Department of Pesticide Regulation
Environmental Monitoring Branch
1001 I Street
Sacramento, California 95812

CORRELATING AGRICULTURAL USE WITH AMBIENT CONCENTRATION OF 1,3-DICHLOROPROPENE DURING THE PERIOD OF 2011-2014

Colin Brown

December 15, 2016

1 Abstract

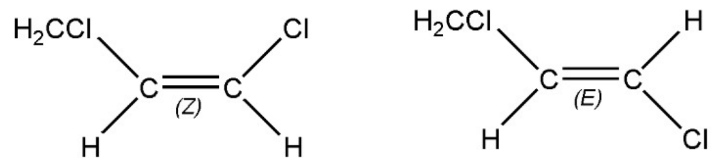
1,3-Dichloropropene, also known as 1,3-D or Telone, is a widely used fumigant in California agriculture, used primarily for its nematicidal properties. The Department of Pesticide Regulation's (DPR) Air Monitoring Network (AMN) collected a 24-hour sample each week to measure airborne concentrations of 1,3-D in three California communities during the period of 2011-2014. DPR concurrently collected pesticide use reports (PURs) from pesticide applicators, which provide details on application location, timing, and amount of 1,3-D applied. Use data was analyzed for its relation to 24-hour concentration data in a regression framework. We tested several spatial and temporal scales from which to select use data for inclusion in the final regression. Adjustment factors were used as an indirect method of accounting for application practices and their effect on emissions.

We found evidence of a positive relationship between 1,3-D use within 5 miles of a monitoring site and 24-hour ambient 1,3-D concentration, but the linear regression explained only a small (25%) proportion of the overall variation in concentration data. The large proportion of unexplained variation suggests that the resulting regression is not of practical use for estimation of 24-hour ambient concentrations. A relatively high number of detections with no associated use within a timespan of a week prior to sampling may suggest influence from applications outside the spatial and temporal scales examined in this study. Environmental factors such as meteorology and topography may have contributed some of the unexplained variability in the regression. Additional possible sources of error are discussed.

2 Background

2.1 Chemical Description

1,3-D is a colorless-to-straw-colored liquid with a sharp, sweet, penetrating chloroform-like odor at room temperature. 1,3-D is a halogenated organic molecule with two geometric isomers, *cis*-1,3-D and *trans*-1,3-D (Figure 1), which are generally found in combination in nearly equal parts. It is soluble in most organic solvents and evaporates easily (U.S. EPA 2006). The chemical properties of 1,3-D are further described in Table 1.



cis-isomer *trans*-isomer

Figure 1: Chemical structure of 1,3-dichloropropene. From Vidrio (2012).

Table 1: Summary of the physical and chemical properties of 1,3-D. Adapted from Vidrio (2012).

Common Name	1,3-Dichloropropene
Other Names	Telone II, 3-chloropropenyl chloride, alpha- chloroallyl chloride
Physical State	Liquid
Molecular Formula	$C_3H_4Cl_2$
CAS Registry Number	1,3-D: 542-75-6 *cis*-isomer: 010061-01-5 *trans*-isomer: 010061-02-6
Molecular Weight	110.98 g/mol
Density	1.22 g/cm^3
Chemical Family	Chlorinated Hydrocarbon
Boiling Point	108 °C
Melting Point	-84 °C
Solubility in Water	2.18 x 10^3 (*cis*-) ppm @ 25°C 2.32 x 10^3 (*trans*-) ppm @ 25°C
Vapor Pressure	34.3 mm Hg @ 25°C
Henry's Law Constant	3.55 x 10^{-3} atm-m^3/mol @ 25
°C Log K_{OW}	1.82
Log K_{OC}	1.36 (*cis*-) 1.41 (*trans*-)

Sources: Vidrio (2012); U.S. EPA (2006, 2000, 1998); Dow AgroSciences, LLC (1998); Knuteson (1996); U.S. Department of Health and Human Services (1990).

2.2 Environmental Persistence

Field volatility studies estimate that 10-56% of 1,3-D applied as a fumigant may volatilize into the atmosphere in the two weeks following application (DPR 2013, Vidrio 2012, van Wesenbeeck 1998, Knuteson et al. 1997). The primary route of degradation for volatilized 1,3-D is photooxidation via reaction with hydroxyl radicals (•OH), with a half-life of approximately 7 hours for the *trans*- isomer and 12 hours for the *cis*- isomer (Tuazon et al. 1984, Moilanen et al. 1977). 1,3-D will also degrade by reaction with ozone (O_3), with a half-life of 12 days for the *trans*- isomer and 52 days for the *cis*- isomer (Tuazon et al. 1984). Both reactions produce 3-chloropropionyl chloride, which reacts with condensed water to form 3-chloropropionic acid and is removed from the atmosphere by rainfall (Tuazon et al. 1984, Moilanen et al. 1977). The potential for destruction of stratospheric ozone is limited by the relatively quick degradation of 1,3-D in the troposphere (Goersch and Dilling 1979).

Adsorption of 1,3-D to soil particles is relatively weak (Park et al. 2004) and most 1,3-D will remain in the vapor phase under dry conditions at soil temperatures. Higher soil moisture may slow the upward diffusion and subsequent loss of 1,3-D from the soil column (Thomas et al. 2003), and may also accelerate the hydrolytic breakdown of 1,3-D into chlorine and chloroallyl alcohol (van Dijk 1974). 1,3-D can be persistent in soil, with reported half-lives of up to 69 days, although actual breakdown time will vary depending on soil type, temperature and moisture. Microbial activity is one of the largest contributors to 1,3-D degradation and half-lives of 1-3 days have been reported in the presence of *Pseudomonas* bacteria (Vidrio 2012, NTP 2011). Soils with higher organic matter and soil moisture contents are associated with shorter breakdown times (Guo et al. 2004), as are soils with microbial communities adapted to repeated 1,3-D exposure (Ibekwe et al. 2001). The pathway of microbial degradation for 1,3-D has been extensively studied and is further described in Figure 2. 1,3-D quickly undergoes anaerobic degradation in anoxic conditions with a half-life of 2.4-9.1 days depending on soil type and temperature (McCall 1986a). Losses from leaching and runoff are relatively minor (Vidrio et al. 2013a, Heim et al. 2002).

1,3-D volatilizes rapidly from surface water with an estimated maximum half-life of 50 hours (Vidrio 2012, U.S. EPA 2006). Most 1,3-D will remain in solution due to its high solubility and low Koc, and the likelihood of accumulation in sediment is low (U.S. EPA 2006). Hydrolysis in water is primarily influenced by temperature, with half-lives of 3.1 (±0.1), 11.3 (±0.5), and 51 (±2.3) days at 30, 20, and 10 deg C, respectively (McCall 1986b, Krijgsheld and van der Gen 1986). The relatively short hydrolysis and anaerobic degradation half-lives for 1,3-D limit its potential for groundwater contamination (Vidrio 2012, Oliver 1987), and a pair of DPR groundwater sampling studies in locations with 1,3-D usage yielded no positive detections for 1,3-D residue (Knuteson et al. 1992).

1,3-D may adversely affect earthworms and soil microflora (Small et al. 2008), and may subsequently present both an acute and chronic risk to earthworm-eating and insectivorous birds and mammals (EFSA 2006). 1,3-D is moderately toxic to aquatic organisms, including algae, invertebrates, and fish (Vidrio 2012). 1,3-D does not accumulate in target tissue due to its high water solubility (US EPA 2000, WHO 1993).

2.3 Regulation and Human Health

1,3-D was first registered as a pesticide in the United States in 1954 and registered in California in 1970. US EPA introduced a reregistration standard in October 1986 after amendment of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), and also released a Federal Register notice around the same time announcing a Special Review of 1,3-D in response to cancer concerns for workers and residents near treated fields. New label changes were introduced in 1992 and 1996 in order to minimize worker and resident exposure. 1,3-D again underwent re-registration in 1998 with additional restrictions for use near drinking water wells or in areas overlying karst geology (US EPA 1998).

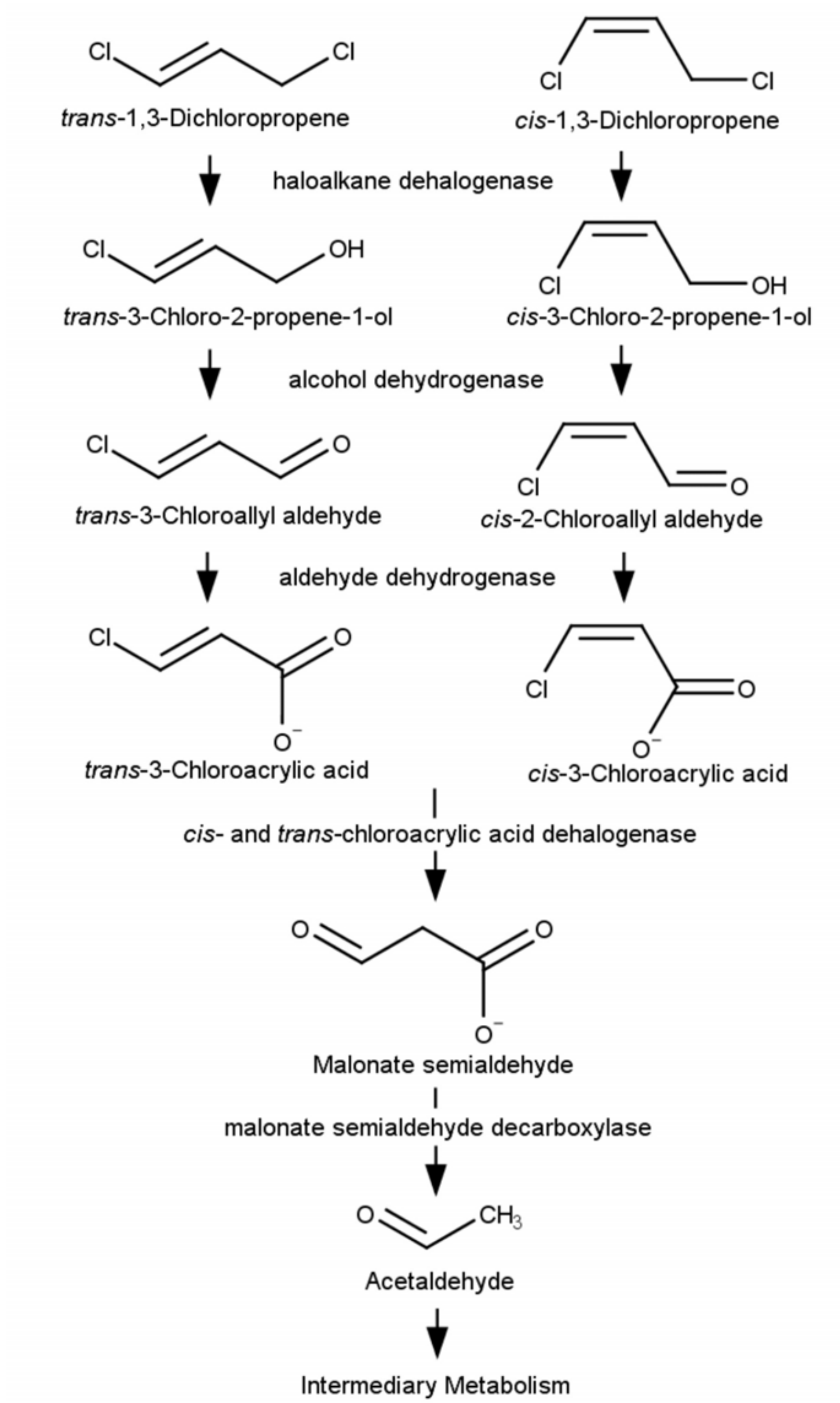


Figure 2: Pathway for microbial breakdown of 1,3-D in soil. Breakdown in soil may also occur abiotically or through hydrolysis. Sources: Poelarends et al. 2003, van Hylckama et al. 1991, Roberts and Stoydin 1976, van Dijk 1974.

In 1989 1,3-D was added to California's proposition 65 list of chemicals known to the State to cause cancer. Proposition 65, officially known as the Safe Drinking Water and Toxic Enforcement Act of 1986, requires the Governor of California to publish an annual list of chemicals known to the state to cause cancer or reproductive toxicity (Health and Safety Code § 25249.8). The California Safe Drinking Water Act of 1996 (Health and Safety Code § 116270) requires the California Office of Environmental Health Hazard assessment (OEHHA) to develop public health goals (PHGs) for chemicals included on the annual list (Health and Safety Code § 116365(c)). In 1999 OEHHA established a public health goal (PHG) of 0.2 parts per billion based on carcinogenic potency factors as found in toxicology literature (Bankowska 2006). PHGs are concentrations of a contaminant in drinking water that are not expected to pose a significant health risk if consumed for a lifetime (OEHHA 2016) and are considered by the California Department of Public Health in setting drinking water standards (Health and Safety Code § 116365(a) and (b)).

Prior to 1990, use of 1,3-D in California averaged 25 million pounds per year (DPR 2002). However, in April 1990 the California Department of Food and Agriculture (CDFA)–then the state's pesticide regulatory agency–suspended use permits for 1,3-D following detection of high ambient air concentrations in the Central Valley by the California Air Resources Board (Vidrio 2012, DPR 2002). Following the suspension, Dow AgroSciences (DAS)–the primary manufacturer of 1,3-D–developed new application methods to reduce volatilization losses and furthered methods to accurately predict 1,3-D emissions from field fumigations.

DPR began development of 1,3-D use adjustment factors in the mid-1990s with the understanding that application methods impact the amount of 1,3-D lost from a field through volatilization, and therefore can affect local air quality. An emissions study conducted by DAS (Knuteson et al. 1992) provided much of the scientific basis for development of the adjustment factors (Johnson 2013). The factors were calculated by dividing the predicted emissions total for each category of application method relative to a deep shank injection control treatment, and was initially only performed for methods expected to result in a greater level of emissions than deep shank injection (e.g., shallow injection) (Johnson 2013). DPR also considered regional and seasonal differences in meteorological conditions. The resulting ratios could be then used to standardize the emission potential of a given application, providing the unit of Adjusted Total Pounds (ATP). The system of adjustment factors has undergone several changes, notably with the addition of factors for drip systems in 1999 and totally impermeable film (TIF) in 2014 (Johnson 2014, Wofford 2014).

In 1994, DAS petitioned and received authorization from DPR for limited commercial reintroduction of 1,3-D alongside control measures including amended pesticide labels, reduced application rates, buffer zones, lengthened reentry intervals, and coordination of distribution and use of the compound in consultation with county agricultural commissioners (CACs). Additionally, DPR established a 90,250 ATP township cap on 1,3-D use (Vidrio 2012, DPR 2002), where a township is defined as a 6 x 6 mile (36 square mile) area as specified by the Public Lands Survey System.

The township cap system was modified in 2001 to allow townships to exceed the 90,250 ATP cap under certain conditions. Use beyond the 90,250 ATP cap was only permitted in amounts up to the total of the cumulative deficit of 1,3-D use below the 90,250 ATP cap in the years since 1995, and each successive pound of application beyond the 90,250 ATP cap would draw down on the "bank" of 1,3-D (Vidrio 2012). Use was allowed up to 180,500 ATP—double the original township cap. This approach, based on the assumptions of dose averaging described by US EPA (1996), was implemented to allow county agricultural commissioners (CACs) to meet the increasing demand for 1,3-D following the phaseout of methyl bromide while not exceeding thresholds for cumulative lifetime exposure (DPR 2002).

TIF methods for 1,3-D have been the subject of recent investigation, as proper use of TIF may lower both peak and cumulative emissions relative to other tarp materials (Ajwa et al. 2013). Prior to 2014, use of TIF required a minimum 5-day waiting period before the tarp could be cut. However, Ajwa et al. (2013) found that a 5-day waiting period did not adequately reduce residual concentrations at higher application rates for worker and off-site exposure, relative to polyethylene tarp, and that the mitigative potential of TIF was not fully realized with a 5-day waiting period. As of January 2015, DPR increased the minimum seal duration for TIF applications from 5 to 9 days in order to mitigate peak and cumulative emissions resulting from TIF applications (3 CCR §6448.1(d)).

DPR revised its 1,3-D requirements in 2016, with the new rules scheduled to take effect in January 2017. The revisions followed publication of an updated cancer risk assessment (DPR 2015c) and a new statistical evaluation of past monitoring data (Tao 2016). The updated cancer risk assessment increased the acceptable 70-year average target concentration from 0.14 ppb to 0.56 ppb, while the statistical analysis of monitoring data was used to estimate a township cap value that would maintain ambient air concentrations below the 70-year target concentration in the long-term (DPR 2016). The new requirements limited applications to 136,000 ATP per township per year while discontinuing the practice of banking of unused allocations. The requirements also prohibited December applications, which monitoring studies found to have a disproportionate effect on ambient air concentrations as compared to applications during other months of the year.

2.4 Use Profile

1,3-D is a widely used soil fumigant in California agriculture, applied as a liquid either by shank injection or by chemigation for the purposes of controlling plant-parasitic nematodes and a selection of plant diseases, weeds, and invertebrates. Between 2011 and 2014, use of 1,3-D was reported in 42 of California's 58 counties (DPR 2015a). Table 2 provides usage totals for the counties with greatest reported use between 2011 and 2014. Figure 3 shows the increase in annual applications of 1,3-D from approximately 9 million pounds in 2005 to 13 million pounds in 2014 (DPR 2015a). Treated acreage rose from approximately 65,000 to 75,000 acres over the same period (Figure 3, DPR 2015a), possibly in response to the phaseout of methyl bromide and greater acreage of high-value crops associated with its use. The registered uses of 1,3-D include all vegetable, fruit and nut crops, all forage crops, tobacco, all fiber crops, and all nursery crops (US EPA 2006).

