SACRAMENTO STATE
COLLEGE OF CONTINUING EDUCATION

CALIFORNIA DEPARTMENT OF PESTICIDE REGULATION
STATEWIDE PESTICIDE APPLICATION NOTIFICATION SYSTEM

FOCUS GROUPS SUMMARY

BACKGROUND

The California Department of Pesticide Regulation (DPR) is in the process of developing a statewide pesticide application notification system, funded by $10 million allocated to DPR in the 2021-2022 state budget. The system will provide communities with transparent and equitable access to information about pesticides applied around them, and provide an opportunity for people to make their own decisions about any additional precautions they may want to take to protect their health. Examples of additional precautions may include shutting windows, avoiding areas around the fields, keeping children inside, or bringing in toys and laundry. A statewide pesticide notification system addresses the need to provide more transparent information to the public about pesticides used around them and advances DPR's mission to protect human health and the environment for all Californians.

In California, pesticides with a greater potential to cause harm to humans, wildlife, and the environment (referred to as restricted materials) are subject to additional sales, possession, and use restrictions compared to non-restricted materials. Application of restricted materials requires obtaining a permit and submitting a time- and site-specific Notice of Intent (NOI) to the County Agricultural Commissioner (CAC) at least 24 hours in advance of the application. The CAC evaluates each NOI for the application's potential to safety. The CAC can either a) approve the application, b) deny the application, or c) impose additional conditions before the application can occur. This is a form of advance notification to the CAC. The proposed system is intended to notify members of the public who live, work, play, or are otherwise near higher risk applications.

There are several existing public notification systems, each with different scope and goals, including:

- California's BeeWhere
- Monterey County's Farming Safely Near Schools
- Kern County's grower-to-grower based system
- Systems in other states, including Florida, Maine, and Michigan

To develop an effective pesticide application notification system, DPR is conducting a series of focus groups, webinars, and workshops to gather input from members of the public, County Agricultural Commissioners (CACs), regulatory agencies, regulated industries, and other stakeholders.

A summary of the input from the August 2021 focus groups is provided below. The four focus groups were facilitated by facilitators from the California State University, Sacramento Consensus and Collaboration Program (CCP). The focus groups were held in English and one focus group included Spanish interpretation. This summary was compiled by CCP and reviewed by DPR.

FOCUS GROUP PROCESS

PARTICIPANTS

Focus group participants represented the following stakeholder perspectives:

- Focus Group 1: Professional Applicators and Registrants
- Focus Group 2: Growers and Commodity Organizations
- Focus Group 3: Community Members, Community Organizations, and Environmental Advocacy Organizations
- Focus Group 4: State and Local Regulators

DISCUSSION TOPICS

Following a brief background presentation by DPR, focus group participants were invited to discuss the following topics:

- What do you see as potential **benefits** of a pesticide application notification system?
- What do you see as potential **challenges** of a pesticide application notification system?
- Notification system design
    - Which pesticides should require advance notification?
    - Who should receive notification?
    - How far in advance of the application should notification be given?
    - What information should be provided with the notification to help make it meaningful?
    - How should the notification be delivered?

Input from focus group participants on these questions, as well as additional considerations, are summarized below.

PARTICIPANT INPUT

The following summarizes consolidated input from the four focus groups. Comments reflect various participant perspectives, not consensus opinions, and some comments contradict one another.

BENEFITS

Focus group participants discussed anticipated direct benefits of the proposed notification system and identified opportunities for additional positive outcomes of the system, including:

- **Provide opportunity to take additional precautions to protect health:** Having information about applications in advance could allow community members to take additional precautions to protect their health such as closing windows, planning not to be outside, and bringing toys inside. Farm labor contractors could plan field worker schedules around applications.
- **Protect vulnerable populations living near or working at agricultural fields:** Information that enables additional precautions could protect potentially vulnerable populations including people with compromised health, disproportionately impacted communities of color, the elderly, and children.

- **Provide equitable access:** The system could provide equitable access to information about pesticide applications to those who need it.
- **Build trust, provide transparency, and improve understanding of pesticide use:** Improving accessibility of information about pesticide use could support better understanding of pesticide use, including which and how often pesticides are applied, how pesticides are regulated by DPR, how regulations are enforced by CACs and studies about potential impacts on human health, wildlife, and waterways. Increased understanding could help address some concerns that may be due to lack of access to information. Increased transparency about pesticide use also has the potential to foster trust among the agricultural sector, communities, and government.
- **Oversight and enforcement:** The system could support oversight and enforcement related to pesticide use. In particular, increasing DPR's role could increase oversight of CACs while also alleviating some of the responsibility that currently falls to the CACs. The system could also give community members clarity about the appropriate agency and avenue to express concerns and get information about pesticide use.
- **Streamline systems:** A statewide system could provide an opportunity to streamline and integrate existing systems, which are currently ad hoc and siloed.

