

Appendix

Survey Instrument

>>To make sure you qualify, please answer the following:

Q1. At any point **between 2017 and 2023**, have you been involved with a **farm/ranch impacted by wildfires** in California? Select all that apply.

- Yes, we had wildfire on or near the farm/ranch
- Yes, we received evacuation orders
- Yes, we had prolonged smoke, ash, and/or poor air quality
- Yes, we experienced power outages due to wildfire (i)
- No, none of the above → End of Survey

Q2. What best describes **your role** in the farm/ranch impacted by wildfire? Select all that apply.

- A farm or ranch owner/operator (responsible for on-farm/on-ranch operations)
- An owning partner (not responsible for on-farm/on-ranch operations)
- A hired manager
- A day-to-day decision maker
- Someone with another relationship to the farm or ranch → End of Survey

>>Thank you! Looks like this survey is for you.

To get started, please tell us a little about a typical year for your farm/ranch.

Q4. What does the farm/ranch **produce**? Select all that apply.

- Crops (including hay/feed, nursery, vines, orchards, woody crops, mushrooms, etc.)
- Livestock (including beef, dairy, eggs, sheep, bees, fish, etc.)
- Value-added food or beverage products
- Timber
- Other value-added products (i.e., not food or beverage products)

Q4a. [If “Crops”] Which **crops** does the farm/ranch focus on? Select all that apply.

- Vegetables
- Tree fruits and nuts
- Berries
- Grapes
- Grains and pulses
- Oil crops
- Fiber crops
- Animal feed crops (including hay)
- Cut flowers, floriculture, or ornamentals
- Seed crops
- Nursery stock
- Short rotation woody crops
- Mushrooms
- Other types of crops: (Please specify)

Q4b. [if “livestock”] Which types of **livestock** does the farm/ranch focus on? Select all that apply.

- Poultry (eggs)
- Poultry (meat)
- Hogs and pigs
- Sheep and lambs
- Goats and kids
- Cattle (non-dairy)
- Dairy cattle
- Bees
- Aquaculture
- Llamas or alpacas
- Horses, ponies, mules, burros and donkeys
- Other types of livestock: (Please specify)

Q4c. [If sheep, goats, non-dairy cattle] Does this farm/ranch do **contract grazing** (i.e. paid to graze land that is not leased or owned)?

- Yes
- No

Q5. Do you still own or work on this farm/ranch?

- Yes
- No

(Discontinuation [IF respondent no longer owning/working the farm/ranch])

Q5a. When was your last year with the farm/ranch?

- 2023
- 2022
- 2021
- 2020
- 2019
- 2018
- 2017

Q5b. Why do you no longer own or work at this farm/ranch? [If “No” to “Are you still working there?”]

- I left the farm/ranch but it remains active
- It shut down
- It was sold
- It relocated
- Farm/ranch operations paused but should resume in the future
- Other: _____
- *Prefer not to say*

Q5c. Did **wildfires** influence this outcome? [If any of the above selected EXCEPT “Prefer not to say”]

- Yes, 100%.
- Yes, in part
- No, not at all
- Not sure or don’t know
- Other/comments: _____
- *Prefer not to say*

>>Thanks! Now we’d like to ask about the impacts of wildfire.

Part One: Wildfire exposure and impacts

Q6. As a result of wildfire, **how frequently** has your farm/ranch experienced:

SCALE	Every 1-2 years	Every 3-5 years	Every 6-10 years	Only once
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- Evacuation orders [if selected in Q1]
- Power outages (*info*) [“”]
- Fire on/near the property [“”]
- Prolonged smoke, ash, or poor air quality [“”]

Q7. Overall, how have wildfires affected your:

SCALE	Very Negative	Somewhat Negative	Neutral or unsure	Somewhat Positive	Very Positive
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- Physical health
- Mental & emotional well-being
- Personal relationships
- Farm/ranch relationships
- Cooperation or resource sharing with others
- Ability to compensate workers
- Ability to compensate yourself (including profit distributions)
- Implementation of conservation practices

Q8. Specifically, how did wildfire impact your farm/ranch:

- Wildfire **on** the property (leased or owned) [IF Fire on/near]
- Inability to access property [Evac, Fire on Prop]
- Market closures or disruptions
- Missed working days (you or your crew)
- Labor shortages
- Smoke/ash related injuries to workforce (include yourself) [IF smoke/ash]
- Loss/damage to fences **Fire on/near, Evac**
- Loss/damage to irrigation, sprinklers or watering systems [If **Fire on/near, Evac**]
- Water contamination or degradation [IF smoke OR Fire on/near]
- Soil contamination [IF smoke OR Fire on/near]
- Erosion and loss of topsoil [IF **Fire on/near**]
- Increased runoff and reduced water infiltration
- Sedimentation of waterways/ponds

Q8a. [IF “unable to access the property”] Estimate the **most consecutive days** you were unable to access the property due to wildfire: _____

Q8b. [IF “labor shortages” OR “missed work days”] How did the farm/ranch address labor **shortages or missed work**? Select all that apply.

- I worked extra hours to compensate
- Relied on family or friends’ labor
- Shared labor with other farms/ranches
- Unable to harvest crops
- Relied on labor contractors for temporary workers
- Reduced or changed agricultural production as a result of labor shortages
- Other:
- *I don’t know/prefer not to say*

IF CROPS

Q9.Crops(i). Overall, how did wildfire **impact your crops**:

- Lost season’s harvest
- Loss of more than one season's harvest from the same wildfire [Fire on/near and Smoke/Ash]
- Lost crops because unable to irrigate
- Lost crops because unable to work/harvest
- Lost crops/harvest from ash damage [Ash/smoke]
- Scorched, singed or desiccated crops [Fire on/near]
- Unable to sell crops due to ash or fire retardant contamination [Fire on/near or smoke/ash]
- Loss of organic certification due to contamination [Fire on/near or smoke/ash]
- Irrigated annual crops destroyed in the path or vicinity of fire [Fire on/near]
- Irrigated trees, vines or perennials lost in the path or vicinity of fire [Fire on/near]
- Death/serious injury to trees, vines or perennials from heat or wind [Fire on/near]

Q9.Crops(ii). Specifically, how did wildfires **impact your crops and cropping systems**?

(You can select more than one answer for each.) [If Fire on/near or Ash/smoke]

Decreased	Increased	Neither or Unsure
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1. Crop yield
2. Growth or maturation
3. Flavor/taste quality

4. Pollinator activity
5. Flowering or fruiting
6. Soil quality or fertility
7. Pest outbreaks
8. Disease/pathogens
9. Weed spread/competition
10. Others/comments:_____

IF LIVESTOCK

Q9.Livestock. Overall, how did **wildfire impact your livestock**

1. Evacuated livestock
2. Prolonged exposure of livestock to smoke/ash [IF smoke/ash]
3. Loss of pasture, rangeland, feed or hay
4. Reduced pasture/forage quality or growth rate
5. Refusal to eat forage or pasture due to ash and/or smoke [If smoke/ash]
6. Injured livestock that recovered with treatment
7. Euthanized/culled/dead livestock
8. Increased rates of pneumonia
9. Less weight gain than usual
10. Less milk production than usual
11. Lower conception rates than usual
12. Higher late term abortion rates
13. More low birth weights / stunted offspring / poor-doing offspring
14. More unexplained livestock deaths
15. Blackened eggs [IF Eggs, IF Smoke/Ash]
16. Loss of hives [IF Bees]
17. Loss of forage for bees [IF Bees]
18. Death or illness of bees [IF Bees]
19. Relocation of hives [IF Bees]
20. Others/comments:_____

Q9.Livestock(i). [IF aquaculture] How did wildfires impact your aquaculture or fish?_____

Q9.Livestock(ii). [IF Blackened Eggs] How long did your poultry produce blackened eggs?_____

Q9Fire. [If fire on the property Q8] If there were notable differences with **how wildfire moved through your property** based on vegetation/fuels, soil, livestock, or irrigation management practices, please share them here:

Q10. Any further details to share on ANY of the impacts you reported above? (Including specific impacts to crops/livestock or impacts we didn't address.) _____

>>That's it for impacts to crops and livestock. Keep it up! Just a few more for this section.