Table 2: Top counties by total 1,3-D use between January 2011 and December 2014. Use is reported in unadjusted pounds. The location of AMN stations within a county are noted where present. Use data is summarized from DPR (2015a).

#	County	lbs 1,3-D	AMN Site
1	Fresno	7,963,140	N/A
2	Kern	5,894,750	Shafter
3	Monterey	4,676,107	Salinas
4	Merced	4,201,635	N/A
5	Stanislaus	3,790,841	N/A
6	Tulare	3,668,557	N/A
7	Santa Barbara	3,259,522	N/A
8	San Joaquin	1,972,187	Ripon
9	Ventura	1,942,049	N/A
10	Santa Cruz	1,782,319	N/A

1,3-D is normally applied to the soil as a mixture of *cis-* and *trans-* isomers at maximum application rates of 24 gallons per acre for tarped fumigation and 35 (332 pounds) gallons per acre for untarped applications. Approximately 20% of 1,3-D is applied in combination with chloropicrin, another fumigant with action against nematodes in addition to certain insects and soil-borne diseases. Use of the chloropicrin co-formulation is most associated with strawberry cultivation (DPR 2015a).

The implementation of township use caps has resulted in the use of emission-reducing application methods in areas with high use. Among the sites in the AMN—Salinas, Shafter, and Ripon—the Central Valley communities of Ripon and Shafter are characterized by lower 1,3-D use overall paired with exclusive use of untarped shank injection methods. Use of 1,3-D is higher in the Central Coast community of Salinas and growers here use methods such as TIF tarps that emit a lower proportion of applied 1,3-D. Table 3 provides a breakdown of use by method for each of the three air monitoring locations in this study.

In 2011-2014, strawberries accounted for the largest proportion of 1,3-D use in California, totaling to about one-fifth of all use over the four-year period (Figure 4). Almonds were the crop type associated with the next highest level of use (data not shown). The counties associated with the highest use of 1,3-D in 2011-2014 were Fresno, Kern, and Monterey counties (DPR 2015a). Use in Monterey County (in which the Salinas AMN site is located) was almost exclusively directed towards strawberry cultivation, whereas use in the Central Valley (location of the Ripon and Shafter air monitoring locations) was associated with a mix of almonds and other permanent crops including tree fruits, nuts, and grapes (Appendix Table 7). Use is seasonal and typically peaks between July and December (Appendix Table 8).

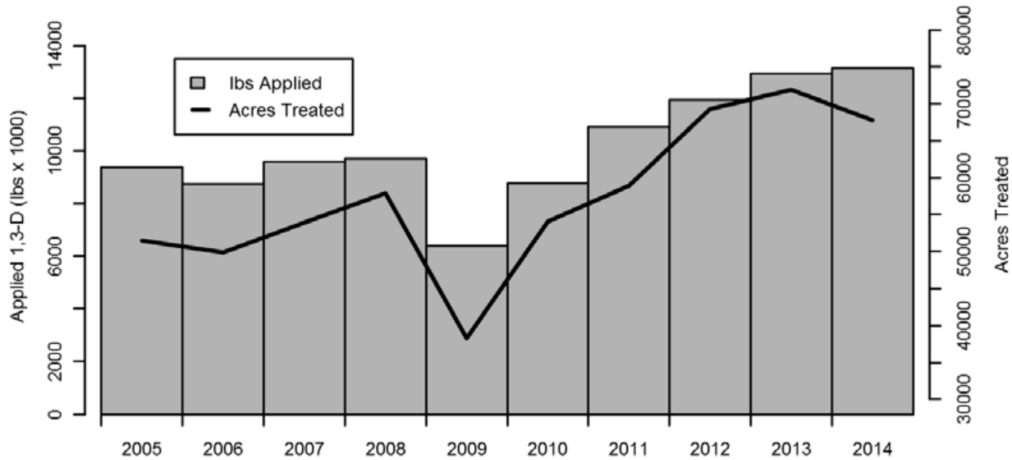


Figure 3: Statewide use of 1,3-D from 2005-2014, shown alongside the acreage of land treated with 1,3-D for each year. Data from DPR (2015b) and multiple queries of the PUR database in February 2016.

Table 3: 1,3-D application amount by fumigation method in a 5-mile radius surrounding each air sampling station included in the AMN study, 2011-2014. Data obtained from several queries of the PUR database in February 2016 (DPR 2015a).

Application Method	Salinas	Shafter lbs (in thousands)	Ripon
Nontarpaulin/Deep	0.0	334.1	819.4
Nontarpaulin/Shallow	5.3	0.0	17.4
Tarpaulin/Deep	195.8	0.0	0.0
Tarpaulin/Shallow	38.4	0.0	0.0
Chemigation/Tarpaulin	158.7	0.0	0.0
TIF/Deep (60% credit)	47.3	0.0	0.0
TIF/Shallow (60% credit)	84.3	0.0	0.0
Chemigation/TIF (60% credit)	68.1	0.0	0.0
Not reported	264.0	88.7	53.5

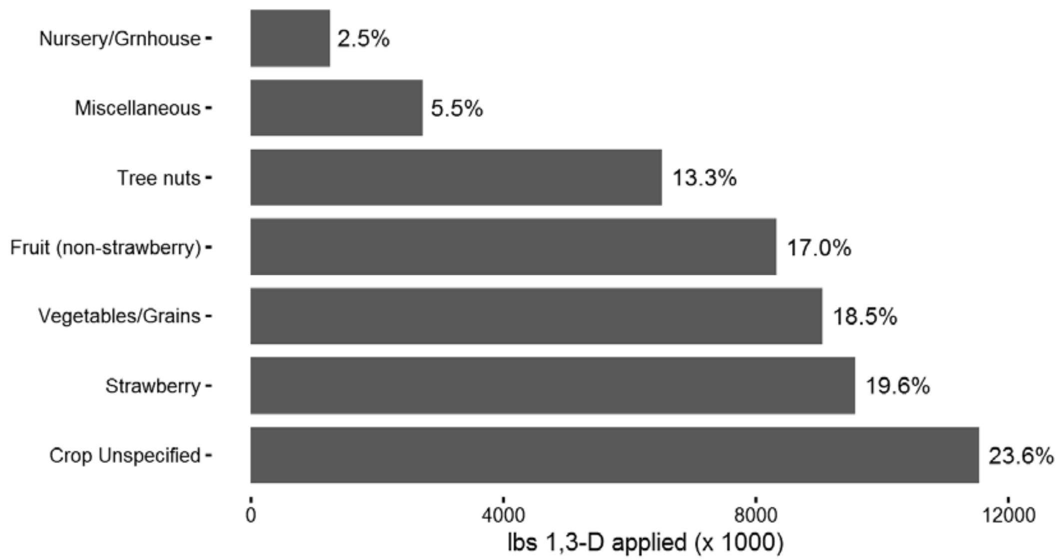


Figure 4: Statewide amount and percentage of 1,3-D use by crop type for 2011-2014. Data obtained from queries of the PUR database in February 2016 (DPR 2015a).

3 Methods

3.1 Air Monitoring Network

The AMN surveyed 1,3-D air concentrations in three California communities: Ripon, Salinas, and Shafter. DPR selected air monitoring sites in residential areas that met specific criteria: proximity to agricultural activity, a record of local and regional pesticide use, presence of sensitive demographic groups, and availability of other exposure and health data for residents. Monitoring included 32 different pesticides and breakdown products. Site selection was not oriented towards the use of 1,3-D specifically, however, all three monitoring locations were in close (≤5 miles) proximity to 1,3-D use during 2011-2014 (Figure 5) and were located in some of the counties with greatest 1,3-D use in the state (see Table 2).

Between the years of 2011-2014, DPR scientists retrieved 24-hour air samples on a randomly chosen day during each week at each of the three sampling locations. DPR sampled 1,3-D and other volatile organic compounds using 6 L SilcoCan® canisters (Restek Corp., Pennsylvania, USA) that had been pre-evacuated to a pressure of -30" Hg and attached to a flow regulator to maintain constant air flow over a 24-hour period. A DryCal®flow meter (Mesa Labs Inc., New Jersey, USA) was used to ensure proper calibration of air flow. Air canister flow was set to 3 mL/min ±10% and flow rates were recorded at the beginning and end of each 24-hour sampling period (Tuli et al. 2015). A summary of the results for 1,3-D obtained by the AMN between 2011 and 2014 is included in Table 4.

Quality control methods included spiked samples collected from a randomly-selected site every other month, and a co-located sample collected from a randomly-selected site once per month (Tuli et al. 2015). Recovery of *cis*- and *trans*- isomers of 1,3-D from field spikes was 90.7-131.7% over the 4- year period between 2011-2014 (Tuli et al. 2015, Vidrio et al. 2014; 2013b;a). Five out of 30 co-located pairs fell above the limit of quantitation with a mean relative difference of 23.1%. The remaining 25 co-located pairs did not yield detectable quantities (Tuli et al. 2015, Vidrio et al. 2014; 2013b;a).

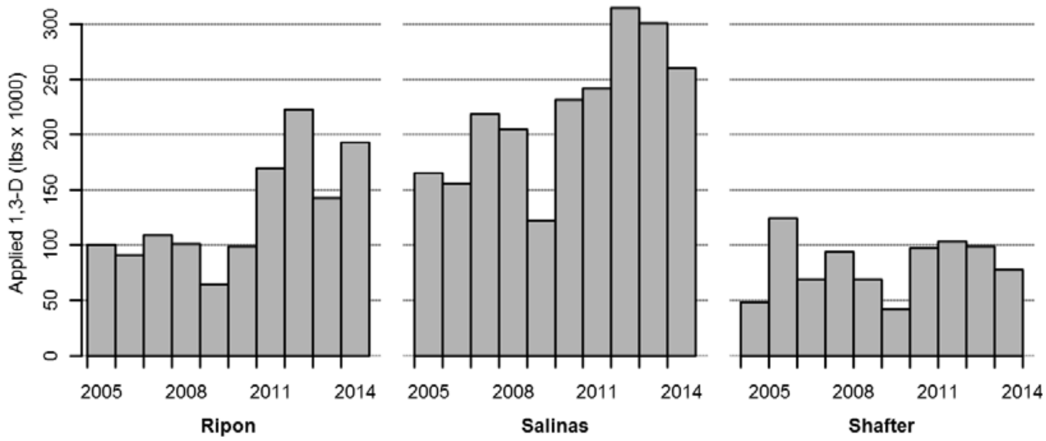


Figure 5: Annual agricultural use of 1,3-D from 2005-2014 within a 5-mile radius surrounding each of the three AMN sampling locations. Data obtained from multiple queries of the PUR database in February 2016.

DPR partnered with a California Department of Food and Agriculture Center for Analytical Chemistry (CDFA) laboratory to determine the mass of 1,3-D *cis*- and *trans*- isomers captured in each 24-hour sampling period. Air canisters were immediately capped and transported from each sampling site to storage at DPR's West Sacramento facility with accompanying chain of custody (COC) documentation, and subsequently transported to the CDFA laboratory for chemical analysis. Air canister samples are analyzed by directing a known volume of air through a sorbent resin and then extracting the analytes into a solution for use in gas chromatography-mass spectrometry (California Department of Food and Agriculture 2008). The resulting mass of 1,3-D detected by this method is divided by the volume of air sampled to produce the average ambient concentration of 1,3-D over a 24-hour period (Tuli et al. 2015). For 1,3-D, the method detection limit (MDL), defined as the lowest concentration of a pesticide that the analytical method could reliably detect, is equivalent to the limit of quantitation (LOQ), the lowest concentration of a pesticide that can be reliably quantified. Improvements in laboratory methods resulted in the MDL changing twice over the study period—first from 4,540 ng/m^3 to 454 ng/m^3 in June 2011, and then to 45.4 ng/m^3 in October 2013 (Vidrio et al. 2014; 2013a). Samples with no positive detection were assumed to contain one-half the MDL value as per DPR standard procedure. Sampling results are listed in Table 10 (appendix).

A total of three data subsets were generated for each sampling location from the 2011-2014 AMN sampling results. The MDL for 1,3-D changed twice between 2011-2014. Therefore, sampling results were subset by the MDL as a precaution to avoid possible errors in data analysis resulting from the mixing of several different MDLs. Additionally, subsets with a detection rate of less than 10% were omitted, which included all subsets collected from the Salinas site and all but the most recent MDL subsets from the Shafter and Ripon sites (Table 5). This approach differs somewhat from the approach used for the analysis of similar data performed for chloropicrin (Brown 2015) and methyl isothiocyanate (Collins 2016) where MDLs remained consistent for the span of the study period and the data was subset by year, and is also different from methods used in similar analyses of chlorpyrifos (Budahn 2016) and chlorthal dimethyl (King 2016) where MDL and LOQ remained constant over the study period.

Table 4: Summary of AMN network results (2011-2014), including information on the number of detections at each site over the course of the four-year sampling period, and highest recorded readings at the acute (24-hour), sub-chronic (rolling 4-week average), and chronic (1-year average) screening levels. The acute screening level is 505,000 ng/m^3. Subchronic and chronic screening levels are 14,000 ng/m^3 and 9,000 ng/m^3, respectively. Summarized from Tuli et al. 2015, Vidrio et al. 2014, and Vidrio et al. 2013a/b.

	Salinas	Shafter	Ripon
Total no. samples	203	204	203
Total no. detections	14	36	20
% of possible detections	6.9%	17.6%	9.8%
Highest acute concentration	10,072 ng/m^3	39,969 ng/m^3	14,745 ng/m^3
% of screening level	2.0%	7.9%	2.9%
Highest sub-chronic concentration	2,742.5 ng/m^3	18,022 ng/m^3	7,993 ng/m^3
% of screening level	19.6%	128.8%	57.1
Highest chronic concentration	760 ng/m^3	2,589 ng/m^3	914 ng/m^3
% of screening level	8.4%	28.8%	10.2%

Table 5: Number of detections for 1,3-D and overall detection rate by MDL for each site.

MDL (ng/m^3)	Date Range	Site	# Samples	# Positive	% Positive
4,540	Feb 2011 - Jun 2011	Salinas	20	0	0.0%
		Shafter	18	0	0.0%
		Ripon	19	0	0.0%
454	June 2011 - Oct 2013	Salinas	119	8	6.7%
		Shafter	122	6	4.9%
		Ripon	120	2	1.7%
45.4	Oct 2013 - Dec 2014	Salinas	64	6	9.3%
		Shafter	64	30	46.9%
		Ripon	64	18	28.1%

3.2 Correlation with Pesticide Use Reports

The DPR Pesticide Use Report (PUR) database contains a comprehensive statewide record of pesticide applications in California. Applicators are required to report use of any registered pesticide to DPR, with the exception of residential, industrial, or institutional applicators. Applicators are required to report use information including the date, location, amount, and type of pesticide applied (3CCR § 6624-6628).

We queried the PUR database at spatial scales covering a radius of 1, 2, 3, 4, or 5 miles surrounding each sampling station in the study. The PUR database provides location information in the form of Public Land Survey System (PLSS) sections. The resolution of this data is 1 mi^2 per section. The query included sections on the basis of any part of their 1 mi^2 area falling within a given radius from the AMN sampling station. Records were grouped by day for the purpose of the regression analysis. Table 9 (appendix) provides a list of the sections queried. Tables 9-11 (appendix) lists the results for key fields that were returned from the PUR query in the 5 miles surrounding each AMN sampling station.

We analyzed the query output from the PUR database for errors by comparing application amount to acreage treated. Although data entered into the PUR database undergoes at least 50 different validation processes to reduce the risk of errors in reporting, errors do sometimes occur (DPR 2014b). We estimated application rate by comparing application amount to acreage treated. Records with calculated rates in excess of label rates by more than 10% were flagged for further review. We flagged two records as a result of such a rate anomaly for the 2011-2014 1,3-D dataset. We opted to remove both records from the dataset; this ultimately had no impact on the regression results, as both records existed as part of the 2011 Salinas data subset which was not included in the final regression.

We used information on application method to associate each PUR record with an Application Factor (AF) and determine units of 1,3-D ATP for each application. AFs were obtained from DPR (2014a). AFs are pre-established multipliers based on application technique (e.g., tarp material, depth of application) and environmental factors (e.g., month of the year, location of application). The resulting ATP value reflects the principle that the practices and environmental conditions of each application will affect the relative amount of 1,3-D present in the air near treated fields (DPR 2014a). The PUR data for 1,3-D has a high reporting rate for application methods, enabling the conversion of actual pounds to ATP. In cases where method was not reported, we assumed a broadcast or bedded deep-shank injection without tarp (described by 3CCR 6448.1(d)(5)) as this was the most commonly used method in California between 2011-2014, representing 53% of all methods (DPR 2015a). We applied this assumption to 75 out of 338 records (22%) in the Salinas dataset, 18 out of 163 records (11%) in the Ripon dataset, and 14 reports out of 60 records (23%) in the Shafter dataset (for the 5-mile radius datasets).

The PUR data contained several likely instances of aggregated reports, for which we corrected. Applicators sometimes lump multi-day applications into a single report, which can bias the selection of records and increases the apparent magnitude of an application. We considered applications of greater than 40 acres in a single day as the likely threshold for aggregate reports, as 40 acres is a typical daily maximum for fumigation crews (Beauvais et al. 2010). We set a value of 44 acres (40+10% margin of error) as the threshold for which we would divide the application amount. We allocated application amounts proportionate to the area fumigated on a given day. We assumed consecutive days of fumigation during which 40 acres would be fumigated each day, and any remainder to a multiple of 40 would be applied on the last day. We applied 38 two-day corrections and 4 three-day corrections across the 338 reports for the Salinas dataset, 11 two-day corrections across the 163 reports in the Ripon dataset, and 12 two-day corrections across the 60 reports for the Shafter dataset (for the 5-mile radius datasets).