CHALLENGES

Focus group participants identified challenges in designing and implementing a meaningful and effective notification system, as well as concerns about potential impacts of the system. System design features such as who is notified, which materials are included, whether the information is understandable to recipients, and whether it suggests actions to take, will influence the system's efficacy. Following this discussion, participants suggested design measures to address the challenges and concerns and to realize the opportunities discussed above (see below). Challenges and concerns participants shared include the following:

- **Potential lack of consistency between new system structure and existing systems:**
  - Having multiple notification systems in place could lead to confusion on the part of growers regarding the requirements for each system.
  - Having systems operating at different scales (i.e., a county-level system and a statewide system) could make it more challenging to disseminate the information.
- **Potential impacts on agriculture:**
  - The system could reduce flexibility and timeliness related to pesticide application, including current flexibility that ensures an application is done when the conditions are right to prevent outcomes such as drift.
  - The system could be duplicative of existing measures that ensure safety and provide information about pesticide application, leading to time burdens on growers related to providing the additional notification.
  - The system could hinder or delay pesticide applications. For growers, this could have a significant impact, as pesticides are an important tool and application needs to be timely to be effective. This could also lead to cost burdens if legal applications are delayed.
- **Equitable access**:
  - It could be challenging to ensure that everyone who needs to be notified is able to receive the information in a way that works for them. Challenges may include:
    - Technological issues such as broadband access for both growers submitting notifications and for recipients of the system to access the information.

- Ensuring the notification is accessible in terms of language (including indigenous languages that do not have written forms) and how information is presented.
- Potential distrust in signing up for a government-run system.

- **Funding and capacity limitations:**
  - The system may generate staffing and funding implications for DPR and the CACs related to building and operating the notification system.
  - Funding already dedicated to the project may not be sufficient to carry through to a complete, implementable system.
- **Potential for undue concern and notification/warning fatigue:**
  - Too many notifications could lead to undue concerns.
  - If notifications do not provide information about pesticide applications that is meaningful to recipients (e.g., existing protection measures required during application, risk of off-site migration), they may result in undue concerns or fear.
  - Too many notifications could lead to warning fatigue such that people may come to disregard the notifications.
- **Resistance to implementing and enforcing the system:**
  - There was a perception that some who might be responsible for implementation and enforcement of the system are resistant to it.
- **Liability and legal costs:**
  - The system is likely to carry various challenges related to liability, including:
    - Whomever provides information about precautions to take may carry a liability, including liability related to potential crop damage if an application does not proceed.
    - If the system only notifies about agricultural pesticide use, exposures from other sources such as residential use could be assumed to have been related to the agricultural use, which may increase litigation costs.

NOTIFICATION SYSTEM DESIGN

WHICH PESTICIDES SHOULD REQUIRE NOTIFICATION

Participants shared a broad range of perspectives on which pesticides should require notification, including:

- All pesticides.
- Approaches related to restricted materials:
  - Restricted materials only, in alignment with the existing NOI system.
  - Start with pesticides included in existing NOI regulations (restricted materials) for fastest implementation and expand during rulemaking.
  - A subset of restricted materials based on risk (described below under "risk-based approaches")
- Risk-based approaches:
  - Focus on potential for exposure, based on product, established buffer zone on label, application method, and location.
  - Product toxicity.
  - Restricted materials combined with risk:
    - Restricted materials being applied in a way that would pose risk, based on potential for drift, exposure, and toxicity.

- Restricted materials plus others that are known to cause harm but not on the restricted materials list.
  - Products linked to cancer, for example those on the Proposition 65 list or the Hazardous Substances list.
  - Chemicals included in other systems, like BeeWhere.
  - Any pesticides that might go offsite, including through runoff into water supplies.
  - Focus on those pesticides that are used particularly heavily on certain crops/in certain communities (as heavier/repeated exposure leads to higher risk).
- Tailor the pesticides included based on the concerns of impacted communities:
  - Some have specifically flagged 1, 3-Dichloropropene as of concern.
  - Some have flagged all restricted materials as of concern.
  - Consider including notification/education about some of the less toxic, but very common, applications, to address public concern.
- Considerations:
  - Practical implementation of the system will look very different based on which pesticides are included.
  - Note that risk/exposure-based approach will require significant analysis.
  - A smaller list would help prevent notification fatigue.
  - If the system is focused on people who may have sensitivities, then perhaps all pesticides should be included.
  - If only restricted pesticides are included, it may undermine trust as people may notice an application occurring and be concerned about why they did not receive a notification.
  - It may be useful to exempt some pesticides from the notification system if they are not applied according to a set schedule, for example rodenticides used when a gopher mound is discovered.
  - In some cases, the same material may be applied to multiple crops; need to define requirement for multiple notifications in this case.

