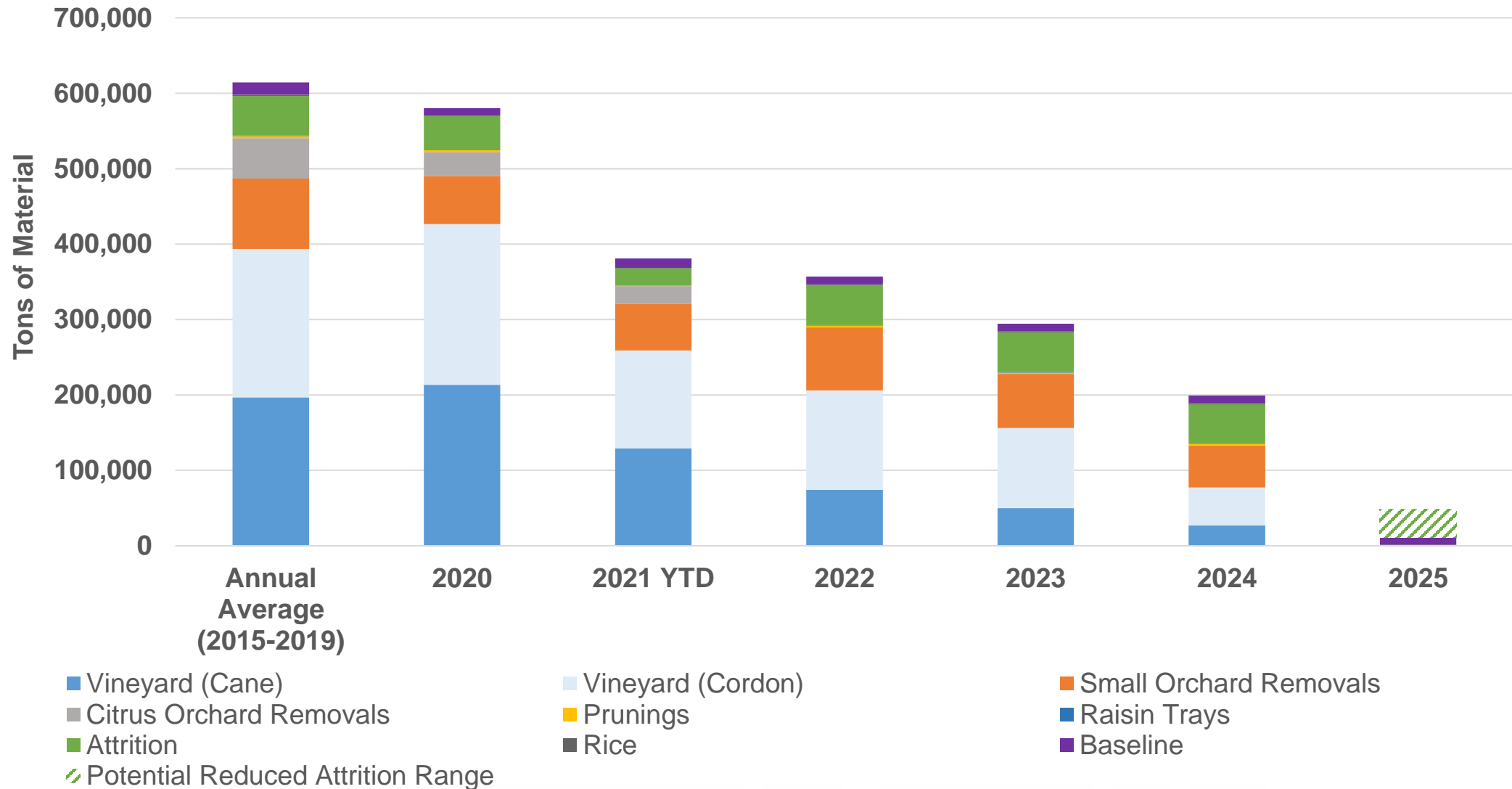


Operations Impacted  
922 (100%)

# Other Crops/Materials

- Raisin Trays
  - Prohibit open burning effective Jan 1, 2024
- Rice
  - District Recommendation:
    - Effective Jan 1, 2021, limit open burning of rice straw to 25% of total acreage of rice farmed by an operator per year
    - Prohibit open burning of residual rice straw and rice spot burning effective Jan. 1, 2021
  - CARB Recommendation:
    - Concur with District, but recommends decreasing percentage of acreage that can be burned of rice straw from 25% to 20% effective Jan 1, 2021
- Continue to permit burning where there are disease or safety/water quality issues