The prepared dataset for all three locations is summarized visually by week in Figures 6-8. Salinas and Shafter showed strong seasonal patterns of use, whereas use in Shafter was dispersed throughout each year. Detections showed seasonal trends similar to those observed for use, but instances of positive detections did not consistently track with reported use on a week-by-week basis. The magnitude of positive detections did not appear to follow an obvious pattern based on weekly use. Many instances of use without corresponding detection are observable, particularly in Salinas, which failed to meet our 10% detection threshold for inclusion in analysis across all MDLs. Other notable examples of use without detection include Ripon during 2012-2013 and Shafter during 2011-2013. While less common, the opposite case—detections without corresponding use—is also observable in the Shafter dataset near the end of 2014 (Figure 8).

The R (version 3.2.1) statistical programming language was used to perform all processes relating to the linear regression, including graphics and statistical tests. We paired the AMN monitoring data with the PUR data that we sourced from the different spatial scales mentioned above. AMN monitoring data and PUR data were prepared for analysis according to the methods described above. PUR application amount served as the predictor variable and AMN ambient air concentration results as the response variable. We did not utilize any additional factors or covariates in the regression. Regressions were initially performed including those observations that contain zero use paired with non-detection. The best-performing regressions were also run with these observations removed in cases with non-normal distribution of residuals.

Time lags were incorporated into the model because field studies indicate that 1,3-D volatilizes over a period of several days following the actual application time, and the use of some tarp materials may delay the point of peak emissions (Ajwa et al. 2013, Qin et al. 2008). Here we define 'lags' as application records occurring one or more days prior to an air sampling end date, and we use the nomenclature of:

$$x_{t-i}$$

where x represents the sum of application records on day t and i is an integer that specifies a number of days prior to t. Laboratory and field studies suggest that the largest proportion of 1,3-D emissions are typically lost within the first 48 hours of application (Ajwa et al. 2013, Ashworth et al. 2009, Qin et al. 2008), although the cutting of TIF-type tarps may result in a delayed emissions peak (Ajwa et al. 2013, Qin et al. 2008). We tested x with lags between 1 and 7 days with this theoretical basis in mind. We evaluated the residuals of each regression for heteroscedasticity[1] using the Breusch-Pagan (BP) test (Breusch and Pagan 1979). Where necessary, we inferred heteroscedasticity-consistent estimators of the coefficient variance-covariance matrix (HCCM) and robust probabilities using the Huber-White method (White 1980). We used visual assessment of normal probability plots to determine departures from normality. Cook's distance was used to estimate the influence of individual data points in each regression.

[1] Heteroscedasticity refers to errors (residuals) that vary in magnitude across the range of values used for prediction in a regression. Heteroscedasticity violates one of the assumptions of linear regression, and if uncorrected will result in a regression that varies in accuracy depending on the value being predicted.

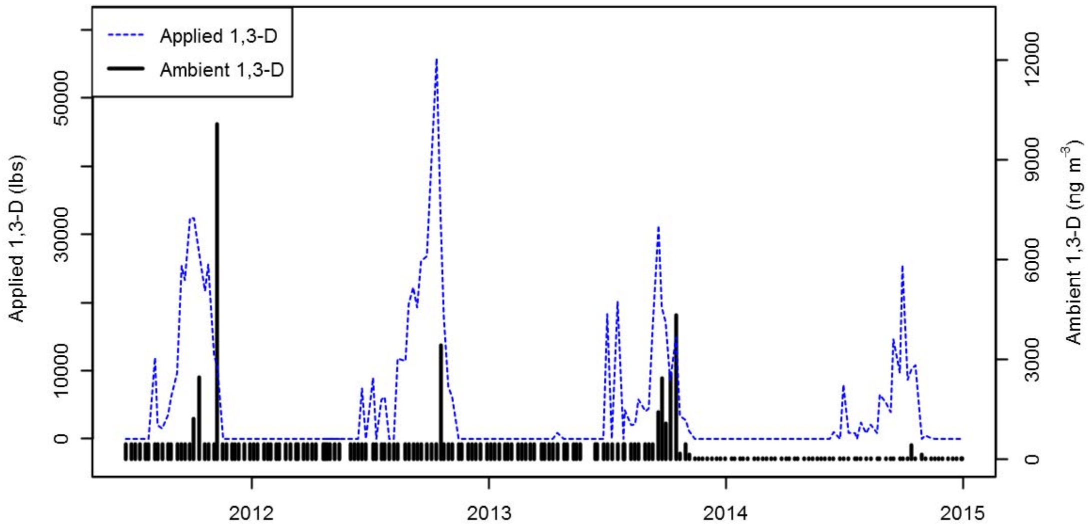


Figure 6: Line graph comparing 1,3-D use and AMN monitoring data in a 5 mile radius surrounding the Salinas air sampling station between 2011-2014. Data are summed by week. The lowest ambient 1,3-D measurements drop in late 2013 in response to a decrease in the method MDL.

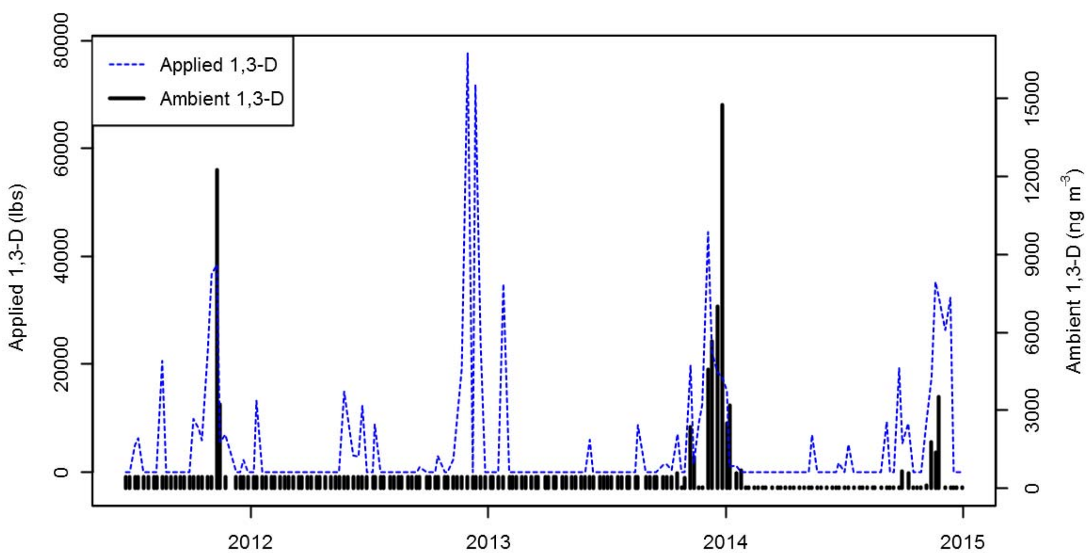


Figure 7: Line graph comparing 1,3-D use and AMN monitoring data in a 5 mile radius surrounding the Ripon air sampling station between 2011-2014. Data are summed by week. The lowest ambient 1,3-D measurements drop in late 2013 in response to a decrease in the method MDL.

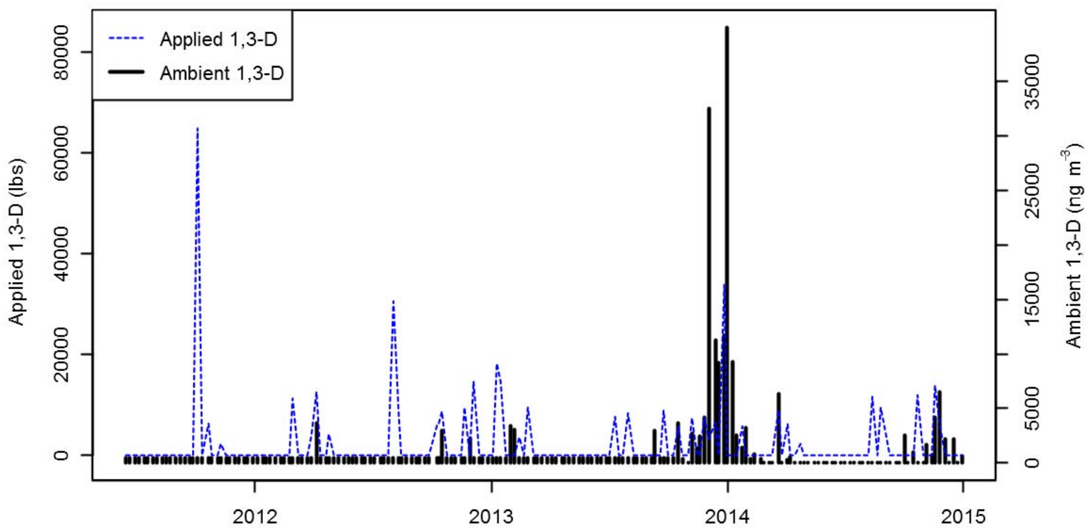


Figure 8: Line graph comparing 1,3-D use and AMN monitoring data in a 5 mile radius surrounding the Shafter air monitoring station between 2011-2014. Data are summed by week.

3.3 Weather Data

We obtained weather information from meteorological stations operated by the Department of Water Resources, as part of the California Irrigation Management System (CIMIS). CIMIS consists of a network of weather stations in agricultural areas that record hourly data for precipitation, solar radiation, vapor pressure, air temperature, relative humidity, dew point, wind speed, wind direction, and soil temperature.

We used CIMIS Station #116, located in Salinas, to provide wind velocity information for the Salinas AMN site. This station is approximately 6 miles northwest of the Salinas AMN site. The station is located at an elevation of 61 feet, and the surrounding terrain is flat.

We used CIMIS station #138, located in Famoso, to provide wind velocity information for the Shafter site. The Famoso station is located roughly 7 miles northeast of the Shafter AMN site. The station is positioned at an elevation of 415 feet, and the surrounding terrain is flat. CIMIS station #5, located in Shafter, is closer to the study site but a gap in wind direction data of over 2 years prevented its used in this analysis. The Famoso site was the next closest CIMIS weather station.

We used CIMIS station #71, located in Modesto, to provide wind velocity information for the Ripon study site. This station is positioned approximately 7 miles southwest of the Ripon AMN sampling site. The weather station is stationed at an elevation of 35 feet, and the surrounding terrain is flat.

Weather data spans the period of February 1, 2011, to December 31, 2014. Data from each station is summarized in wind roses, which are presented alongside a map of each area in Figures 9-11. Wind roses show a graphical frequency distribution of wind speed and direction for a particular location. The wind rose tool presents wind direction in terms of the direction from which the wind was blowing. The length of each 'spoke' indicates the percentage of time during which wind moves from a given direction and its speed.

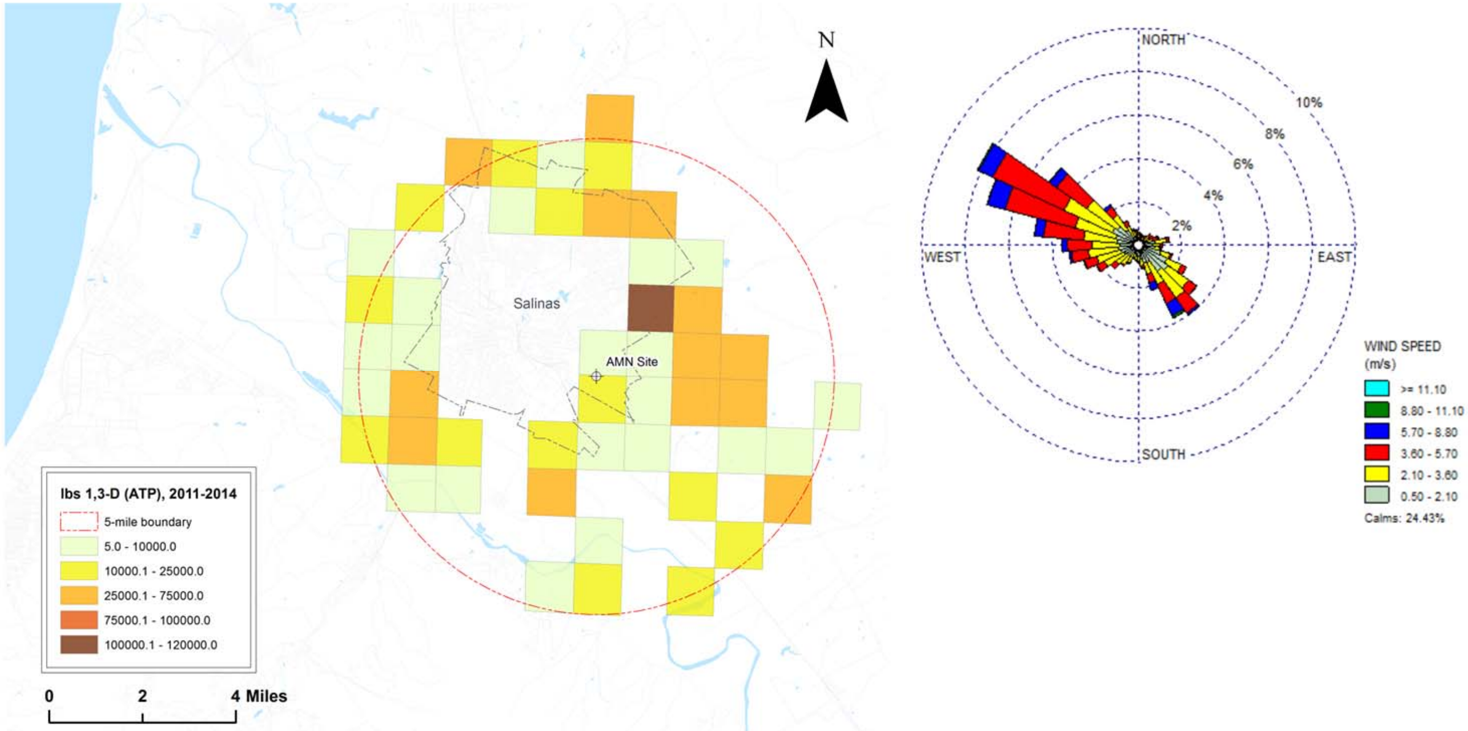


Figure 9: Map displaying cumulative application of 1,3-D in the Public Land Survey System sections in a 5-mile radius surrounding the AMN air monitoring station located in Salinas, CA. Data covers the period between February 1, 2011, and December 31, 2014. The area surrounding Salinas had the greatest amount of 1,3-D applied out of the three study sites. Transparent sections within the study boundary indicate no associated record of 1,3-D application. The wind rose provides average wind velocity from the California Irrigation Management Information System (CIMIS) station in Salinas for the period of 2/1/2011-12/31/2014.

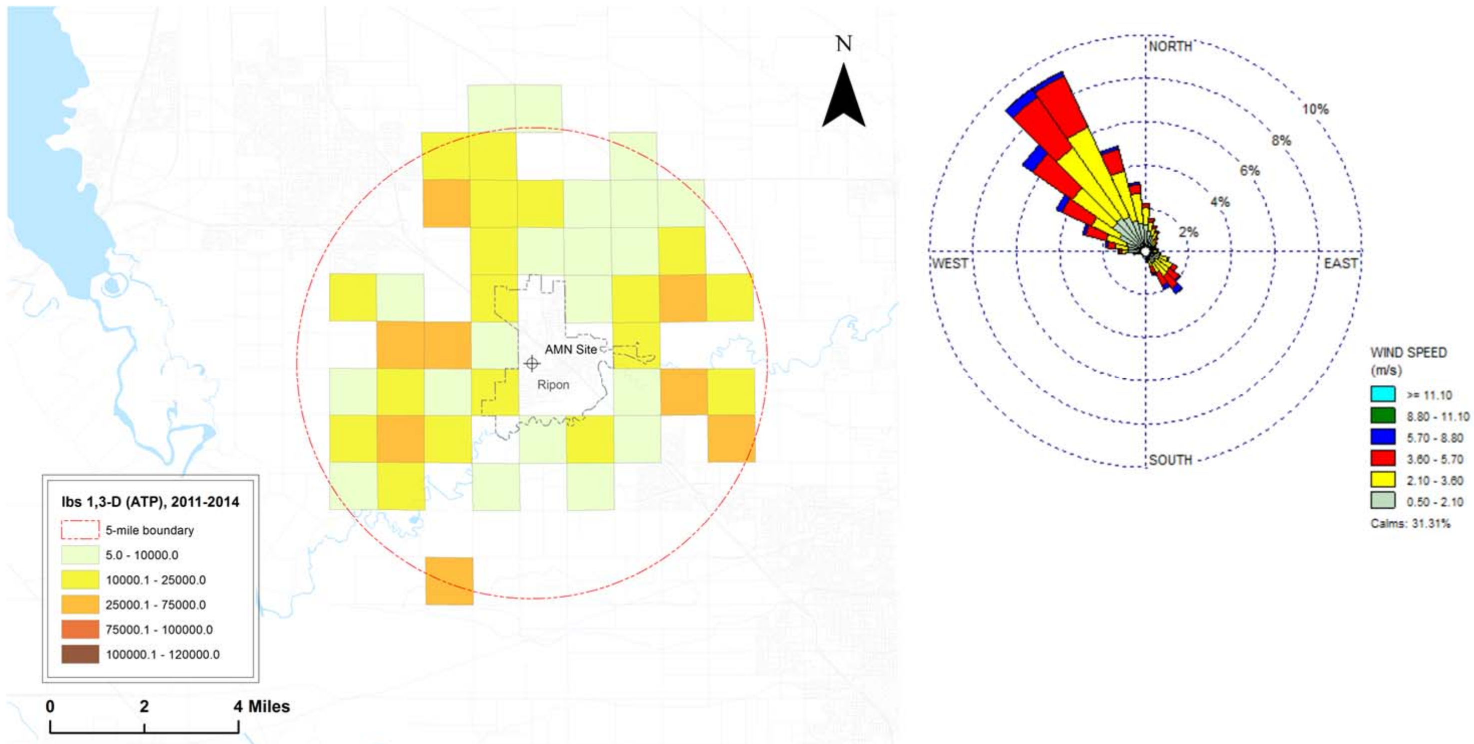


Figure 10: Map displaying cumulative application of 1,3-D in the Public Land Survey System sections in a 5-mile radius surrounding the AMN air sampling station located in Ripon, CA. Data covers the period between February 1, 2011, and December 31, 2014. Transparent sections within the study boundary indicate no associated record of 1,3-D application. The wind rose provides the average wind velocity from the CIMIS station in Modesto. This station is the nearest station to the Ripon AMN site, located at a distance 6.8 miles SW of the AMN monitoring station. Wind rose data are reported for the period of 2/1/2011-12/31/2014.