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Q11. To what extent do you agree or disagree with the statements below?

	SCALE	Strongly Agree	Somewhat Agree	Neutral or unsure	Somewhat Disagree	Strongly Disagree
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- I know how to deal with wildfire-related threats to the farm/ranch
- I have made significant changes to my farm/ranch as a response to wildfire
- This farm/ranch can bounce back from the impacts of wildfire
- I have considered stopping farming/ranching as a result of wildfire
- My community networks grew in response to wildfire

Q12. During which years has wildfire impacted your farm/ranch? Select all that apply.

- 2023
- 2022
- 2021
- 2020
- 2019
- 2018
- 2017
- 2010-2016
- 2000-2009
- 1990-1999

Q13. In what **counties** has your farm/ranch experienced wildfires? Select all that apply.

Q14. Where was the farm/ranch **most affected**?

- Enter zip code (Don't know it?): _____

Q15- How severe has the **damage/loss** been to each of the following?

SCALE		Not affected or very little	Significant	Devastated
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- Operating income/financial stability
- Crops/livestock or other agricultural products
- Residential dwellings [IF fire on/near property]
- Farm outbuildings [IF fire on/near property]
- Infrastructure, equipment, supplies [IF fire on/near property]
- Soils, watersheds, habitats on your land [IF fire on/near property]

Q15b. [IF “Financial Stability” was Significant or Devastated in Q15] OPTIONAL: What have been the **approximate** losses in dollars to your farm/ranch business due to wildfires? (a rough estimate is okay!)

- Agricultural losses: _____
- Damage to buildings and infrastructure : _____

Q15c. Do you know any farmer/rancher(s) who have shut down due to wildfires?

- Yes
- No
- *I don't know*

>>Part One DONE. Let's talk disaster response and recovery..

Part Two: Wildfire Disaster Response and Recovery

Q16. What is your personal **experience with fire**? Select all that apply.

- I am or have been a firefighter
- I have practiced prescribed or cultural burning
- I have practiced pile burning
- I have training in fire suppression
- Other/comments:
- *None of the above*

Q16b. [IF experienced Fire on/near OR Evacuated] How have you **responded** to wildfire approaching the property? Select all that apply.

- Evacuated
- Moved crops, livestock, equipment, etc to prevent losses
- Left and returned to my property as soon as possible
- Got permission or used AgPass to access property
- Stayed or sheltered-in-Place
- Defended against fire
- Other/comments:
- *Prefer not to say*

Q17. Have you **assisted emergency personnel** or firefighters in any of the following ways during wildfires? Select all that apply.

- Provided local knowledge (eg. access routes, past fire behavior, etc)
- Cut fire lines / created firebreaks
- Provided water for fighting fire
- Other/comments:
- *None of the above*

Q18. Have you helped **other farms or neighbors** in any of the following ways during a wildfire?

- Donated supplies
- Shared employee labor/time
- Helped market/distribute crops [IF Crops]
- Harvested crops [IF Crops]
- Helped relocate, or care for livestock [IF Livestock]
- Helped evacuate other people
- Defended neighboring homes or property
- Cut fire lines / created firebreaks
- Other/comment:
- *None of the above*

>>Thanks! Now we want to know *who* and *what* helped you the most. These details are important!

Q19. Which **resources** did the farm/ranch **most rely upon** during wildfires? Select up to 5.

- Support with harvest/evacuation [IF Evacuation and Wildfire on/near]
- Support with defending property [IF Fire on/near]
- An AgPass, livestock or emergency pass
- Sprayers, irrigation system, or water truck
- Water storage and/or water pumps
- Tractors, plows, heavy machinery

- Tools for evacuating/relocating (vehicles, trailers, etc.)
- Emergency refuge for livestock [IF livestock]
- Generators [ALL except Ash/Smoke]
- Two-way radios [IF fire on/near OR Evacuation]
- Go-bags / document box [IF fire on/near OR Evacuation]
- Storage capacity for products and supplies (including cold storage)
- Processing and/or packaging equipment
- Personal Protective Equipment (PPE)
- A secondary residence
- Other(s)/comments: _____

Q20. Which **resources** did you **wish you had** during the wildfires? Select up to 3.