# Projected Annual Open Burn Tonnage



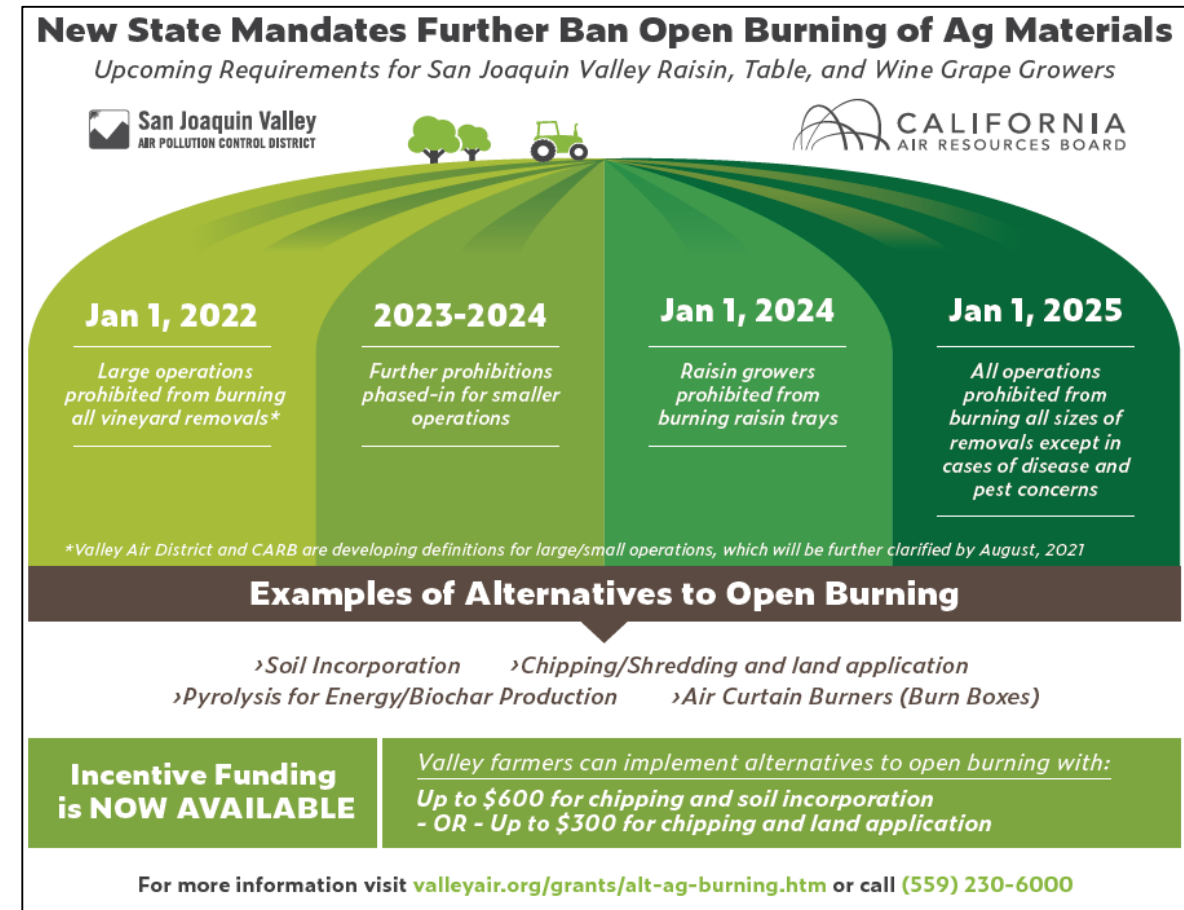


# Considerations

- District has been working with CARB to evaluate recommendations, develop required supplemental report and address key issues:
  - Feasibility and availability of alternatives to open burning for all farm sizes and crop types
  - Expanding fleet capacities to support increased demand for alternative practices
    - Promote non-combustion alternatives where feasible (i.e. chipping/soil incorporation)
    - Promote additional alternatives as needed (i.e. air curtain burners for certain vineyard removals)
  - Significant new state funding necessary to offset cost of alternatives for various crop categories, including whole orchard recycling, chipping capacity expansion, bioenergy, and other alternatives – State budget to be finalized Summer 2021