WHO SHOULD RECEIVE NOTIFICATION

Participants shared feedback on who should receive notifications, discussing the pros and cons of using a distance-based approach, a risk-based approach, an opt-in or -out system, and other considerations.

- Distance from application
  - Suggestions for setting proximity parameters:
    - Buffer zones already established by DPR for safe use of a given material.
    - Targeted community approach for those likely impacted, including community members and workers.
    - Based on home address within certain distance of application.
    - Allow people to sign up for notifications based on targeted locations, for example home, school, and work addresses, but include a cap on the number of sites each person can sign up for.
    - Those who are potentially affected by an application.
    - Adjacent to application.
    - There are too many factors to consider to set individualized buffers for each application. Instead set a consistent distance of 0.25 miles.

- Consider the volume of notifications users would receive based on the distance used – define the proximity parameters to avoid notification fatigue.
- The system should include validation that participants are within the specified distance to receive notification.
- Provide notification of applications within a 2-mile radius of sensitive sites such as schools, homes, parks, churches, stores, etc.
  - Avoid setting proximity parameters:
    - Notification should not be tied to specific proximity level.
    - The information should be publicly available to all.
    - Those living in agricultural counties are likely exposed to pesticides and should be able to be notified regardless of distance from a particular exposure.
    - Community members may not be able to sign up for notification, for example due to concerns related to sharing personal information with the government. The information must be made public so that those working with these communities can help them access the information.
    - Information should be publicly available in a cohesive, easily accessible place.
    - In addition to information being publicly available, the system should include proactive information sharing with community groups that can help get information to those communities most impacted.
    - Everyone should be able to receive this public information, including for use by other state agencies, universities, and others.
    - Interested stakeholders should be able to determine what notification they want to receive (e.g., they can decide what distance they would like, what locations, etc.) This would allow scientists to access granular data about pesticide use and understand its correlation with impacts.
- Opt-In / Opt-Out
  - Support for an opt-in system:
    - Utilize an opt-in system; those who will utilize the system will seek it out.
    - Set geographical parameter for opting-in, related to proximity to application.
    - Opt-in based on certain criteria beyond proximity (e.g., Florida's physician approval). BeeWhere uses an opt-out system, however such an approach necessitates having an initial list that people can then remove themselves from (in the case of BeeWhere, registration is required to establish the initial list).
    - Consider an app-based system like BeeWhere.
  - Concern regarding an opt-in system:
    - Everyone within an area that might be affected should receive notification, without needing to opt-in.
- Risk-based
  - Determine areas where notification would be relevant based upon illness and exposure data over the last 10 years indicating which pesticides and methods lead to risk. A pilot project could also help determine relevant areas.
  - Parents should be notified of applications near the schools their children attend.
  - Workers
    - Those near fields, including contractors with workers nearby, should be notified.
    - Those who travel with crops should be able to be notified, even as they move to different locations.

- Other parameters and considerations
  - Utilization of current systems like Cal School Notify may help gauge the general level of interest in a receiving notification. Base notification on the specific application site, not the property line of the whole parcel.
  - Consider use of a fee for opting-in to support system costs, like the system in Florida. Since application information is available to the general public through Public Records Act (PRA) requests, focus on those who need timely information to take additional precautionary measures due to proximity to application site.
  - Illness data shows a high percentage of exposures are farm-to-farm, where crews in adjacent fields are exposed.
  - The system should make information widely available but should also include measures to ensure it does not lead to disruption of pesticide applications.

HOW FAR IN ADVANCE OF APPLICATION SHOULD NOTIFICATION BE GIVEN

Participants responded to a poll asking how far in advance of an application notification should be given. Responses included:

- 4 hours
- 12 hours
- No more than 12 hours
- 24 hours
- At least 24 hours
- No more than 24 hours
- 48 hours
- 72 hours
- At least 72 hours
- One week

Participants also discussed the reasons for their responses and key considerations in setting the timeframe.

