



CALIFORNIA DEPARTMENT OF
FOOD & AGRICULTURE

Karen Ross, Secretary

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DATE: June 14, 2022

SUBJECT: Number of farms using nitroguanidine-substituted neonicotinoid insecticides

Summary

The Office of Pesticide Consultation and Analysis (OPCA) at the California Department of Food and Agriculture (CDFA) was asked by the Department of Pesticide Regulation (DPR) to estimate the number of farms that used nitroguanidine-substituted neonicotinoid (NGN) insecticides in yearly from 2018 to 2020. OPCA estimates 5,918 - 6,171 farms use NGNs in a given year (Table 1). This is less than 10% of the roughly 70,000 farms in California.

Table1: Number of farms using nitroguanidine-substituted neonicotinoid in California from 2018-2020

Year	Number of farms using NGNs	Total number of farms
2018	6,171	77,100
2019	6,005	69,900
2020	5,918	69,600

Background

Neonicotinoids are a class of systemic insecticides that attack insects' central nervous system. NGN insecticides are a subset of the neonicotinoid insecticide class that have been determined to be most harmful to bees. The NGN insecticides are particularly important pest management tools for the control of virus vectors and insects that are difficult to reach within a crop. In February 2022, DPR noticed proposed changes to Title 3, California Code of Regulations sections 6990 through 6990.16. OPCA completed an economic analysis showing that the proposed changes will increase the cost of pest management for most or all crops covered by the changes. We completed an economic analysis for eight crops and found that for almond,



cherry, citrus, grape, strawberry, tomato, and walnut the combined estimated change in pest management cost was \$12.16 to 13.33 million per year depending on the year.

Methods

The total number of farms was pulled directly from CDFA statistics review reports from 2019, 2020, 2021 (<https://www.cdfa.ca.gov/Statistics/>). These numbers include all animal operations that would not have a need to apply NGNs. To estimate the number of farms using NGNs, we combined data from CalAgPermits and the Pesticide Use Report database for 2018, 2019, and 2020. By matching registered fields with reported pesticide use, we could select and count the number of farm names that had applied NGNs. Farm names are the name of the business and are not related to the grower identification number (grower_id) that is used to report pesticide use. As an additional check, we looked at the number of grower identification numbers that applied NGNs in those years. This can be an overestimate when Pest Control Advisors (PCAs) also have grower identification numbers and use those to report applications in addition to a farmer's grower identification number or an underestimate when PCAs use their grower identification numbers across multiple farms. However, in this case, the numbers from both methods were fairly similar. There were 6,377 grower identification numbers in 2018, 6,336 in 2019, and 6,180 in 2020.