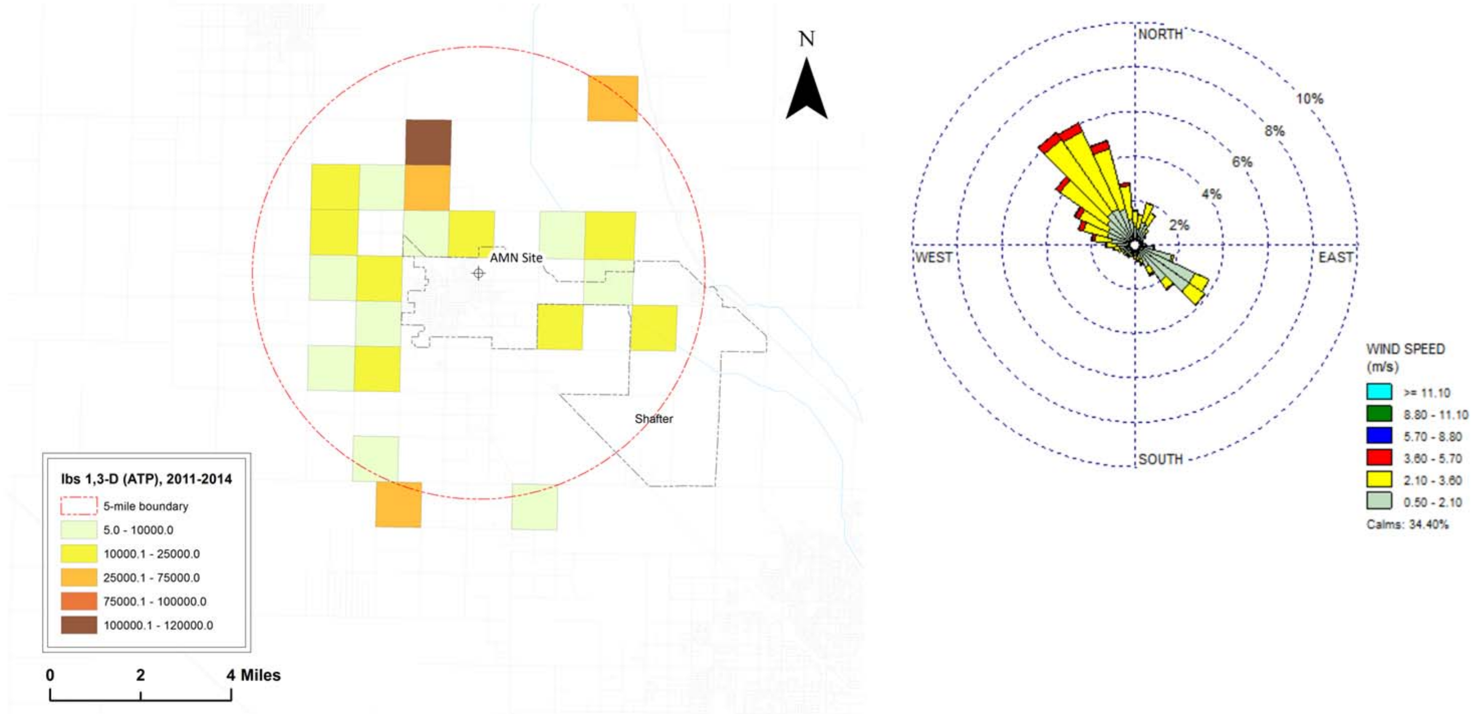


Figure 11: Cumulative application of 1,3-D in the Public Land Survey System sections in a 5-mile radius surrounding the AMN air sampling station located in Shafter, CA. Data covers the period between February 1, 2011, and December 31, 2014. Transparent sections within the study boundary indicate no associated record of 1,3-D application. The wind rose provides average wind velocity from the CIMIS station in Shafter for the period of 2/1/2011-12/31/2014.

4 Results

We found evidence of a positive relationship between 1,3-D use and ambient concentration at the Ripon and Shafter monitoring locations. The linear regression between use and ambient concentration when considering the Ripon and Shafter sites together was estimated as:

$$ln(Y_t) = 4.877 + 7.142e\text{-}04X_{t-i}$$

Where X_{t-i} is average daily 1,3-D use in ATP during the lag periods i=0 and i=7 before day t and within a 5-mile radius of each site, and Y is a 24-hour sample of 1,3-D ambient air concentration.

The relationship, although significant, described a relatively low percentage of the variability in the data (r^2=0.25, p=<0.001). The coefficient of determination (r^2) value was similar to the site-specific models: 0.24 and 0.31 for Shafter and Ripon, respectively. Regression results are further described by Figure 12 and Table 6. The final model passed tests against heteroscedasticity (BP statistic = 0.01, p=0.91). Residual diagnostic plots (Figure 13) showed deviation from normality and showed evidence of a possible pattern in the scale-location plot. An alternative regression using data cleaned of all nondetections paired with zero use showed substantial improvement to the residual distribution but the slope coefficient in this regression failed to achieve significance at the p=0.05 level and was rejected.

Several 1,3-D detections could not be associated with any pesticide application either during or within a 7-day period prior to air sampling and falling within 5 miles of the study site. Nineteen such cases occurred at the Shafter site, and four at the Ripon site.

Table 6: Table of linear regression results for use-concentration relationships, presented for each site as well as for all data combined. The dataset included air samples retrieved from Shafter and Ripon sites between October 2013 and December 2014. Applications are daily average 1,3-D ATP within a 5-mile radius of each sampling location and occurring on the day of sampling and 7 days before the sampling day (lag periods i=0 and i=7).

Model	Coefficients	Estimate	S.E.	t-value	p	Adj. r^2
Ripon	(Intercept)	4.422	0.192	22.979	<0.001	0.31
	Application	7.012e-04	1.304e-04	5.375	<0.001	
Shafter	(Intercept)	5.326	0.250	21.303	<0.001	0.24
	Application	7.457e-04	1.650e-04	4.518	<0.001	
Both Sites	(Intercept)	4.877	0.163	29.940	<0.001	0.25
	Application	7.142e-04	1.09e-04	6.555	<0.001	

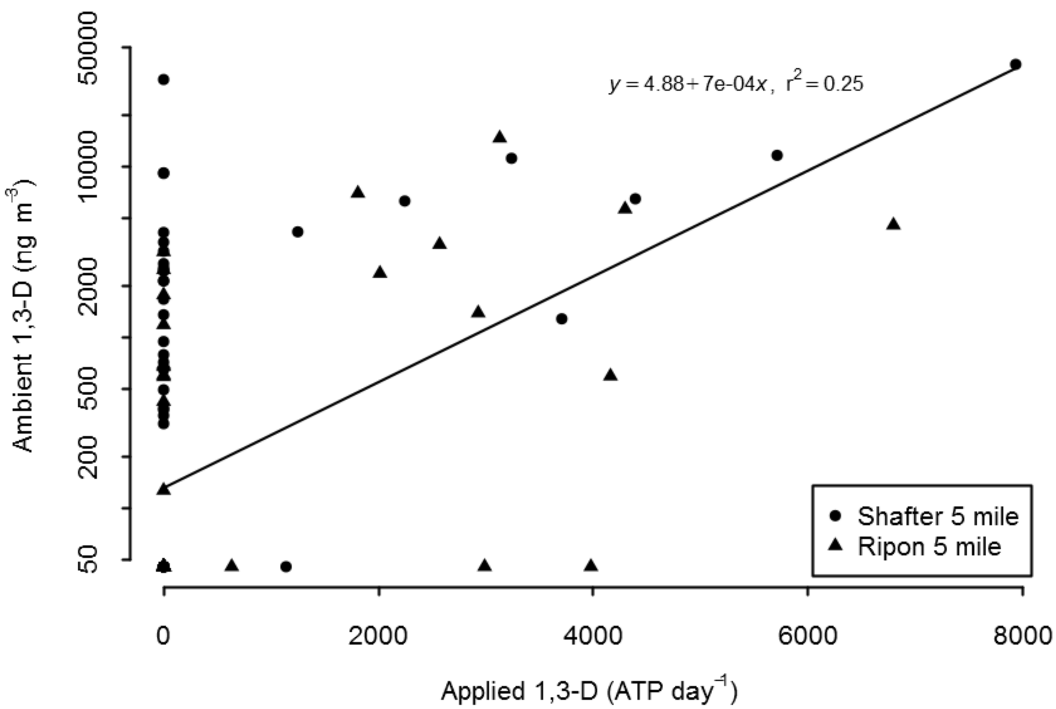


Figure 12: Linear regression fitted to data from Shafter and Ripon monitoring sites in the AMN study. There is some evidence for a positive correlation between use and 24-hour concentration, but the relationship discovered here is relatively weak. Ambient concentration is plotted on a log scale.

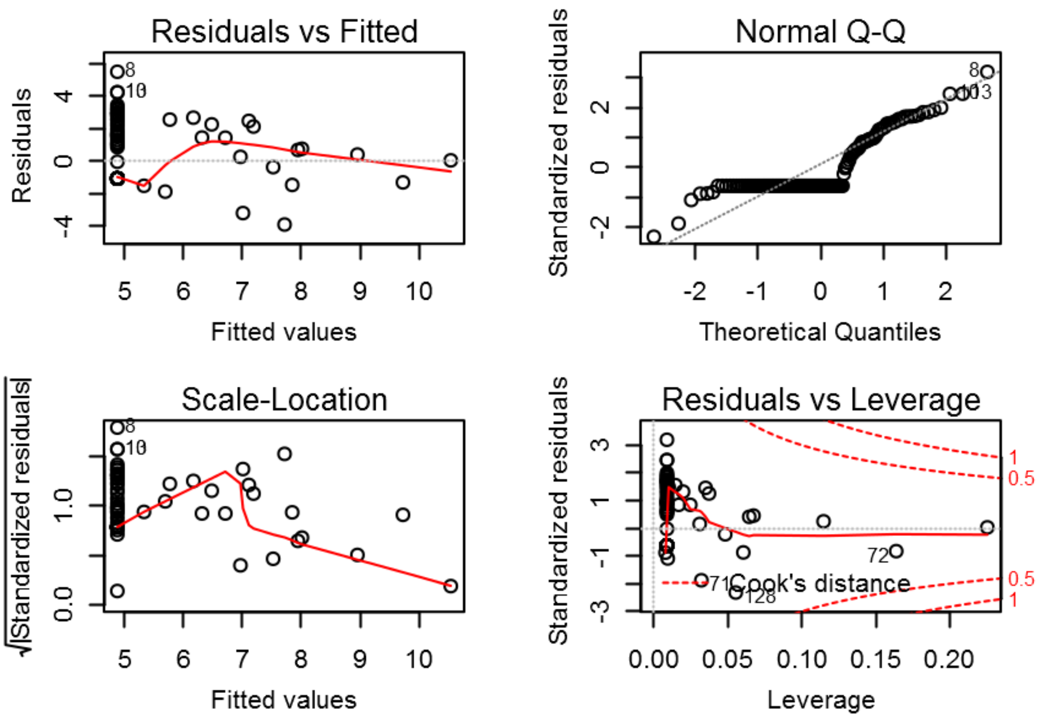


Figure 13: Residuals plots for regression using data from Shafter and Ripon locations.

5 Discussion

We found that 1,3-D use within a 5-mile radius and 24-hour ambient concentration of 1,3-D can be positively correlated. However, our fitted linear regression could only account for a small (25%) portion of the variability in use and ambient concentration across the dataset. A majority of detections (24 out of 35, or 69%) in the regression dataset were without associated nearby use and this pattern may suggest influence from applications outside the spatial or temporal scope of the study. Additional unexplained variation may have resulted from variation in daily meteorological conditions, grower practices, distance from application to monitoring site, and PUR data quality. The regression developed here is not likely to serve any practical purpose in the estimation of air concentration values based on 1,3-D use.

The lag periods selected for each site did not completely match our expectations based on studies of 1,3-D emission profiles. Both Ripon and Shafter sites are characterized by almost exclusive use of untarped shank injection with some small amount of polyethylene tarp applications (DPR 2015a), and we observed similar lag periods, as might be expected from sites with shared characteristics. However, past research has shown that 1,3-D emissions from untarped or polyethylene tarp applications peak within the first 48 hours of application (Ajwa et al. 2013, Ruijun et al. 2013, Ashworth et al. 2009), and emissions during these periods account for a majority of cumulative emissions (Ashworth et al. 2009). We achieved best fit for the Ripon and Shafter regressions using the application amounts during the day of sample completion (lag i=0) and 7 days prior to the completion of sampling (lag i=7), and while emissions during lag i=0 agrees with past emissions research, applications during lag i=7 fall outside of the expected emission timeframe for untarped and polyethylene tarp applications.

No subset of the Salinas data met the detection threshold for inclusion in this study despite this being the area with the most 1,3-D use (in unadjusted pounds) of the three sites in the study. The reason for this discontinuity may stem from broad differences in application methods relative to the other two sites. Approximately 89% of applications in Salinas between 2013-2014 utilized TIF tarp (DPR 2015a). TIF suppress emissions to the time of tarp cutting and allows for a greater proportion of applied 1,3-D to breakdown via soil microbial degradation (Ajwa et al. 2013, Ashworth et al. 2009). Tarp cutting is subject to a minimum waiting time, but not a maximum waiting time, which introduces an element of randomness into the timing and magnitude of TIF emissions. Overall losses from TIF methods are estimated to be 30-50% of those resulting from the untarped methods most common in the 5 miles surrounding the Ripon and Shafter monitoring sites (DPR 2014a). Salinas is also subject to stronger winds and fewer calms than the other sites (Figure 9), which may result in relatively quick dispersion of emitted 1,3-D.

The regression failed to explain a large proportion (75%) of variation in the data. Notably, 25 positive detections occurred despite no applications reported within 5 miles and 7 days prior to the completion of each air sample, which may suggest the influence of long-distance transport or issues in pesticide use reporting. There were also cases of zero detection in presence of nearby 1,3-D applications, and cases of high ambient concentration with relatively low levels of use. Variation in data quality and environmental factors may have contributed to the relatively weak ability of the regression to describe ambient air concentrations.

With regards to data quality, the adjustment factors used to convert actual pounds of 1,3-D into ATP may not accurately represent cumulative emissions under all circumstances. Johnson (2014) describes the development of the application factors, noting that certain factors are more well-grounded in empirical evidence than others. For example, adjustment factors for chemigation do not vary by season due to insufficient availability of 1,3-D drip studies (Johnson 2014). Other adjustment factors may be inflated to discourage use during certain seasons, rather than to accurately estimate emission potential (Johnson 2014).

Errors in the PUR in reported date, location, amount of application, and other fields can occur as a result of typing mistakes, misunderstandings of reporting requirements, or differences in field definitions among counties (Wilhoit et al. 2001). A study of error rates within the 1990-1997 PUR was completed for several data fields, most relevant of which were the error rates for reported PLSS sections of application, estimated at less than 5% statewide with variation above 10% in some counties. There is no way to know the frequency of errors in the data fields central to this study, including those of application amount and application date. PUR error-checking software has some capacity to detect, flag, and correct (with an estimate) application amounts that fall outside of some realm of likelihood (Wilhoit et al. 2001), but otherwise we must acknowledge some unknown amount of error in the PUR data. Error in date may be particularly problematic over the short time periods analyzed in this study, as we do not benefit from the averaging of errors that occurs in analysis over longer time periods, as in the analysis of subchronic or chronic exposure.

Variation in meteorological conditions such as wind may be especially important to consider in reference to daily samples, as there is a certain degree of averaging which occurs over longer timescales (weeks or months) that lessens the overall influence of random variation in meteorology (Li et al. 2005). Local topography, as well the distance from each field to a monitoring site, may also be important considerations. Cultural practices and soil type may affect emission rate (Chellemi et al. 2013) and were not included in this analysis.

Overall, we found evidence of a positive correlation between 1,3-D use and 24-hour ambient concentration. However, the linear regression model only captured a small proportion of the variation in the data. There is large proportion of unexplained variation and uncertainty regarding spatial and temporal scales. The linear regression produced here is not of practical use to explain the relationship between 24-hour ambient concentration and use within 5 miles and 7 days.

6 Future Work

Alternative approaches may be used for the development of mathematical relationships between application data and ambient concentration data. One of the simplest approaches will be the inclusion of additional predictor variables, but other techniques may be used depending on the question that we are interested in answering.

References

Ajwa, H., Stanghellini, M., Gao, S., Sullivan, D., Khan, A., Ntow, W., and Qin, R. (2013). Fumigant emission reductions with TIF warrant regulatory changes. *California Agriculture*, 67(3):147–152.