- Time to take precautionary measures
  - 72 hours is sufficient time to adjust plans and take precautionary measures.
  - Anticipate precautionary measures could be taken within 24 hours of notification.
  - A longer notification time period may not clearly indicate when precautionary measures should be taken.
- Flexibility and accuracy
  - Application decisions are weather-dependent, so flexibility is needed to respond to changing local conditions and ensure the application is done safely.
  - The notification should not require a specific application time be set, as decisions need to be responsive to current conditions.
  - Accuracy is important for the effectiveness and reliability of the system. The further in advance notification is given, the more likely conditions may change so that the application needs to be modified. This could create confusion for those receiving the notification as well as additional work and redundancy in the system.
  - Application decisions are often made one day in advance.

- Align with current regulatory requirements, like the NOI structure (24-hour notification).
- More advance notice increases the likelihood that notification information may be misused.

INFORMATION THAT SHOULD BE PROVIDED WITH THE NOTIFICATION TO HELP MAKE IT MEANINGFUL

As with the items above, there were a range of perspectives related to what information should be provided with the notification to ensure it is meaningful. Some prefer a simple notification with limited specificity, while others encouraged specifics on location, material, mitigation measures, etc.

- **Location:**
    - Provide specific location information.
    - Do not provide specific location information; provide information about how far from the recipient's location the application would be occurring or that an application would be taking place somewhere within a defined boundary.
    - Limit the burden on growers by aligning with the location information required by the NOI system.
    - Provide a map showing the specific location of the application.
    - Note the size of the application area.
- **Further information:**
    - Provide contact information for the local CAC, local health officials, or emergency contact information.
    - Include in the contact information a phone number that will reach a live person to speak with.
    - Identify other resources for more information, for example the National Pesticide Information Center.
- **Application method:**
    - Include application method (e.g., aerial, fumigant, ground).
- **Application date/time:**
    - Include specific date/time information, with a timeframe of a couple of hours.
    - Keep application date/time more general. For example, note the earliest potential start time, but not a specific set start and end time.
- **Pesticide information:**
    - Provide specific information on the product being used.
    - Note that application of a pesticide would be occurring, but do not name the specific product.
    - Provide information on the potential health impacts of the pesticide.
    - Do not provide information on potential health impacts within the notification.
    - Include:
        - Product name
        - Chemical name / active ingredients
        - Level of toxicity
        - Amount of material being applied
        - Routes of exposure (including difference between direct exposure versus drift)
        - Potential symptoms (short- and long-term)
        - How long the potential exposure will last
        - What factors might influence exposure

- **Mitigation measures:**
  - Provide information to recipients about recommended actions to mitigate potential exposure.
  - Provide contextual risk information to avoid causing undue alarm or potential liability issues.
  - Identify actions an average person might take or actions a particularly sensitive person might take.
  - Provide recommendations commensurate with risk, including different suggestions for people at different distances from the application location (to help reduce notification fatigue).
- **Language:**
  - Provide information in multiple languages.
  - Provide information in Spanish.
  - Make information available to the many workers who speak indigenous languages.
- **Other considerations:**
  - Consider the need for training for those who are requesting to receive the notifications.
  - Simple information could be sufficient to support community members, without providing information that is overly technical.
  - Consider setting multiple alert levels, such as routine notification, emergency alert requiring evacuation, emergency alert requiring shelter in place, etc.
  - Do not include specific information about the grower doing the application.
  - Provide notification data in a standardized, publicly accessible digital format that could be repackaged and used in a number of different formats, including by community groups working to get the information to those who need it.

HOW THE NOTIFICATION SHOULD BE DELIVERED

Participants shared the following suggested delivery methods:

- Text message
- Phone call
- Voice messages
- Email
- Door hanger
- At work sites
- Website
  - Public website or requiring log-in information based on proximity to ensure this goes to community members.
  - Include an interactive map
- App (e.g., DPR app)
- Like an Amber Alert, for those opted-in in a targeted area

They also shared the following considerations:

- Ensure consistent, equitable access. Some accessibility issues include:
  - Internet access: broadband issues and access to technology (such as smartphone or computer).

- - Cell phone access: some suggested text-based notification would be more accessible than internet-based (email, app, or website), but there are limitations such as access to a cell phone or limited reception.
- Base format on the preference of the individual recipient.
- Use an automated system to limit the additional workload and be able to track who received information. Door hangers are too labor intensive and not timely enough.
- Consider whether the geographic scope of the system (e.g., will people throughout the whole state be receiving the notification, or will it be limited in area) impacts the way it should be delivered.
- Require annual opt-in to ensure the list is up-to-date based on the person's geographical location.
- Use a simple and verifiable method. For example, door hangers can fall off and it is hard to verify whether the notification was given.
- If a website-based system is used, consider a log-in information based on proximity to ensure this goes to community members. It is unlikely that a single solution will meet everyone's needs. This system should be designed to make the information accessible to the communities that are most impacted by the applications. For example, a text message may be more accessible than a website.
- Provide information through multiple methods, for example a website where the information is posted publicly, text messages or email by opt-in for those in the vicinity, and flyers for those who request them.
- If flyers are used, they should be in addition to other methods. Flyers are likely to be less timely, as it takes time to print and distribute.
- Provide information to workers at their job locations. It can be effective to place this information in the restrooms provided for the farmworkers.
- Signs provided in fields should include the date when it is safe again and/or be removed once it is safe.
- Ensure that those responsible for implementing the selected delivery method(s) have the necessary capacity needs associated with the method (e.g., staffing for door hanger distribution).