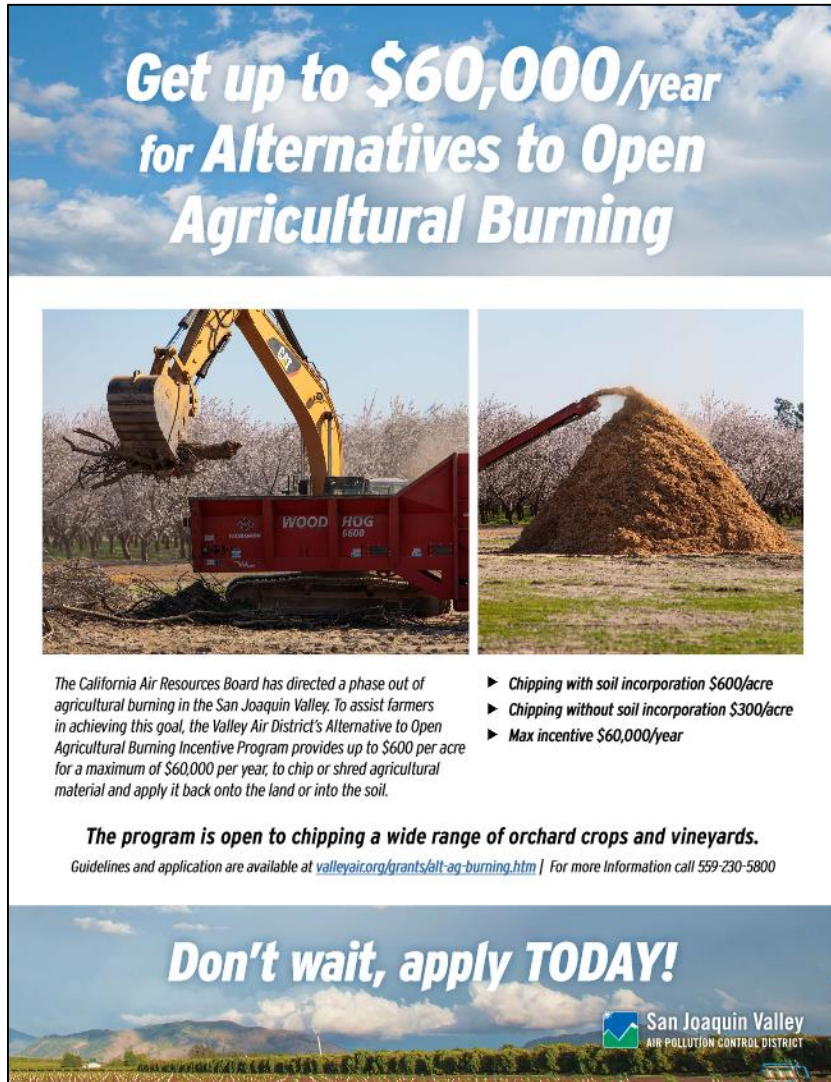
# Education and Outreach

- Education and outreach key during open burning phase-out period
  - District and agricultural leaders to work together to help industry understand the upcoming open burning phase-out
  - Educational webinars in early June to provide key information to ag operators
  - District developing infographics/marketing tools to assist commodity groups in communicating requirements to growers
  - Radio advertising for grant program currently running
  - Further outreach events/meetings to be scheduled later this year




**Example Infographic: Vineyards**

# Education and Outreach (cont'd)



**Get up to \$60,000/year  
for Alternatives to Open  
Agricultural Burning**



The California Air Resources Board has directed a phase out of agricultural burning in the San Joaquin Valley. To assist farmers in achieving this goal, the Valley Air District's Alternative to Open Agricultural Burning Incentive Program provides up to \$600 per acre for a maximum of \$60,000 per year, to chip or shred agricultural material and apply it back onto the land or into the soil.