Ashworth, D., Ernst, F., Xuan, R., and Yates, S. (2009). Laboratory assessment of emission reduction strategies for the agricultural fumigants 1,3-dichloropropene and chloropicrin. *Environmental Science & Technology*,43(13):5073–5078.

Bankowska, J. (2006). Update of the Public Health Goal for 1,3-dichloropropene. Sacramento, CA: Office of Environmental Health Hazard Assessment, California Environmental Protection Agency.

Beauvais, S., Lewis, C., Mehler, L., Barry, T., and Kim, D. (2010). Evaluation of chloropicrin as a Toxic Air Contaminant, Part A - Environmental fate review and exposure assessment. Sacramento, CA: Department of Pesticide Regulation, California Environmental Protection Agency.

Breusch, T. S. and Pagan, A. R. (1979). A simple test for heteroscedasticity and random coefficient variation. *Econometrica: Journal of the Econometric Society*, 47(5):1287–1294.

Brown, C. (2015). Correlating agricultural use with ambient concentrations of the fumigant chloropicrin during the period of 2011-2014. Sacramento, CA: Department of Pesticide Regulation, California Environmental Protection Agency.

Budahn, A. (2016). Correlating agricultural use with ambient concentrations of chlorpyrifos and chlorpyrifos-oxon during the period of 2011-2014. Sacramento, CA: Department of Pesticide Regulation, California Environmental Protection Agency.

California Department of Food and Agriculture (2008). Determination of selected pesticides collected on XAD-4 resin by high performance liquid chromatography ion trap mass spectrometry and gas chromatography mass spectrometry. Sacramento, CA: California Department of Food and Agriculture, Center for Analytical Chemistry.

Chellemi, D. O., Mirusso, J., Ajwa, H. A., Sullivan, D. A., and Unruh, J. B. (2013). Fumigant persistence and emission from soil under multiple field application scenarios. *Crop Protection*, 43:94–103.

Collins, C. (2016). Correlating agricultural use with ambient concentrations of methyl isothiocyanate during the period of 2011-2014. Sacramento, CA: Department of Pesticide Regulation, California Environmental Protection Agency.

Dow AgroSciences, LLC (1998). Telone c-17 product chemistry.

DPR (2002). California Management Plan: 1,3-dichloropropene. Sacramento, CA: Department of Pesticide Regulation, California Environmental Protection Agency.

DPR (2013). Request for approval of reduced volatile organic compound emissions field fumigation method: Decision (California Code of Regulations, Title 3, section 6452). Sacramento, CA: Department of Pesticide Regulation, California Environmental Protection Agency.

DPR (2014a). Pesticide use enforcement program standards compendium. Appendix J - 1,3-dichloropropene pesticides (field fumigant) recommended permit conditions. Vol. 3 - Restricted Materials and Permitting. Sacramento, CA: Department of Pesticide Regulation, California Environmental Protection Agency.

DPR (2014b). Pesticide use report, annual 2013. Sacramento, CA: Department of Pesticide Regulation, California Environmental Protection Agency.

DPR (2015a). California pesticide information portal (CalPIP), Pesticide Use Report Database. Multiple queries between January and April 2016. Sacramento, CA: Department of Pesticide Regulation, California Environmental Protection Agency.

DPR (2015b). Summary of pesticide use report data 2013 - indexed by chemical. Sacramento, CA: Department of Pesticide Regulation, California Environmental Protection Agency.

DPR (2015c). 1,3-dichloropropene risk characterization document – inhalation exposure to workers, occupational and residential bystanders and the general public. Sacramento, CA: Department of Pesticide Regulation, California Environmental Protection Agency.

DPR (2016). Risk management directive and mitigation guidance for cancer risk from 1,3-dichloropropene (1,3-D). Memorandum dated October 6, 2016 from Teresa Marks to Marylou Verder-Carlos and George Farnsworth. Sacramento, CA: Department of Pesticide Regulation, California Environmental Protection Agency.

DWR (2015). California Irrigation Management Information System (CIMIS). Sacramento, CA: California Department of Water Resources.

EFSA (2006). European conclusion regarding the peer review of the pesticide risk assessment of the active substance. European Food Safety Authority Scientific Report.

Goersch, H. and Dilling, W. (1979). Organic photochemistry XXXI: Simulated tropospheric photodecomposition of *cis*- and *trans*-1,3-dichloropropene. *Environmental Science Research Library, Dow Chemical, USA.*

Guo, M., Papiernik, S., Zheng, W., and Yates, S. (2004). Effects of environmental factors on 1,3-dichloropropene hydrolysis in water and soil. *Journal of environmental quality*, 33(2):612–618.

Heim, L., Snyder, N., and van Wesenbeeck, I. (2002). Runoff of 1,3-dichloropropene from field plot exposed to simulated and natural rainfall. *Journal of soil and water conservation*, 57(1).

Ibekwe, A., Papiernik, S., Gan, J., Yates, S., Crowley, D., and Yang, C. (2001). Microcosm enrichment of 1,3-dichloropropene-degrading soil microbial communities in a compost-amended soil. *Journal of Applied Microbiology*, 91:668–676.

Johnson, B. (2013). Calculation of use adjustment factors for 1,3-dichloropropene with the use of totally impermeable film for broadcast shank applications. Memorandum dated April 26, 2013 to Randy Segawa. Sacramento, CA: Department of Pesticide Regulation, California Department of Pesticide Regulation.

Johnson, B. (2014). How to calculate the application factor for new 1,3-dichloropropene application methods. Memorandum dated May 8, 2014 to Randy Segawa. Sacramento, CA: Department of Pesticide Regulation, California Department of Pesticide Regulation.

King, K. D. (2016). Correlating agricultural use with ambient concentrations of chlorthal-dimethyl during the period of 2011-2014. Sacramento, CA: Department of Pesticide Regulation, California Environmental Protection Agency.

Knuteson, J. (1996). Environmental fate of 1,3-dichloropropene in a South Florida vegetable production system. North American Environmental Chemistry Laboratory, DowElanco.

Knuteson, J., Dixon-White, H., and Petty, D. (1992). Small-scale retrospectice ground water monitoring study for Telone® brand soil fumigants: Final report on study site in Monterey County, California. DowElanco, North American Environmental Chemistry Laboratory, Idland, MI. Project ID 89038.03.

Knuteson, J., Dolder, S., Carver, L., Yoder, R., and Brink, D. (1997). Air, surface water, and ground water field study of 1,3-dichloropropene in a South Florida vegetable production system - final report. DowElanco.

Krijgsheld, K. and van der Gen, A. (1986). Assessment of the impact of the emission of certain organochlorine compounds on the aquatic environment: Part II: Allylchloride, 1-3- and 2,3-dichloropropene. *Chemosphere*, 15(7):861–880.

Li, L., Johnson, B., and Segawa, R. (2005). Empirical relationship between use, area, and ambient air concentration of methyl bromide. *Journal of environmental quality*, 34(2):420–428.

McCall, P. (1986a). Anaerobic soil degradation of 1,3-dichloropropene. Agricultural products department, Dow Chemical, USA.

McCall, P. (1986b). Hydrolysis of 1,3-dichloropropene in dilute aqueous solution. *Pesticide Science*, 19:235–242.

Moilanen, K., Crosby, D., Woodrow, J., and Seiber, J. (1977). Vapor-phase photodecomposition of pesticides in the presence of oxidant. Department of Environmental Toxicology, University of California, Davis, California.

NTP (2011). Report on carcinogens, twelfth edition. *Research Triangle Park, NC: U.S. Department of Health and Human Services, Public Health Service, National Toxicology Program. 499 pp.*

OEHHA (2016). Health risk information for Public Health Goal exceedance reports. Sacramento, CA: Office of Environmental Health Hazard Assessment, California Environmental Protection Agency.

Oliver, G. (1987). A review of current ground water surveys and field studies in the United States for Telone II soil fumigant. Ag Chemistry R&D Laboratories, Dow Chemical Company.

Park, M., Kim, J., and Dungan, R. (2004). Sorption of the fumigant 1,3-dichloropropene on soil. *Journal of environmental science and health, Part B*,39(4):603–612.

Poelarends, G. J., Johnson, W. H., Murzin, A. G., and Whitman, C. P. (2003). Mechanistic characterization of a bacterial malonate semialdehyde decarboxylase identification of a new activity in the tautomerase superfamily. *Journal of Biological Chemistry*, 278(49):48674–48683.

Qin, R., Gao, S., McDonald, J. A., Ajwa, H., Shem-Tov, S., and Sullivan, D. A. (2008). Effect of plastic tarps over raised-beds and potassium thiosulfate in furrows on chloropicrin emissions from drip fumigated fields. *Chemosphere*, 72(4):558–563.

Roberts, T. R. and Stoydin, G. (1976). The degradation of (z)- and (e)-1,3-dichloropropenes and 1,2-dichloropropane in soil. *Pesticide Science*, 7(4):325–335.

Ruijun, Q., Gao, S., Thomas, J., Dickson, D., Ajwa, H., and Wang, D. (2013). Emissions from soil fumigation in two raised bed production systems tarped with low permeability films. *Chemosphere*, (93):1379–1385.

Small, G., Miles, M., Barber, I., Tsakonas, P., and Bucchi, R. (2008). The soil ecotoxicology of 1,3-dichloropropene under commercial growing conditions. *Communications in Agricultural and Applied Biological Sciences*, 73(4):777–785.

Thomas, J., Allen, L., McCormack, L., Vu, J., Dickson, D., and Ou, L. (2003). Diffusion and emissions of 1,3-dichloropropene in Florida sandy soil in microplots affected by soil moisture, organic matter, and plastic film. *Pest Management Science*, 60:390–398.

Tao, J. (2016). Analysis of agricultural use and average concentrations of 1,3-dichloropropene in nine communities of California in 2006-2015, and calculation of a use limit (township cap). Sacramento, CA: Department of Pesticide Regulation, California Environmental Protection Agency.

Tuazon, E., Atkinson, R., Winer, A., and Pitts, J. (1984). A study of the atmospheric reactions of 1,3-dichloropropene and other selected organochlorine compounds. *Archive of Environmental Contamination and Toxicology*, 13:691.

Tuli, A., Vidrio, E., Wofford, P., and Segawa, R. (2015). Air monitoring network results for 2014. Vol

4. Sacramento, CA: Department of Pesticide Regulation, California Environmental Protection Agency.

U.S. Department of Health and Human Services. Public Health Service. Agency for Toxic Substances and Disease Registry. (1990). Toxicological profile for *cis*-1,3-dichloropropene and *trans*-1,3-dichloropropene. Draft. Atlanta, GA.

U.S. EPA (1996). Proposed guidelines for carcinogen risk assessment. Federal register 61(79):17960-18011. Washington, D.C.: Office of Research and Development; U.S. Environmental Protection Agency.

U.S. EPA (1998). Reregistration eligibility decision (RED) for 1,3-dichloropropene. Washington, D.C.: Prevention, Pesticides, and Toxic Substances; U.S. Environmental Protection Agency.

U.S. EPA (2000). Toxicological review of 1,3-dichloropropene in support of summary information on the Integrated Risk Information System (IRIS). Washington, D.C.: National Center for Environmental Assessment; U.S. Environmental Protection Agency.

U.S. EPA (2006). Health effects support document for 1,3-dichloropropene. Washington, D.C.: Health and Ecological Criteria Division; U.S. Environmental Protection Agency.

van Dijk, H. (1974). Degradation of 1,3-dichloropropenes in the soil. *Agro-ecosystems*, 1:193–204.

van Hylckama, V., Johan, E., and Janssen, D. B. (1991). Bacterial degradation of 3-chloroacrylic acid and the characterization of cis-and trans-specific dehalogenases. *Biodegradation*, 2(3):139–150.

van Wesenbeeck, I. (1998). Field volatility of 1,3-dichloropropene from an untarped buried drip application in the Rio Grande Valley of Texas. Global Environmental Chemistry Laboratory, Dow AgroSciences, LLC.

Vidrio, E. (2012). 1,3-dichloropropene risk characterization document. Sacramento, CA: Department of Pesticide Regulation, California Environmental Protection Agency.

Vidrio, E., Wofford, P., Segawa, R., and Schreider, J. (2013a). Air monitoring network results for 2011. Vol 1. Sacramento, CA: Department of Pesticide Regulation, California Environmental Protection Agency.

Vidrio, E., Wofford, P., Segawa, R., and Schreider, J. (2013b). Air monitoring network results for 2012. Vol 2. Sacramento, CA: Department of Pesticide Regulation, California Environmental Protection Agency.

Vidrio, E., Wofford, P., Segawa, R., and Schreider, J. (2014). Air monitoring network results for 2013. Vol 3. Sacramento, CA: Department of Pesticide Regulation, California Environmental Protection Agency.White, H. (1980). A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. *Econometrica: Journal of the Econometric Society*, pages 817–838.

White, H. (1980). A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. *Econometrica: Journal of the Econometric Society*, pages 817–838.

WHO International Programme on Chemical Safety (1993). Environmental health criteria 146. 1,3-dichloropropene, 1,2-dichloropropane, and mixtures.

Wilhoit, L., Zhang, M., and Ross, L. (2001). Part 1. Data quality of California's Pesticide Use Report. Final Report to the California Department of Food and Agriculture for Contract Agreement NO. 98-0241. Sacramento, CA: Department of Pesticide Regulation, California Environmental Protection Agency.

Wofford, P. (2014). Calculations of use adjustment factors for 1,3-dichloropropene with the use of totally impermeable film for strip shank applications. Sacramento, CA: Department of Pesticide Regulation, California Environmental Protection Agency.

7 Appendix

Table 7: Summary of 1,3-D use by commodity in a 5-mile radius surrounding each air monitoring station for 2011-2014.

Crop	Application (lbs x 1000)	Percent of Total
Salinas		
Strawberry	1086.6	97.3%
Raspberry	17.2	1.5%
Lettuce, Leaf	6.2	0.6%
Blackberry	4.2	0.4%
Chinese Cabbage	2.8	0.3%
Spinach	<0.1	<0.1%
Shafter		
Almond	188.4	40.9%
Grapes	157.1	34.1%
Carrots	52.5	11.4%
Potato	45.5	9.9%
Uncultivated Ag	16.8	3.7%
Cherry	0.3	0.1%
Ripon		
Almond	399.9	46.7%
Soil Application, Pre-Plant Outdoor	278.8	32.5%
Walnut	79.7	9.3%
Uncultivated Ag	30.1	3.5%
Peach	27.4	3.2%
Cherry	21.7	2.5%
Apple	11.9	1.4%
Carrots	5.9	0.7%
Grapes	1.5	0.2%

Table 8: Summary of 1,3-D use by month for the period of 2011-2014 in a 5-mile radius area around each of the 3 monitoring sites discussed in the study, reported in thousands of pounds (actual). Data obtained from queries of the PUR database in February 2016.

	2011			**2012**			**2013**			**2014**		
Month	Salinas	Shafter	Ripon	Salinas	Shafter	Ripon	Salinas	Shafter	Ripon	Salinas	Shafter	Ripon
January	0.0	0.0	0.0	0.0	0.0	12.9	0.0	22.6	20.8	0.0	3.0	2.2
February	<0.1	0.0	0.0	0.0	14.9	0.0	0.0	13.1	0.0	0.0	0.0	0.0
March	0.0	20.6	0.0	0.0	15.1	0.0	0.0	0.0	0.0	0.0	9.0	0.0
April	0.0	3.2	17.3	0.0	16.8	0.0	0.8	0.0	0.0	0.0	8.5	0.0
May	0.0	4.0	5.4	<0.1	0.0	14.9	0.0	0.0	0.0	0.0	0.0	6.9
June	0.0	0.0	4.0	7.4	0.0	28.0	0.0	0.0	6.0	3.4	0.0	1.7
July	0.0	0.0	11.3	20.9	40.0	8.9	20.2	16.0	0.0	25.3	0.0	5.1
August	18.3	0.0	20.6	33.2	8.6	0.0	55.9	0.0	8.7	34.2	21.1	0.0
September	52.0	0.0	0.0	101.2	0.0	0.9	155.1	8.9	2.8	116.6	13.8	28.7
October	132.7	75.6	23.9	146.1	14.9	19.7	62.3	5.7	7.5	78.5	31.6	14.4
November	38.5	18.5	106.8	6.2	9.5	115.3	6.3	15.0	66.6	2.1	20.1	116.2
December	0.0	0.0	5.7	0.0	7.7	53.4	0.0	22.9	81.4	0.0	0.0	38.7
Total	241.5	122.0	195.0	314.9	127.5	254.0	300.6	104.1	193.8	260.0	107.1	214.0