LESSONS LEARNED FROM OTHER NOTIFICATION SYSTEMS

Participants shared the takeaways from other notifications systems they are familiar with.

- Notification radius in map format, such as in the Florida system, could help growers make land use planning decisions, for example where to locate organic and conventional fields.
- Include GIS functionality, however, be cognizant of confidentiality issues. For example, there have been issues related to confidentiality of well locations. Ensure that the tool is effective at notifying residents so they can take extra precautionary actions without sharing specific information about individual farmers or location of applications.
- Three applications of 21 noticed under the Monterey pilot project were appealed, resulting in one delayed application.
- Community input shaped the design of the system in Monterey, which includes specific distances for notification and who is notified, focusing around schools.

- There is a wildfire alert system that pings users with a link to access further information. Users can choose whether to receive information via email, text, both, online, etc. The system does not depend on proximity to a particular area.
- The Realtime Air Advisory Network allows users to indicate which monitors they want to be alerted about, and then receive text messages when air quality is bad at those monitors.
- The air quality advisories issued throughout the state provide an example of how to make data useful and actionable for residents, suggesting when residents should avoid extended periods outdoors, if they should wear a mask and what type of mask to wear, etc. If the air quality notifications only provided a numerical value for the air quality index it would be of limited use to residents in the moment.

ADDITIONAL CONSIDERATIONS

Participants identified some considerations not directly addressed above.

- There is a lot of common ground, and the system should be designed so that it protects workers, communities, the farming community, and the environment.
- **Defining & reviewing program success**:
  - Program success should be clearly defined in advance, considering the balance of cost and benefit as each relate to the program goals.
  - Consider evaluating annually or every two years, modifying the program as needed to improve value and minimize cost.
  - Consider including a sunset review.
  - Be clear about what "community" refers to in this context – ensuring this is well-defined can help define the guidelines of the system.
- **Ensure the program is based on targeted needs**:
  - The program should focus on impacts to communities.
  - Ensure the system is risk-based.
  - Be clear about the need this system is addressing. Review how existing systems are working and what more is needed to inform whether and how this system would meet those needs.
    - Avoid duplicating existing safety measures and mechanisms that provide information about pesticide application.
    - Base system design on data that indicates the gaps in the existing systems. For example, draw on the work of other agencies, such as the California Air Resources Board (CARB) AB617 monitoring program which shows pesticide drift.
- **Learning from and building on other systems**:
  - This program is an opportunity to communicate with the public about existing safety and exposure mitigation measures.
  - Consider how the programs in other states are doing, including functionality, sustainability, equitability, and challenges faced, when designing this program.
  - The system needs to be specific to the conditions of this state. The systems used in other states likely include components that would not translate.
- **Pilot program:**
  - Pilot how the information is disseminated to ensure that it is understandable to the users.

- - - o Consider using a pilot program to understand how parameters like methods, pesticides, and locations impact outcomes and focus the system on the benefits it aims to provide.
  - **Implementation timeline:**
    - o Once the system is set, provide a well-thought timeline for implementation.
  - **Alignment of notification system and legal pesticide applications:**
    - o The system should not interfere with legal pesticide applications. Concern that related burdens would fall to growers.
    - o Consider how this system will or will not hinder a pesticide application that has been approved by the CAC.
- Consider resources to support regulatory compliance, inspections, enforcement, education, and other key duties.
- Consider how a user would differentiate between a routine notification and a serious release (e.g., a normal application versus if something went wrong with an application).
- Hold small conversations with mixed participation to help build trust between stakeholders.
- Consider whether this will apply only to agricultural settings, or also structural and industrial applications. If toxicity and risk is the focus, then structural and industrial applications of fumigants should also be included, particularly as these are often done within residential communities. Additionally, consider whether notification will be required for nut processors, which may be considered agricultural or industrial users.
- Implement a notification system as an interim tool to protect communities while considering other mitigation measures for use of pesticides.
- All NOIs should be posted on a publicly available website.