- ▶ Chipping with soil incorporation \$600/acre
- ▶ Chipping without soil incorporation \$300/acre
- ▶ Max incentive \$60,000/year

**The program is open to chipping a wide range of orchard crops and vineyards.**  
Guidelines and application are available at [valleyair.org/grants/alt-ag-burning.htm](https://valleyair.org/grants/alt-ag-burning.htm) | For more information call 559-230-5800

**Don't wait, apply TODAY!**

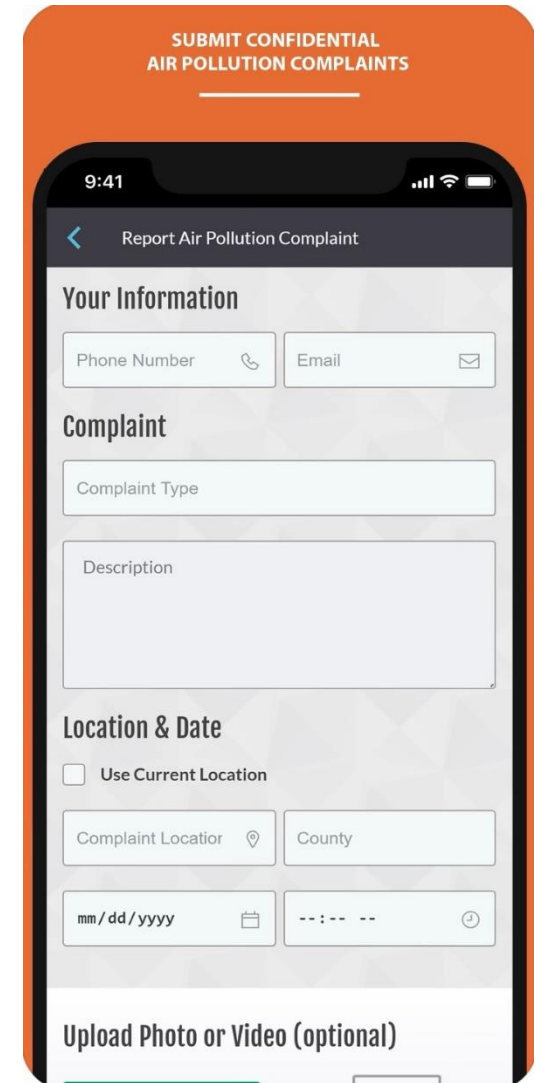
San Joaquin Valley  
AIR POLLUTION CONTROL DISTRICT

**Grant Program Flyer**

- Comprehensive online resources available, including:
  - District agricultural burning webpage: <https://ww2.valleyair.org/agriculture/agricultural-burning>
  - 2020 Agricultural Burning Report webpage: <https://ww2.valleyair.org/rules/rules-under-development/2020-staff-report-and-recommendations-on-agricultural-burning/>
  - Alternative to Agricultural Open Burning Incentive Program webpage: <https://valleyair.org/grants/alt-ag-burning.htm>
  - Compliance Assistance Bulletin: <https://ww2.valleyair.org/media/kw4ir2zs/ag-burn-cabposted-1.pdf>

# Community Resources

- All limited remaining burning will continue to be managed closely through District's SMS
  - Burn permits will not be approved if there are potential impacts to sensitive receptors, including residential areas and schools
- Valley residents can submit complaints using one of the following resources:
  - District's [Valley Air App](#)
  - District's [Complaint Website](#)
  - District's Complaint Hotline, based on county of residence:
    - San Joaquin, Stanislaus, Merced: (800) 281-7003
    - Madera, Fresno, Kings: (800) 870-1037
    - Tulare, Valley portion of Kern: (800) 926-5550



The image shows a smartphone screen displaying the 'Report Air Pollution Complaint' form. The form is titled 'Report Air Pollution Complaint' and is set against a dark background. At the top, there is a red banner with the text 'SUBMIT CONFIDENTIAL AIR POLLUTION COMPLAINTS'. The form is divided into several sections: 'Your Information' with fields for 'Phone Number' and 'Email'; 'Complaint' with a 'Complaint Type' dropdown and a 'Description' text area; 'Location & Date' with a 'Use Current Location' checkbox, 'Complaint Location' and 'County' dropdowns, and a date field with a calendar icon; and 'Upload Photo or Video (optional)' at the bottom.