Table 9. PLSS Sections Within a Five Mile Radius of Air Monitoring Network Stations							
Salinas			Shafter			Ripon	
MTRS	Miles		MTRS	Miles		MTRS	Miles
M14S03E26	1		M28S25E02	1		M02S07E13	1
M14S03E27	1		M28S25E03	1		M02S07E24	1
M14S03E34	1		M28S25E04	1		M02S07E25	1
M14S03E35	1		M28S25E09	1		M02S08E18	1
M14S03E36	1		M28S25E10	1		M02S08E19	1
M15S03E01	1		M28S25E11	1		M02S08E20	1
M15S03E02	1		M28S25E14	1		M02S08E29	1
M15S03E03	1		M28S25E15	1		M02S08E30	1
M14S03E22	2		M28S25E16	1		M02S07E12	2
M14S03E23	2		M27S25E33	2		M02S07E14	2
M14S03E25	2		M27S25E34	2		M02S07E23	2
M14S03E28	2		M27S25E35	2		M02S07E26	2
M14S03E33	2		M28S25E01	2		M02S07E35	2
M14S04E30	2		M28S25E05	2		M02S07E36	2
M14S04E31	2		M28S25E08	2		M02S08E07	2
M15S03E04	2		M28S25E12	2		M02S08E08	2
M15S03E09	2		M28S25E13	2		M02S08E16	2
M15S03E10	2		M28S25E17	2		M02S08E17	2
M15S03E11	2		M28S25E21	2		M02S08E21	2
M15S03E12	2		M28S25E22	2		M02S08E28	2
M15S04E06	2		M28S25E23	2		M02S08E31	2
M14S03E14	3		M27S25E25	3		M02S08E32	2
M14S03E15	3		M27S25E26	3		M02S07E01	3
M14S03E20	3		M27S25E27	3		M02S07E11	3
M14S03E21	3		M27S25E28	3		M02S07E15	3
M14S03E24	3		M27S25E29	3		M02S07E22	3
M14S03E29	3		M27S25E31	3		M02S07E27	3
M14S03E32	3		M27S25E32	3		M02S07E34	3
M14S04E19	3		M27S25E36	3		M02S08E05	3
M14S04E29	3		M27S26E31	3		M02S08E06	3
M14S04E32	3		M28S25E06	3		M02S08E09	3
M15S03E05	3		M28S25E07	3		M02S08E15	3
M15S03E08	3		M28S25E18	3		M02S08E22	3
M15S03E13	3		M28S25E19	3		M02S08E27	3
M15S03E14	3		M28S25E20	3		M02S08E33	3
M15S03E15	3		M28S25E24	3		M02S08E34	3
M15S03E16	3		M28S25E25	3		M03S07E01	3
M15S04E05	3		M28S25E26	3		M03S07E02	3
M15S04E07	3		M28S25E27	3		M03S08E04	3
M15S04E08	3		M28S25E28	3		M03S08E05	3

M15S04E18	3		M28S25E29	3		M03S08E06	3
M14S03E10	4		M28S26E06	3		M01S07E36	4
M14S03E11	4		M28S26E07	3		M01S08E31	4
M14S03E13	4		M28S26E18	3		M01S08E32	4
M14S03E16	4		M28S26E19	3		M02S07E02	4
M14S03E17	4		M27S24E36	4		M02S07E03	4
M14S03E19	4		M27S25E20	4		M02S07E09	4
M14S03E30	4		M27S25E21	4		M02S07E10	4
M14S03E31	4		M27S25E22	4		M02S07E16	4
M14S04E18	4		M27S25E23	4		M02S07E21	4
M14S04E20	4		M27S25E24	4		M02S07E28	4
M14S04E28	4		M27S25E30	4		M02S07E33	4
M14S04E33	4		M27S26E30	4		M02S08E03	4
M15S03E06	4		M27S26E32	4		M02S08E04	4
M15S03E07	4		M28S24E01	4		M02S08E10	4
M15S03E17	4		M28S24E12	4		M02S08E14	4
M15S03E18	4		M28S24E13	4		M02S08E23	4
M15S03E20	4		M28S24E24	4		M02S08E26	4
M15S03E21	4		M28S25E30	4		M02S08E35	4
M15S03E22	4		M28S25E32	4		M03S07E03	4
M15S03E23	4		M28S25E33	4		M03S07E04	4
M15S03E24	4		M28S25E34	4		M03S07E10	4
M15S04E04	4		M28S25E35	4		M03S07E11	4
M15S04E09	4		M28S25E36	4		M03S07E12	4
M15S04E17	4		M28S26E05	4		M03S08E03	4
M15S04E19	4		M28S26E08	4		M03S08E07	4
M14S02E24	5		M28S26E17	4		M03S08E08	4
M14S02E25	5		M28S26E20	4		M03S08E09	4
M14S02E36	5		M28S26E30	4		M01S07E25	5
M14S03E01	5		M27S24E24	5		M01S07E34	5
M14S03E02	5		M27S24E25	5		M01S07E35	5
M14S03E03	5		M27S24E35	5		M01S08E29	5
M14S03E08	5		M27S25E13	5		M01S08E30	5
M14S03E09	5		M27S25E14	5		M01S08E33	5
M14S03E12	5		M27S25E15	5		M01S08E34	5
M14S03E18	5		M27S25E16	5		M02S07E04	5
M14S04E07	5		M27S25E17	5		M02S07E08	5
M14S04E08	5		M27S25E19	5		M02S07E17	5
M14S04E16	5		M27S26E19	5		M02S07E20	5
M14S04E17	5		M27S26E29	5		M02S07E29	5
M14S04E21	5		M27S26E33	5		M02S07E32	5
M14S04E27	5		M28S24E02	5		M02S08E02	5
M14S04E34	5		M28S24E11	5		M02S08E11	5
M15S02E01	5		M28S24E14	5		M02S08E13	5

M15S02E12	5		M28S24E23	5		M02S08E24	5
M15S02E13	5		M28S24E25	5		M02S08E25	5
M15S03E19	5		M28S25E31	5		M02S08E36	5
M15S03E25	5		M28S26E04	5		M03S07E05	5
M15S03E26	5		M28S26E09	5		M03S07E09	5
M15S03E27	5		M28S26E16	5		M03S07E13	5
M15S03E28	5		M28S26E21	5		M03S07E14	5
M15S03E29	5		M28S26E29	5		M03S07E15	5
M15S04E03	5		M28S26E31	5		M03S08E02	5
M15S04E10	5		M28S26E32	5		M03S08E10	5
M15S04E16	5		M29S25E01	5		M03S08E11	5
M15S04E20	5		M29S25E02	5		M03S08E15	5
M15S04E21	5		M29S25E03	5		M03S08E16	5
M15S04E29	5		M29S25E04	5		M03S08E17	5
M15S04E30	5		M29S25E05	5		M03S08E18	5
			M29S26E06	5			

Table 10. Air Monitoring Network Results, February 2011- December 2014										
Salinas				**Shafter**				**Ripon**		
Start Date	***cis*-1,3-D (ng/m^3)**	***trans*-1,3-D (ng/m^3)**		**Start Date**	***cis*-1,3-D (ng/m^3)**	***trans*-1,3-D (ng/m^3)**		**Start Date**	***cis*-1,3-D (ng/m^3)**	***trans*-1,3-D (ng/m^3)**
2/1/11	nd	nd		2/9/11	nd	nd		2/7/11	nd	nd
2/9/11	nd	nd		2/16/11	nd	nd		2/15/11	nd	nd
2/16/11	nd	nd		2/23/11	nd	nd		2/22/11	nd	nd
2/22/11	nd	nd		2/28/11	nd	nd		3/1/11	nd	nd
3/2/11	nd	nd		3/9/11	nd	nd		3/8/11	nd	nd
3/7/11	nd	nd		3/14/11	nd	nd		3/15/11	nd	nd
3/16/11	nd	nd		3/23/11	nd	nd		3/21/11	nd	nd
3/21/11	nd	nd		3/28/11	nd	nd		3/29/11	nd	nd
3/29/11	nd	nd		4/6/11	nd	nd		4/4/11	nd	nd
4/4/11	nd	nd		4/12/11	nd	nd		4/13/11	nd	nd
4/13/11	nd	nd		4/19/11	nd	nd		4/19/11	nd	nd
4/19/11	nd	nd		4/25/11	nd	nd		4/26/11	nd	nd
4/25/11	nd	nd		5/3/11	nd	nd		5/2/11	nd	nd
5/4/11	nd	nd		5/9/11	nd	nd		5/11/11	nd	nd
5/9/11	nd	nd		5/18/11	nd	nd		5/16/11	nd	nd
5/18/11	nd	nd		5/24/11	nd	nd		5/25/11	nd	nd
5/23/11	nd	nd		6/1/11	nd	nd		6/1/11	nd	nd
6/1/11	nd	nd		6/6/11	nd	nd		6/8/11	nd	nd
6/6/11	nd	nd		6/14/11	nd	nd		6/13/11	nd	nd
6/16/11	nd	nd		6/20/11	nd	nd		6/22/11	nd	nd
6/20/11	nd	nd		6/29/11	nd	nd		6/28/11	nd	nd
6/29/11	nd	nd		7/5/11	nd	nd		7/6/11	nd	nd
7/5/11	nd	nd		7/13/11	nd	nd		7/11/11	nd	nd
7/11/11	nd	nd		7/18/11	nd	nd		7/19/11	nd	nd
7/20/11	nd	nd		7/26/11	nd	nd		7/27/11	nd	nd
7/25/11	nd	nd		8/1/11	nd	nd		8/4/11	nd	nd
8/4/11	nd	nd		8/10/11	nd	nd		8/8/11	nd	nd
8/8/11	nd	nd		8/16/11	nd	nd		8/17/11	nd	nd
8/15/11	nd	nd		8/22/11	nd	nd		8/23/11	nd	nd
8/24/11	nd	nd		8/30/11	nd	nd		8/31/11	nd	nd
8/29/11	nd	nd		9/6/11	nd	nd		9/6/11	nd	nd
9/7/11	nd	nd		9/13/11	nd	nd		9/14/11	nd	nd
9/14/11	nd	nd		9/21/11	nd	nd		9/19/11	nd	nd
9/19/11	nd	nd		9/26/11	nd	nd		9/28/11	nd	nd
9/27/11	nd	nd		10/3/11	nd	nd		10/4/11	nd	nd
10/3/11	703.20	526.27		10/10/11	nd	nd		10/12/11	nd	nd
10/11/11	1327.01	1150.08		10/20/11	nd	nd		10/17/11	nd	nd
10/20/11	nd	nd		10/25/11	nd	nd		10/26/11	nd	nd
10/25/11	nd	nd		11/3/11	nd	nd		11/1/11	nd	nd
11/3/11	nd	nd		11/8/11	nd	nd		11/9/11	6895.93	5353.42

11/8/11	5353.42	4718.27		11/16/11	nd	nd		11/14/11	1905.45	1333.82
11/17/11	nd	nd		11/21/11	nd	nd		11/22/11	nd	nd
11/22/11	nd	nd		11/30/11	nd	nd		12/9/11	nd	nd
12/1/11	nd	nd		12/5/11	nd	nd		12/15/11	nd	nd
12/5/11	nd	nd		12/15/11	nd	nd		12/20/11	nd	nd
12/11/11	nd	nd		12/19/11	nd	nd		12/27/11	nd	nd
12/19/11	nd	nd		12/28/11	nd	nd		1/5/12	nd	nd
12/28/11	nd	nd		1/4/12	nd	nd		1/9/12	nd	nd
1/3/12	nd	nd		1/12/12	nd	nd		1/18/12	nd	nd
1/9/12	nd	nd		1/17/12	nd	nd		1/23/12	nd	nd
1/19/12	nd	nd		1/23/12	nd	nd		2/2/12	nd	nd
1/25/12	nd	nd		2/1/12	nd	nd		2/6/12	nd	nd
1/29/12	nd	nd		2/9/12	nd	nd		2/15/12	nd	nd
2/7/12	nd	nd		2/13/12	nd	nd		2/21/12	nd	nd
2/12/12	nd	nd		2/22/12	nd	nd		2/28/12	nd	nd
2/22/12	nd	nd		2/27/12	nd	nd		3/5/12	nd	nd
2/28/12	nd	nd		3/7/12	nd	nd		3/15/12	nd	nd
3/8/12	nd	nd		3/12/12	nd	nd		3/19/12	nd	nd
3/12/12	nd	nd		3/21/12	nd	nd		3/28/12	nd	nd
3/20/12	nd	nd		3/27/12	nd	nd		4/2/12	nd	nd
3/26/12	nd	nd		4/4/12	1928.14	1714.91		4/11/12	nd	nd
4/2/12	nd	nd		4/10/12	nd	nd		4/15/12	nd	nd
4/8/12	nd	nd		4/19/12	nd	nd		4/24/12	nd	nd
4/19/12	nd	nd		4/23/12	nd	nd		5/2/12	nd	nd
4/25/12	nd	nd		5/1/12	nd	nd		5/10/12	nd	nd
4/30/12	nd	nd		5/8/12	nd	nd		5/15/12	nd	nd
5/7/12	nd	nd		5/17/12	nd	nd		5/23/12	nd	nd
5/14/12	nd	nd		5/24/12	nd	nd		5/29/12	nd	nd
4/23/12	nd	nd		5/30/12	nd	nd		6/6/12	nd	nd
5/31/12	nd	nd		6/5/12	nd	nd		6/14/12	nd	nd
6/6/12	nd	nd		6/13/12	nd	nd		6/20/12	nd	nd
6/12/12	nd	nd		6/18/12	nd	nd		6/27/12	nd	nd
6/18/12	nd	nd		6/27/12	nd	nd		7/6/12	nd	nd
6/24/12	nd	nd		7/2/12	nd	nd		7/9/12	nd	nd
7/5/12	nd	nd		7/12/12	nd	nd		7/18/12	nd	nd
7/10/12	nd	nd		7/17/12	nd	nd		7/22/12	nd	nd
7/18/12	nd	nd		7/24/12	nd	nd		8/2/12	nd	nd
7/23/12	nd	nd		8/1/12	nd	nd		8/7/12	nd	nd
7/30/12	nd	nd		8/9/12	nd	nd		8/15/12	nd	nd
8/6/12	nd	nd		8/13/12	nd	nd		8/19/12	nd	nd
8/12/12	nd	nd		8/21/12	nd	nd		8/30/12	nd	nd
8/24/12	nd	nd		8/29/12	nd	nd		9/4/12	nd	nd
8/29/12	nd	nd		9/6/12	nd	nd		9/12/12	nd	nd
9/5/12	nd	nd		9/10/12	nd	nd		9/16/12	nd	nd

9/11/12	nd	nd		9/19/12	nd	nd		9/27/12	nd	nd
9/17/12	nd	nd		9/25/12	nd	nd		10/1/12	nd	nd
9/26/12	nd	nd		10/8/12	nd	nd		10/10/12	nd	nd
10/3/12	nd	nd		10/10/12	nd	nd		10/14/12	nd	nd
10/11/12	nd	nd		10/15/12	1429.09	1524.36		10/25/12	nd	nd
10/17/12	1714.91	1714.91		10/23/12	nd	nd		10/29/12	nd	nd
10/22/12	nd	nd		10/30/12	nd	nd		11/7/12	nd	nd
10/29/12	nd	nd		11/5/12	nd	nd		11/13/12	nd	nd
11/4/12	nd	nd		11/14/12	nd	nd		11/20/12	nd	nd
11/14/12	nd	nd		11/19/12	nd	nd		11/29/12	nd	nd
11/19/12	nd	nd		11/27/12	1361.04	907.36		12/7/12	nd	nd
11/29/12	nd	nd		12/3/12	nd	nd		12/11/12	nd	nd
12/4/12	nd	nd		12/12/12	nd	nd		12/19/12	nd	nd
12/10/12	nd	nd		12/17/12	nd	nd		12/26/12	nd	nd
12/18/12	nd	nd		12/26/12	nd	nd		1/3/13	nd	nd
12/28/12	nd	nd		1/2/13	nd	nd		1/7/13	nd	nd
1/2/13	nd	nd		1/8/13	nd	nd		1/15/13	nd	nd
1/9/13	nd	nd		1/14/13	nd	nd		1/23/13	nd	nd
1/15/13	nd	nd		1/22/13	nd	nd		2/1/13	nd	nd
1/25/13	nd	nd		1/29/13	2086.93	1292.99		2/6/13	nd	nd
1/29/13	nd	nd		2/4/13	1769.35	1247.62		2/12/13	nd	nd
2/4/13	nd	nd		2/12/13	nd	nd		2/21/13	nd	nd
2/13/13	nd	nd		2/19/13	nd	nd		2/26/13	nd	nd
2/19/13	nd	nd		2/25/13	nd	nd		3/7/13	nd	nd
2/25/13	nd	nd		3/6/13	nd	nd		3/14/13	nd	nd
3/4/13	nd	nd		3/11/13	nd	nd		3/17/13	nd	nd
3/10/13	nd	nd		3/19/13	nd	nd		3/29/13	nd	nd
3/22/13	nd	nd		3/27/13	nd	nd		4/2/13	nd	nd
3/26/13	nd	nd		4/3/13	nd	nd		4/10/13	nd	nd
4/3/13	nd	nd		4/9/13	nd	nd		4/14/13	nd	nd
4/8/13	nd	nd		4/19/13	nd	nd		4/24/13	nd	nd
4/15/13	nd	nd		4/22/13	nd	nd		4/30/13	nd	nd
4/25/13	nd	nd		4/29/13	nd	nd		5/8/13	nd	nd
4/30/13	nd	nd		5/7/13	nd	nd		5/14/13	nd	nd
5/10/13	nd	nd		5/15/13	nd	nd		5/23/13	nd	nd
5/14/13	nd	nd		5/21/13	nd	nd		5/29/13	nd	nd
5/20/13	nd	nd		5/28/13	nd	nd		6/5/13	nd	nd
6/13/13	nd	nd		6/3/13	nd	nd		6/10/13	nd	nd
6/16/13	nd	nd		6/12/13	nd	nd		6/20/13	nd	nd
6/25/13	nd	nd		6/18/13	nd	nd		6/26/13	nd	nd
7/1/13	nd	nd		6/27/13	nd	nd		7/2/13	nd	nd
7/8/13	nd	nd		7/1/13	nd	nd		7/8/13	nd	nd
7/17/13	nd	nd		7/10/13	nd	nd		7/18/13	nd	nd
7/26/13	nd	nd		7/16/13	nd	nd		7/24/13	nd	nd