- [display NON-selections - individually programmed]
- Other(s)/comments: _____
- *Nothing, I was fully prepared*

Q21. **Who** was the most helpful to your farm/ranch during *and* after the wildfire? Select all that apply.

- Your farm crew
- Contracted/hired temporary labor
- Neighbors
- Family and friends
- Informal farmer networks
- Saleyards, auction yard, video rep [IF livestock]
- Market point-of-contact (eg. farm market manager, farmer cooperatives, purchasers, brokers, etc)
- Customers [If Crops]
- Industry/trade organizations (commodity boards, Cattlemen's associations, Farm Bureau)
- Agricultural support organizations / NGOs (CAFF, FarmLink, etc)
- Fire department (local)
- Disaster response groups (Redcross, animal evacuation groups, etc)
- Fire Safe councils, firewise communities, etc
- Local government (Ag commissioner, OES, etc)
- UC Cooperative Extension
- FSA (Farm Service Agency)
- NRCS (Natural Resources Conservation Service)

- RCD (Resource Conservation District)
- Other/comments: [if selected, text entry forced]

Q22. Which wildfire risk management practices does the farm/ranch now **prioritize**? Select all that apply.

- Grazing with hired/contracted livestock
- Grazing with our farm/ranch livestock [IF livestock]
- Prescribed or cultural burning
- Forest thinning and/or brush clearing
- Annual fire breaks (dozer/disk, etc)
- Defensible space around buildings and infrastructure
- Building hardiness of structures
- Evacuation and/or emergency communications planning
- Livestock evacuation or shelter-in-place plan [IF Livestock]
- Train farm/ranch employees on how to safely respond to wildfire
- Water storage/supply
- Offgrid systems (generators, solar, etc)
- Signing up for emergency warning systems
- Participation in community preparedness groups (Firewise, Fire Safe, etc.)
- Other/comments: [if selected, response forced]

Q23 . Is the defensible space around your farm/ranch **jeopardized by fuel conditions of neighboring** properties?

- No
- Yes

Q23b. [If yes] What type of properties are the source of concern? Select all that apply.

- Private residential land
- Private farm/ranch land [was accidentally removed in live survey]
- Private timber land
- County/city land (eg. parks, water districts)
- State land (eg. Fish and Wildlife, State Parks)
- Federal land (eg. BLM, Forest Service)
- Other/comments: ____

>>Doing great! Here we'll ask briefly about the financial side before moving on to the last (much shorter!) section.

Q24. What **financial sources** contributed to your **farm/ranch's recovery** from wildfires? (NOT including homes)

- Farm and ranch insurance

- Crop/Livestock insurance
- USDA assistance programs (from FSA, NRCS, Rural Development, etc)
- Conventional disaster relief (FEMA, American Red Cross, Salvation Army, etc)
- Personal loans or gifts (family, friends, acquaintances)
- Ag organizations, foundations, crowdfunding campaigns
- Private loans or credit (bank, investors)
- Personal savings
- Business savings
- Other(s) _____ [if selected, text entry forced]
- *I don't know / prefer not to say* [answer exclusive]

Q25. [If “prefer not to say” NOT selected] Please estimate how much of your total losses have been covered by each source. (Leave any blank that you don't know or prefer not to answer.)

SCALE	Very little (Less than 20% of total loss)	Some (20%-50%)	Most (50% to 80%)	All or nearly all (80%-100%)
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[Display selections from “financial sources” above (“Other” text entry piped in)]

Q25a [If no USDA Disaster Assistance] Why did the farm/ranch not utilize **USDA Disaster Assistance** (*FSA, NRCS, RMA, Rural Development, etc.*)? Select all that apply.