# Clean Biomass Collaborative

- Focused on solutions for the San Joaquin Valley, with an emphasis on non-combustion technologies
- Will complement suite of existing approaches (e.g. soil incorporation)
- Discussion amongst agencies and stakeholders on available and potential technologies including obstacles and possible solutions
- CARB pursuing contract with Cal Poly SLO for third-party facilitation and documentation support
- Planning to kick off the Collaborative in Summer 2021, pending finalization of contract

# Summit on Alternatives to Open Burning

- Modeled after 2017 District-led Central Valley Summit on Alternatives to Agricultural Burning
- Organized by CARB with assistance from the District
- Will have a solution-oriented technical focus tailored to growers as well as developers of alternatives
- CARB and District currently developing agenda with input from wide range of stakeholders
- Summit planned for September 2021 in the San Joaquin Valley, hopefully in person with on-site demonstrations of alternatives

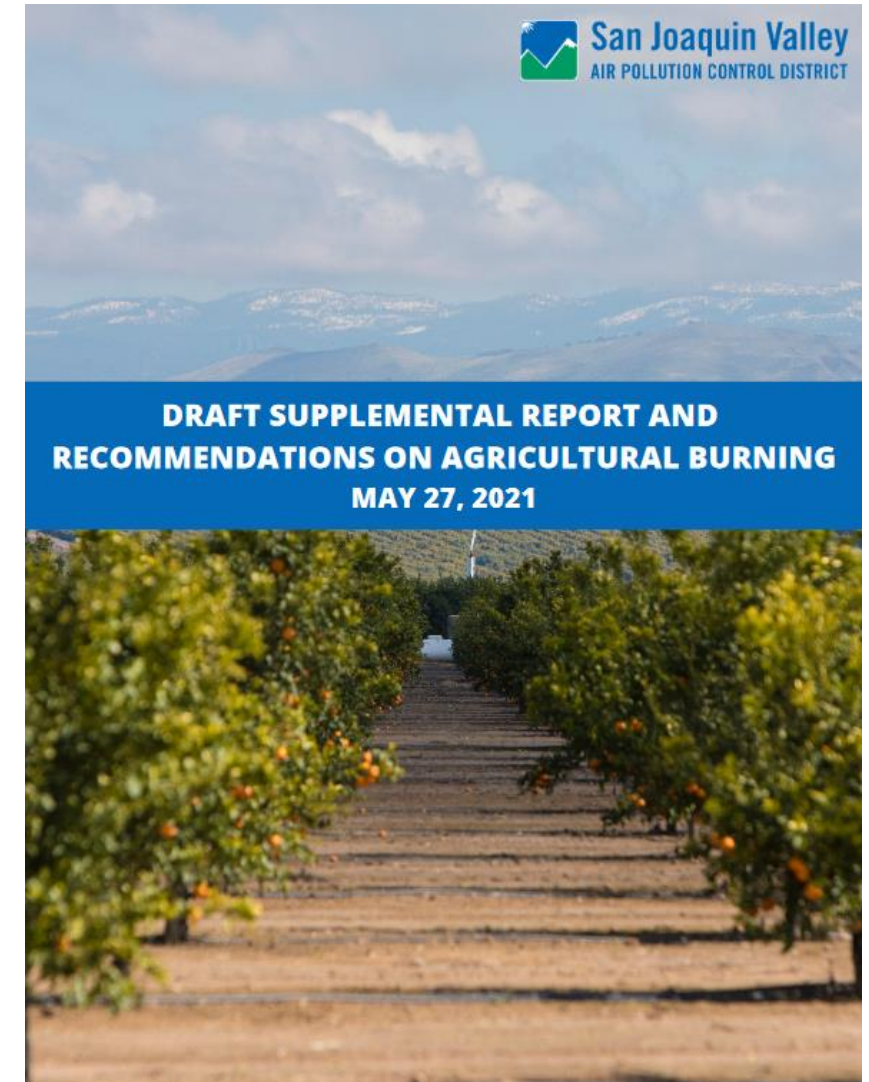
# Public Process for Report Development



Public Participation and Comment Invited throughout Process

# Draft Supplemental Report Available for Review

- For more information and helpful resources, visit the District's [Agricultural Burning website](#)
- District's draft *Supplemental Report and Recommendations on Agricultural Burning* is available for public review at <http://www.valleyair.org/workshops>
- Public comments due by June 8, 2021 by 5:00 PM





# Contact

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# Comments/Questions

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