7/28/13	nd	nd		7/22/13	nd	nd		8/1/13	nd	nd
8/7/13	nd	nd		7/30/13	nd	nd		8/5/13	nd	nd
8/13/13	nd	nd		8/8/13	nd	nd		8/14/13	nd	nd
8/18/13	nd	nd		8/12/13	nd	nd		8/18/13	nd	nd
8/29/13	nd	nd		8/21/13	nd	nd		8/30/13	nd	nd
9/3/13	nd	nd		8/27/13	nd	nd		9/5/13	nd	nd
9/9/13	nd	nd		9/5/13	nd	nd		9/12/13	nd	nd
9/18/13	1406.41	nd		9/9/13	1415.48	1524.36		9/15/13	nd	nd
9/23/13	2449.87	nd		9/18/13	nd	nd		9/26/13	nd	nd
9/29/13	1088.83	nd		9/23/13	nd	nd		10/1/13	nd	nd
10/6/13	2585.97	nd		9/30/13	nd	nd		10/9/13	nd	nd
10/15/13	4319.03	nd		10/8/13	nd	nd		10/18/13	367.48	226.84
10/21/13	176.93	nd		10/16/13	1764.81	1860.09		10/24/13	nd	nd
10/30/13	453.68	nd		10/22/13	186.01	163.32		10/29/13	240.45	181.47
11/4/13	136.10	nd		10/31/13	nd	nd		11/7/13	1429.09	948.19
11/13/13	nd	nd		11/6/13	1524.36	1188.64		11/12/13	571.64	617.00
11/19/13	nd	nd		11/14/13	644.22	644.22		11/20/13	nd	nd
11/25/13	nd	nd		11/18/13	1660.47	789.40		11/25/13	nd	nd
12/2/13	nd	nd		11/25/13	2182.20	1950.82		12/4/13	3302.79	1256.69
12/10/13	nd	nd		12/2/13	19145.27	13428.91		12/10/13	3470.65	2191.27
12/16/13	nd	nd		12/12/13	5584.79	5657.38		12/18/13	3398.06	3606.75
12/22/13	nd	nd		12/17/13	4736.41	4435.62		12/26/13	7531.08	7213.50
12/29/13	nd	nd		12/26/13	6351.51	5353.42		1/2/14	1134.20	1361.04
1/9/14	nd	nd		12/30/13	19281.38	20687.78		1/6/14	1397.33	1782.96
1/13/14	nd	nd		1/8/14	4123.95	5126.58		1/16/14	272.21	317.58
1/22/14	nd	nd		1/14/14	1025.32	1465.38		1/24/14	263.13	431.00
1/26/14	nd	nd		1/23/14	544.42	816.62		1/31/14	nd	nd
2/3/14	nd	nd		1/28/14	1329.28	1878.23		2/4/14	nd	nd
2/12/14	nd	nd		2/5/14	176.93	208.69		2/13/14	nd	nd
2/18/14	nd	nd		2/10/14	349.33	444.61		2/19/14	nd	nd
2/25/14	nd	nd		2/20/14	158.79	217.77		2/26/14	nd	nd
3/3/14	nd	nd		2/25/14	nd	nd		3/3/14	nd	nd
3/11/14	nd	nd		3/5/14	nd	nd		3/12/14	nd	nd
3/17/14	nd	nd		3/10/14	nd	nd		3/21/14	nd	nd
3/27/14	nd	nd		3/20/14	4427.91	1891.84		3/26/14	nd	nd
4/3/14	nd	nd		3/25/14	nd	nd		4/2/14	nd	nd
4/7/14	nd	nd		4/3/14	195.08	117.96		4/9/14	nd	nd
4/16/14	nd	nd		4/7/14	240.45	254.06		4/15/14	nd	nd
4/20/14	nd	nd		4/14/14	nd	nd		4/23/14	nd	nd
4/30/14	nd	nd		4/23/14	nd	nd		5/1/14	nd	nd
5/7/14	nd	nd		4/28/14	nd	nd		5/8/14	nd	nd
5/14/14	nd	nd		5/5/14	nd	nd		5/13/14	nd	nd
5/21/14	nd	nd		5/14/14	nd	nd		5/21/14	nd	nd
5/27/14	nd	nd		5/20/14	nd	nd		5/27/14	nd	nd

6/1/14	nd	nd		5/29/14	nd	nd		6/4/14	nd	nd
6/9/14	nd	nd		6/3/14	nd	nd		6/13/14	nd	nd
6/15/14	nd	nd		6/11/14	nd	nd		6/19/14	nd	nd
6/25/14	nd	nd		6/16/14	nd	nd		6/23/14	nd	nd
6/30/14	nd	nd		6/24/14	nd	nd		7/2/14	nd	nd
7/8/14	nd	nd		6/30/14	nd	nd		7/8/14	nd	nd
7/18/14	nd	nd		7/9/14	nd	nd		7/16/14	nd	nd
7/21/14	nd	nd		7/14/14	nd	nd		7/25/14	nd	nd
7/27/14	nd	nd		7/24/14	nd	nd		7/30/14	nd	nd
8/4/14	nd	nd		7/28/14	nd	nd		8/6/14	nd	nd
8/11/14	nd	nd		8/6/14	nd	nd		8/14/14	nd	nd
8/21/14	nd	nd		8/12/14	nd	nd		8/18/14	nd	nd
8/25/14	nd	nd		8/20/14	nd	nd		8/27/14	nd	nd
9/3/14	nd	nd		8/25/14	nd	nd		9/5/14	nd	nd
9/11/14	nd	nd		9/2/14	nd	nd		9/10/14	nd	nd
9/15/14	nd	nd		9/8/14	nd	nd		9/16/14	nd	nd
9/25/14	nd	nd		9/18/14	nd	nd		9/24/14	nd	nd
9/29/14	nd	nd		9/23/14	nd	nd		9/29/14	294.89	381.09
10/7/14	nd	nd		10/2/14	154.25	2404.50		10/8/14	108.88	494.51
10/13/14	204.16	235.91		10/6/14	nd	nd		10/16/14	nd	nd
10/19/14	nd	nd		10/15/14	544.42	403.77		10/22/14	nd	nd
10/29/14	145.18	nd		10/21/14	nd	nd		10/28/14	nd	nd
11/3/14	nd	nd		10/30/14	nd	nd		11/5/14	104.35	nd
11/12/14	nd	nd		11/4/14	666.91	1011.71		11/13/14	830.23	948.19
11/18/14	nd	nd		11/12/14	249.52	467.29		11/19/14	757.64	635.15
11/24/14	nd	nd		11/17/14	2468.02	1701.30		11/24/14	1855.55	1655.93
11/30/14	nd	nd		11/24/14	3779.15	2731.15		12/4/14	nd	nd
12/8/14	nd	nd		12/3/14	1143.27	1007.17		12/12/14	nd	nd
12/15/14	nd	nd		12/9/14	nd	nd		12/17/14	nd	nd
12/22/14	nd	nd		12/16/14	1143.27	1007.17		12/22/14	nd	nd
12/29/14	nd	nd		12/22/14	nd	nd		12/30/14	nd	nd
				12/29/14	235.91	412.85				

TABLE 11. APPLICATIONS MADE WITHIN A FIVE MILE RADIUS OF SALINAS AMN STATION							
DATE	PRODUCT NAME	POUNDS PRODUCT APPLIED	POUNDS CHEMICAL APPLIED	AREA TREATED	UNIT AREA	COMMODITY NAME	MTRS
2/8/2011	PIC-CLOR 60	47.9808	18.712512	0.1	A	SPINACH	M 15S 03E 12
5/15/2011	PIC-CLOR 60 EC	1771.0413	657.0563223	7.5	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 02E 12
8/8/2011	PIC-CLOR 60	4978.008	1941.42312	16.4	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
8/11/2011	PIC-CLOR 60	3922.4304	1529.747856	13	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
8/12/2011	PIC-CLOR 60	8324.6688	3246.620832	27	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 31
8/12/2011	PIC-CLOR 60 EC	14020.7436	5201.695876	61	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
8/19/2011	PIC-CLOR 60	5157.936	2011.59504	17	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 31
8/22/2011	PIC-CLOR 60	3898.44	1520.3916	13	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
8/25/2011	INLINE	3627.8883	2205.756086	13.5	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
8/29/2011	PIC-CLOR 60	7185.1248	2802.198672	23.8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
9/3/2011	PIC-CLOR 60	5061.9744	1974.170016	19.6	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 18
9/4/2011	PIC-CLOR 60	5997.6	2339.064	19.9	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 02E 12
9/4/2011	PIC-CLOR 60 EC	1889.1107	700.8600697	8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 31
9/6/2011	PIC-CLOR 60 EC	6493.8181	2409.206515	30	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 10
9/6/2011	PIC-CLOR 60	8744.5008	3410.355312	28.3	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
9/10/2011	INLINE	6772.0581	4117.411325	25.2	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/10/2011	PIC-CLOR 60 EC	1062.6248	394.2338008	4.6	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 30
9/13/2011	INLINE	3601.015	2189.41712	13.4	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/13/2011	INLINE	3601.015	2189.41712	13.4	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/13/2011	INLINE	1478.0286	898.6413888	5.5	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/13/2011	INLINE	1478.0286	898.6413888	5.5	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/14/2011	PIC-CLOR 60	2782.8864	1085.325696	7.6	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 02E 12
9/15/2011	PIC-CLOR 60 EC	16529.7188	6132.525675	61.5	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
9/16/2011	INLINE	5374.6493	3267.786774	20	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/16/2011	INLINE	4030.987	2450.840096	15	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/16/2011	INLINE	3224.7896	1960.672077	12	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03

9/16/2011	INLINE	4030.987	2450.840096	15	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/16/2011	INLINE	3224.7896	1960.672077	12	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/16/2011	INLINE	3789.1277	2303.789642	14.1	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/16/2011	INLINE	3627.8883	2205.756086	13.5	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/17/2011	INLINE	2149.8597	1307.114698	8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/17/2011	PIC-CLOR 60 EC	9445.5536	3504.300386	39	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 10
9/17/2011	INLINE	2149.8597	1307.114698	8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/19/2011	INLINE	9405.6362	5718.62681	35	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 08
9/19/2011	PIC-CLOR 60 EC	29812.5286	11060.44811	126.2	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 14
9/20/2011	PIC-CLOR 60	5145.9408	2006.916912	14.6	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 36
9/21/2011	PIC-CLOR 60 EC	3187.8743	1182.701365	13.5	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 08
9/22/2011	INLINE	3244.9445	1972.926256	12.6	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 09
9/22/2011	INLINE	4030.987	2450.840096	15	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/22/2011	INLINE	4870.7759	2961.431747	15	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/22/2011	INLINE	3244.9445	1972.926256	12.6	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 09
9/23/2011	INLINE	6315.2129	3839.649443	23.5	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/24/2011	INLINE	3224.7896	1960.672077	12	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/24/2011	INLINE	1776.9934	1080.411987	6.9	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 09
9/24/2011	PIC-CLOR 60	911.6352	355.537728	3.1	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 18
9/24/2011	INLINE	3224.7896	1960.672077	12	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/28/2011	INLINE	4841.6632	2943.731226	18.8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 09
9/28/2011	PIC-CLOR 60	14922.0288	5819.591232	46.3	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 05
9/28/2011	INLINE	4299.7194	2614.229395	16	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/28/2011	PIC-CLOR 60	3370.6512	1314.553968	9.4	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 15
9/29/2011	INLINE	3224.7896	1960.672077	12	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/29/2011	INLINE	3224.7896	1960.672077	12	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/30/2011	INLINE	3224.7896	1960.672077	12	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
10/1/2011	PIC-CLOR 60 EC	1062.6248	394.2338008	4.5	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 30
10/1/2011	PIC-CLOR 60 EC	22433.1898	8322.713416	95	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 30
10/2/2011	PIC-CLOR 60 EC	12102.1156	4489.884888	50.4	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 09

10/3/2011	INLINE	3224.7896	1960.672077	12	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
10/3/2011	INLINE	3224.7896	1960.672077	12	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
10/3/2011	INLINE	4841.6632	2943.731226	18.8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 09
10/3/2011	PIC-CLOR 60 EC	2030.794	753.424574	8.7	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 08
10/6/2011	INLINE	10480.5661	6372.184189	40	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 05
10/7/2011	INLINE	10480.5661	6372.184189	39	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 05
10/7/2011	INLINE	14267.4544	8674.612275	55.4	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 05
10/8/2011	INLINE	7443.8893	4525.884694	27.7	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 11
10/9/2011	PIC-CLOR 60 EC	3471.2409	1287.830374	14.7	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 02E 36
10/9/2011	PIC-CLOR 60 EC	3660.152	1357.916392	15.5	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 17
10/9/2011	PIC-CLOR 60 EC	14026.6471	5203.886074	59.2	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
10/11/2011	PIC-CLOR 60 EC	3801.8353	1410.480896	16.1	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 08
10/12/2011	INLINE	7443.8893	4525.884694	27.7	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 11
10/12/2011	PIC-CLOR 60	4606.1568	1796.401152	12.8	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 18
10/13/2011	INLINE	6557.0721	3986.699837	24.4	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
10/14/2011	PIC-CLOR 60 EC	12544.8759	4654.148959	53.1	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 14
10/14/2011	PIC-CLOR 60 EC	4575.19	1697.39549	19	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 02E 12
10/15/2011	INLINE	12039.2144	7319.842355	44.8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 08
10/15/2011	INLINE	3224.7896	1960.672077	12	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
10/15/2011	PIC-CLOR 60 EC	2361.3884	876.0750964	10.7	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
10/15/2011	PIC-CLOR 60	8060.7744	3143.702016	22.7	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 15
10/15/2011	INLINE	10104.3406	6143.439085	37.6	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 08
10/16/2011	PIC-CLOR 60 EC	9044.1176	3355.36763	42.4	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 06
10/19/2011	PIC-CLOR 60	7544.9808	2942.542512	25.1	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 06
10/20/2011	PIC-CLOR 60	1991.2032	776.569248	6.6	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 16
10/21/2011	PIC-CLOR 60	2770.8912	1080.647568	7.7	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 23
10/21/2011	INLINE	14267.4544	8674.612275	55.4	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 05
10/22/2011	INLINE	6879.5511	4182.767069	25.6	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 18
10/22/2011	PIC-CLOR 60 EC	10236.6187	3797.785538	43.1	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 08
10/23/2011	PIC-CLOR 60 EC	15939.3717	5913.506901	56	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 06

10/23/2011	PIC-CLOR 60	10255.896	3999.79944	28.2	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 11
10/25/2011	PIC-CLOR 60	17033.184	6642.94176	58.4	A	SPINACH	M 15S 02E 12
10/26/2011	PIC-CLOR 60 EC	7969.6859	2956.753469	34.2	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 02E 12
10/26/2011	PIC-CLOR 60 EC	3282.3299	1217.744393	13.8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 02E 36
10/27/2011	PIC-CLOR 60 EC	1416.833	525.645043	6	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 06
10/28/2011	PIC-CLOR 60	7245.1008	2825.589312	20	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 18
10/29/2011	INLINE	13082.7921	7954.337597	50.8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 13
10/29/2011	PIC-CLOR 60 EC	9652.1751	3580.956962	35.6	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
10/29/2011	INLINE	7133.7272	4337.306138	27.7	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 13
10/30/2011	PIC-CLOR 60 EC	14463.504	5365.959984	61	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 30
10/31/2011	INLINE	13082.7921	7954.337597	50.8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 13
11/1/2011	PIC-CLOR 60 EC	3943.5186	1463.045401	16.7	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 08
11/2/2011	PIC-CLOR 60 EC	4321.3408	1603.217437	18.2	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 06
11/2/2011	INLINE	9797.5378	5956.902982	35	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 30
11/5/2011	INLINE	14136.4473	8594.959958	50	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
11/8/2011	INLINE	14136.4473	8594.959958	50.5	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
11/8/2011	PIC-CLOR 60 EC	1475.8678	547.5469538	6.5	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 16
11/10/2011	PIC-CLOR 60 EC	6936.5784	2573.470586	29	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 30
11/14/2011	PIC-CLOR 60 EC	24794.5782	9198.788512	105.7	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 31
5/2/2012	PIC-CLOR 60	59.976	23.39064	0.1	A	SPINACH	M 15S 03E 01
6/18/2012	PIC-CLOR 60	9068.3712	3536.664768	25.2	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 31
6/24/2012	PIC-CLOR 60	9884.0448	3854.777472	27.4	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
7/4/2012	PIC-CLOR 60	22958.8128	8953.936992	62.5	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
7/18/2012	PIC-CLOR 60	14778.0864	5763.453696	40.3	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 31
7/28/2012	PIC-CLOR 60	8372.6496	3265.333344	21.7	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 31
7/29/2012	PIC-CLOR 60	7353.0576	2867.692464	20.5	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 31
8/18/2012	PIC-CLOR 60	6477.408	2526.18912	16.8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 08
8/19/2012	PIC-CLOR 60	4162.3344	1623.310416	10.5	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 02
8/19/2012	PIC-CLOR 60	19576.1664	7634.704896	54	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 31
8/20/2012	PIC-CLOR 60	4054.3776	1581.207264	10.5	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 05