- Application is still pending
- Didn't qualify
- Applying was too tedious or complicated
- Was not aware of USDA assistance
- Don't want to work with the government
- Other/comments:
- I don't know/prefer not to say*

Q25b [IF no Farm/Ranch Insurance] Why was **farm/ranch insurance** not used? Select all that apply

- Didn't have farm/ranch insurance
- Insurance coverage dropped
- Insurance premiums increased beyond what we could afford
- Claims still pending or in progress
- Claims rejected
- Didn't submit a claim
- Fire damage not covered

- Other/comments:
- *I don't know/prefer not to say*

Q25c [IF no Crop/livestock Insurance] Why was **crop/livestock insurance** not used? Select all that apply

- Didn't have crop/livestock insurance [display next question]
- Claims still pending or in progress
- Claims rejected
- Didn't submit a claim
- Crop or livestock type not insurable
- Type of damage not covered
- Other/comments: _____
- *I don't know/prefer not to say*

Q25d [IF "didn't have crop/livestock insurance"] What best describes the reason(s) for lack of **crop/livestock insurance**? (*Why do we ask?*) Select all that apply.

- Too expensive
- Didn't know about it
- Insurance agents unfamiliar with what farm/ranch needs
- Insurance not available for my commodities/crops/livestock
- Applying too tedious
- Don't need or want insurance
- Other/comments: _____
- *I don't know/prefer not to say*

Q26. *Optional*: Anything else to share about wildfire response and recovery (including financial recovery)?

>>You're so close! The longest part of the survey is behind you, the end is in sight!

Part Three: The Farm/Ranch and You

Q27. Enter **year you began** at this farm/ranch: _____

Q28. Of the **total acres** on your farm/ranch, how many are: *For partial acres, please use decimals..*

- Owned and managed (exclude land leased **to** other operators) _____
- Private rented/leased:_____
- Public entity rented/leased:_____

- Managed under **contract grazing on private land** in a typical year: [IF “contract grazing” is “Yes”]
- Managed under **contract grazing on public land** in a typical year: [IF “contract grazing” is “Yes”]

Q29. Where did the farm/ranch **sell** most of its agricultural products? Select all that apply.

- **Intermediate markets and 3rd party sellers** (businesses or organizations in the middle of the supply chain, such as distributors, food hubs, brokers, auction houses, wholesale and terminal markets, food processors, etc.)
- **Direct to Consumers** (individuals who purchased your products from farmers markets, on-farm stores or farm stands, roadside stands or stores, CSA [Community Supported Agriculture], online marketplaces, etc.)
- **Retail markets** (supermarkets, supercenters, restaurants, caterers, independently owned grocery stores, food cooperatives, etc.)
- **Institutions** (k-12 schools, colleges or universities, hospitals, workplace cafeterias, prisons, foodbanks, etc.)
- **Other** (Please specify)

Q30. In an average year, what are the **Gross Farm Sales** for your farm/ranch?

- Under \$10,000
- \$10,001 - \$25,000
- \$25,001 to \$50,000
- \$50,001 to \$100,000
- \$100,001 to \$250,000
- \$250,001 to \$500,000
- \$500,001 to \$1,000,000
- Over \$1,000,000

Q32. I rely on **off-farm/off-ranch income** (including your partner) to:

- Cover my household expenses (non-farm/ranch expenses)
- Cover farm/ranch expenses
- Accrue savings
- None of the above

Q33. If needed, could you access any of the following?

- Health insurance
- Access to disability
- Access to unemployment
- Money for retirement

- Access to generational wealth
- Other/Comments:

Q34. Please select any statements below that apply to you:
(Why do we ask?)

- I am a beginning farmer/rancher (under 10 consecutive years)
- I am an experienced farmer/rancher (more than 20 consecutive years)
- I'm a first generation farmer/rancher
- I belong to a multi-generational farming/ranching family
- I am an immigrant
- I'm 65 or older
- I am a limited-resource farmer/rancher ([info](#))
- I consider our farming/ranching practices to be organic/agroecological
- I belong to a group who has been subject to prejudice or discrimination: (*Please specify group*) _____
- Other/comments:

>>Phew! THANK YOU for sticking with it.
Just a couple things before you go. (*Don't forget your rewards!*)

- **Optional: Anything this survey didn't cover that you'd like to share?**
(Comments/suggestions welcome!) _____