8/21/2012	PIC-CLOR 60	4318.272	1684.12608	11.1	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 05
8/23/2012	PIC-CLOR 60	2824.8696	1101.699144	7.35	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 08
8/23/2012	PIC-CLOR 60	2824.8696	1101.699144	7.35	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 08
8/24/2012	PIC-CLOR 60	5181.9264	2020.951296	13.1	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 08
8/25/2012	PIC-CLOR 60	5337.864	2081.76696	13.4	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 36
8/26/2012	PIC-CLOR 60	4750.0992	1852.538688	12	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 17
8/27/2012	PIC-CLOR 60	4846.0608	1889.963712	12.1	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 17
8/28/2012	PIC-CLOR 60	8876.448	3461.81472	23	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 08
8/28/2012	PIC-CLOR 60	8036.784	3134.34576	20.2	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 31
8/31/2012	PIC-CLOR 60	3838.464	1497.00096	10	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 08
9/1/2012	PIC-CLOR 60	11239.5024	4383.405936	29.1	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 08
9/2/2012	PIC-CLOR 60	3466.6128	1351.978992	8.76	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 06
9/2/2012	PIC-CLOR 60	10375.848	4046.58072	24	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 08
9/3/2012	PIC-CLOR 60	10771.6896	4200.958944	26.3	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 02
9/3/2012	PIC-CLOR 60 EC	16972.4791	6296.789746	72.3	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 19
9/4/2012	PIC-CLOR 60	4006.3968	1562.494752	10.1	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 02E 25
9/4/2012	PIC-CLOR 60	9512.1936	3709.755504	24	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 08
9/4/2012	INLINE	4455.3603	2708.859062	17.3	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 02
9/5/2012	INLINE	6158.4523	3744.338998	23.8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 02
9/6/2012	PIC-CLOR 60 EC	3542.0826	1314.112645	15	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 16
9/8/2012	PIC-CLOR 60	7544.9808	2942.542512	18.9	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 26
9/9/12	PIC-CLOR 60	6483.4056	2528.528184	15.3	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 16
9/11/12	PIC-CLOR 60	5421.8304	2114.513856	13.7	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
9/13/12	PIC-CLOR 60	11911.2336	4645.381104	29.8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 15
9/13/12	PIC-CLOR 60	10915.632	4257.09648	27.3	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 01
9/14/12	PIC-CLOR 60	5829.6672	2273.570208	14.7	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 02E 25
9/14/12	INLINE	6158.4523	3744.338998	23.9	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 02
9/14/12	INLINE	6270.4242	3812.417914	23.3	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/15/12	PIC-CLOR 60	21147.5376	8247.539664	53	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 15
9/15/12	INLINE	8061.9739	4901.680131	30	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03

9/16/12	PIC-CLOR 60	5877.648	2292.28272	14.8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 02E 25
9/17/12	PIC-CLOR 60	32063.1696	12504.63614	81	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 32
9/17/12	INLINE	8303.8331	5048.730525	30.9	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 02
9/18/12	PIC-CLOR 60	4750.0992	1852.538688	15	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 02
9/18/12	PIC-CLOR 60	10339.8624	4032.546336	29.1	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 10
9/18/12	PIC-CLOR 60	5661.7344	2208.076416	14	A	BLACKBERRY	M 14S 03E 10
9/19/12	PIC-CLOR 60 EC	3542.0826	1314.112645	15	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 16
9/20/12	PIC-CLOR 60 EC	9150.3801	3394.791017	39.2	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 15
9/20/12	PIC-CLOR 60	5805.6768	2264.213952	14.4	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 02E 25
9/21/12	INLINE	4568.4519	2777.618755	17	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/21/12	INLINE	4568.4519	2777.618755	17	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/21/12	INLINE	4568.4519	2777.618755	17	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/24/12	INLINE	5938.9875	3610.9044	22.1	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 11
9/24/12	PIC-CLOR 60 EC	11511.7685	4270.866114	50	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 02
9/24/12	PIC-CLOR 60	9872.0496	3850.099344	24.9	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 15
9/25/12	INLINE	4568.4519	2777.618755	18	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/25/12	PIC-CLOR 60 EC	3542.0826	1314.112645	15.2	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 19
9/25/12	INLINE	4837.1844	2941.008115	18	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/26/12	PIC-CLOR 60	8912.4336	3475.849104	22	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
9/27/12	PIC-CLOR 60	12355.056	4818.47184	30.8	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 15
9/27/12	INLINE	4837.1844	2941.008115	18	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/27/12	INLINE	4514.7054	2744.940883	16.8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/28/12	PIC-CLOR 60	4606.1568	1796.401152	11.4	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 05
9/29/12	PIC-CLOR 60 EC	2066.2149	766.5657279	7	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 31
9/30/12	PIC-CLOR 60	6429.4272	2507.476608	16.1	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 06
9/30/12	PIC-CLOR 60 EC	10035.9007	3723.31916	45	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 24
9/30/12	PIC-CLOR 60	7952.8176	3101.598864	19.85	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 18
10/1/12	INLINE	5589.6353	3398.498262	20.8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
10/2/12	PIC-CLOR 60 EC	6021.5404	2233.991488	25.5	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
10/2/12	PIC-CLOR 60	8060.7744	3143.702016	19.3	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 18

10/2/12	PIC-CLOR 60	11503.3968	4486.324752	29	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 32
10/3/12	PIC-CLOR 60	9932.0256	3873.489984	25	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 06
10/3/12	PIC-CLOR 60 EC	3542.0826	1314.112645	15	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 16
10/4/12	PIC-CLOR 60	10243.9008	3995.121312	26	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
10/4/12	INLINE	5464.8986	3322.658349	21.22	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 13
10/5/12	PIC-CLOR 60	27912.8304	10886.00386	73.4	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 20
10/6/12	PIC-CLOR 60 EC	2243.319	832.271349	9.5	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
10/6/12	INLINE	5464.8986	3322.658349	21.22	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 13
10/6/12	PIC-CLOR 60	4666.1328	1819.791792	11.9	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 05
10/7/12	PIC-CLOR 60	5901.6384	2301.638976	14.9	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 26
10/7/12	PIC-CLOR 60 EC	2479.4578	919.8788438	10.5	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
10/7/12	PIC-CLOR 60	10123.9488	3948.340032	25.6	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 18
10/8/12	PIC-CLOR 60	11047.5792	4308.555888	27.6	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 02
10/8/12	INLINE	5588.5155	3397.817424	21.7	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 02
10/9/12	PIC-CLOR 60 EC	9445.5536	3504.300386	40.2	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 24
10/9/12	PIC-CLOR 60	10423.8288	4065.293232	26.8	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 06
10/9/12	INLINE	4790.1562	2912.41497	18.6	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 02
10/10/12	PIC-CLOR 60	7125.1488	2778.808032	18	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 06
10/10/12	PIC-CLOR 60	16745.2992	6530.666688	45.6	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 16
10/10/12	PIC-CLOR 60	6669.3312	2601.039168	16.7	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 02
10/11/12	PIC-CLOR 60	8600.5584	3354.217776	21.5	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 06
10/11/12	PIC-CLOR 60 EC	6641.4049	2463.961218	27.89	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 07
10/12/12	INLINE	10749.2986	6535.573549	40	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 05
10/12/12	INLINE	10749.2986	6535.573549	40	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 05
10/12/12	PIC-CLOR 60	17788.8816	6937.663824	48.4	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 16
10/12/12	PIC-CLOR 60 EC	4250.4991	1576.935166	18	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 06
10/14/12	PIC-CLOR 60	6009.5952	2343.742128	15	A	RASPBERRY (ALL OR UNSPEC)	M 15S 04E 18
10/15/12	PIC-CLOR 60 EC	10803.3519	4008.043555	45	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 06
10/16/12	INLINE	11125.524	6764.318592	43.2	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 13
10/17/12	INLINE	1693.0145	1029.352816	6.3	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 05

10/17/12	PIC-CLOR 60	12582.9648	4907.356272	34.9	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 15
10/20/12	INLINE	806.1974	490.1680192	3	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 05
10/20/12	PIC-CLOR 60	9056.376	3531.98664	22.6	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 14
10/20/12	PIC-CLOR 60 EC	10626.2478	3942.337934	46	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 06
10/20/12	INLINE	6718.3116	4084.733453	25	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 05
10/21/12	PIC-CLOR 60	7640.9424	2979.967536	19.4	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 06
10/24/12	INLINE	806.1974	490.1680192	3	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 05
10/24/12	PIC-CLOR 60 EC	11806.942	4380.375482	50.5	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 08
10/24/12	PIC-CLOR 60 EC	24322.3005	9023.573486	103	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 07
10/26/12	PIC-CLOR 60 EC	4486.638	1664.542698	21	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 30
10/29/12	INLINE	2369.3246	1440.549357	9.2	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 13
10/29/12	INLINE	2369.3246	1440.549357	9.2	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 13
10/31/12	PIC-CLOR 60 EC	3158.357	1171.750447	13.4	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 06
10/31/12	PIC-CLOR 60 EC	5100.5989	1892.322192	21.6	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 16
11/2/12	INLINE	772.6058	469.7443264	3	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 13
11/3/12	INLINE	772.6058	469.7443264	3	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 13
11/5/12	PIC-CLOR 60 EC	4037.9742	1498.088428	17.1	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 13
11/5/12	PIC-CLOR 60 EC	4805.4254	1782.812823	20.35	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 13
11/7/12	PIC-CLOR 60 EC	5313.1239	1971.168967	22.5	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 13
4/18/13	PIC-CLOR 60 EC	2066.2149	766.5657279	9	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 07
6/11/13	PIC-CLOR 60	10171.9296	3967.052544	26	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
6/22/13	PIC-CLOR 60	44034.3792	17173.40789	110.1	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
7/7/13	PIC-CLOR 60	24686.1216	9627.587424	61.8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
7/20/13	PIC-CLOR 60	27181.1232	10600.63805	68.4	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
8/1/13	PIC-CLOR 60	11407.4352	4448.899728	28.7	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 30
8/4/13	PIC-CLOR 60	5697.72	2222.1108	15.7	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 08
8/4/13	PIC-CLOR 60	18832.464	7344.66096	47.1	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 30
8/8/13	PIC-CLOR 60	5169.9312	2016.273168	11.9	A	LETTUCE, LEAF (ALL OR UNSPEC)	M 14S 03E 16
8/17/13	PIC-CLOR 60	9920.0304	3868.811856	25.7	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 12
8/18/13	PIC-CLOR 60	8444.6208	3293.402112	21.7	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 12

8/22/13	PIC-CLOR 60	10195.92	3976.4088	25.7	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 12
8/23/13	PIC-CLOR 60	7940.8224	3096.920736	20.4	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 18
8/24/13	PIC-CLOR 60	6813.2736	2657.176704	18.8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
8/24/13	PIC-CLOR 60	7173.1296	2797.520544	18.4	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 10
8/25/13	PIC-CLOR 60	8636.544	3368.25216	22.1	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 30
8/25/13	PIC-CLOR 60	8636.544	3368.25216	22	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 18
8/26/13	PIC-CLOR 60	27900.8352	10881.32573	76.9	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 08
8/30/13	PIC-CLOR 60	6681.3264	2605.717296	16.8	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 12
9/5/13	PIC-CLOR 60	14171.1293	5526.740427	35.8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 08
9/5/13	PIC-CLOR 60	5937.624	2315.67336	15	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 02E 25
9/5/13	PIC-CLOR 60	10987.6032	4285.165248	35.8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 08
9/7/13	PIC-CLOR 60	7868.8512	3068.851968	19.8	A	RASPBERRY (ALL OR UNSPEC)	M 14S 03E 14
9/8/13	PIC-CLOR 60	5133.9456	2002.238784	13.4	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 26
9/9/13	PIC-CLOR 60	19624.1472	7653.417408	46.7	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 13
9/10/13	PIC-CLOR 60	6081.5664	2371.810896	15	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 02E 25
9/10/13	PIC-CLOR 60	5505.7968	2147.260752	13.1	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 30
9/10/13	INLINE	8129.157	4942.527456	33	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 14
9/11/13	PIC-CLOR 60	8036.784	3134.34576	19.2	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 15
9/12/13	PIC-CLOR 60	9596.16	3742.5024	24.5	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 12
9/13/13	PIC-CLOR 60	4354.2576	1698.160464	12	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 08
9/13/13	PIC-CLOR 60	13134.744	5122.55016	36	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 31
9/14/13	PIC-CLOR 60	8072.7696	3148.380144	22.1	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 05
9/14/13	PIC-CLOR 60	9944.0208	3878.168112	24.8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 35
9/15/13	PIC-CLOR 60	12391.0416	4832.506224	33	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 32
9/16/13	PIC-CLOR 60	5937.624	2315.67336	14	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 30
9/16/13	PIC-CLOR 60	10831.6656	4224.349584	25.8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 13
9/16/13	PIC-CLOR 60	11707.3152	4565.852928	30	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 10
9/17/13	PIC-CLOR 60	15785.6832	6156.416448	42.7	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 08
9/17/13	PIC-CLOR 60	4150.3392	1618.632288	11.2	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 32
9/17/13	INLINE	6798.9313	4133.75023	27.6	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 14

9/17/13	PIC-CLOR 60	6693.3216	2610.395424	16	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 02E 24
9/18/13	PIC-CLOR 60	4870.0512	1899.319968	13.6	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 08
9/18/13	PIC-CLOR 60 EC	2361.3884	876.0750964	8	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 09
9/19/13	PIC-CLOR 60	8348.6592	3255.977088	21.7	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 26
9/19/13	PIC-CLOR 60	5937.624	2315.67336	14	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 30
9/19/13	INLINE	5419.438	3295.018304	22	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 14
9/19/13	PIC-CLOR 60 EC	5903.471	2190.187741	26.5	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 07
9/20/13	PIC-CLOR 60	5865.6528	2287.604592	15.2	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 26
9/20/13	PIC-CLOR 60	19456.2144	7587.923616	48.5	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 01
9/21/13	PIC-CLOR 60	9620.1504	3751.858656	26.3	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
9/21/13	PIC-CLOR 60 EC	4132.4297	1533.131419	14	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 09
9/21/13	INLINE	6256.9875	3804.2484	25.4	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 14
9/22/13	PIC-CLOR 60	7892.8416	3078.208224	18.6	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 15
9/23/13	PIC-CLOR 60	19036.3824	7424.189136	45.4	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 31
9/23/13	INLINE	4286.2828	2606.059942	17.4	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 14
9/24/13	PIC-CLOR 60 EC	10626.2478	3942.337934	45.2	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/25/13	PIC-CLOR 60	1799.28	701.7192	5	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 31
9/25/13	INLINE	5715.0437	3474.74657	17.6	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 14
9/25/13	PIC-CLOR 60	14970.0096	5838.303744	37	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 32
9/26/13	PIC-CLOR 60	5961.6144	2325.029616	14.1	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 30
9/26/13	PIC-CLOR 60	8084.7648	3153.058272	19.1	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 15
9/26/13	PIC-CLOR 60	5457.816	2128.54824	13	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 08
9/27/13	INLINE	4680.4237	2845.69761	19	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 14
9/28/13	PIC-CLOR 60	5817.672	2268.89208	16.2	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
9/28/13	PIC-CLOR 60	4006.3968	1562.494752	10.5	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 26
9/28/13	PIC-CLOR 60 EC	3542.0826	1314.112645	12	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 15
9/30/13	PIC-CLOR 60	7401.0384	2886.404976	17.3	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 31
9/30/13	PIC-CLOR 60	6405.4368	2498.120352	15	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 08
10/1/13	PIC-CLOR 60 EC	9327.4842	3460.496638	39.6	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 08
10/1/13	PIC-CLOR 60	8336.664	3251.29896	21.1	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 32

10/2/13	PIC-CLOR 60	6909.2352	2694.601728	16.4	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 02E 24
10/2/13	PIC-CLOR 60	3238.704	1263.09456	8.2	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 12
10/2/13	PIC-CLOR 60	5709.7152	2226.788928	14.4	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 32
10/5/13	PIC-CLOR 60	11611.3536	4528.427904	30.7	A	RASPBERRY (ALL OR UNSPEC)	M 14S 03E 35
10/5/13	PIC-CLOR 60	10363.8528	4041.902592	28.8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
10/5/13	PIC-CLOR 60 EC	11806.942	4380.375482	50.1	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 30
10/6/13	PIC-CLOR 60 EC	1771.0413	657.0563223	6	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 09
10/6/13	PIC-CLOR 60	9176.328	3578.76792	21.6	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 13
10/9/13	INLINE	1724.3666	1048.414893	7	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 11
10/9/13	INLINE	2463.3809	1497.735587	10	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 11
10/10/13	PIC-CLOR 60	5697.72	2222.1108	14.3	A	RASPBERRY (ALL OR UNSPEC)	M 14S 03E 02
10/12/13	PIC-CLOR 60 EC	4722.7768	1752.150193	22	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
10/12/13	PIC-CLOR 60 EC	3400.3993	1261.54814	15	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 08
10/12/13	PIC-CLOR 60	5193.9216	2025.629424	12.8	A	BLACKBERRY	M 14S 03E 10
10/13/13	PIC-CLOR 60 EC	8264.8594	3066.262837	28	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 15
10/14/13	PIC-CLOR 60 EC	4722.7768	1752.150193	16	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 09
10/14/13	PIC-CLOR 60 EC	13955.8054	5177.603803	47.3	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 20
10/15/13	PIC-CLOR 60 EC	4132.4297	1533.131419	14	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 15
10/17/13	PIC-CLOR 60 EC	1180.6942	438.0375482	4	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 06
10/19/13	PIC-CLOR 60	25465.8096	9931.665744	63.7	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 11
10/19/13	PIC-CLOR 60 EC	3683.7659	1366.677149	12.5	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 15
10/24/13	PIC-CLOR 60	9956.016	3882.84624	23.5	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 08
10/26/13	PIC-CLOR 60 EC	5136.0198	1905.463346	21.75	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 16
11/1/13	PIC-CLOR 60 EC	6375.7487	2365.402768	31.8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 13
11/4/13	PIC-CLOR 60	10122.5094	3947.778666	25	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 27
6/20/14	PIC-CLOR 60	8612.5536	3358.895904	23.7	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 30
7/5/14	TELONE II	2884.1459	2812.042253	12.9	A	CHINESE CABBAGE (NAPPA, WON BOK, CELERY CABBAGE)	M 15S 04E 18
7/5/14	PIC-CLOR 60	22239.1008	8673.249312	61.4	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
7/12/14	PIC-CLOR 60	7580.9664	2956.576896	21.1	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 30
7/20/14	PIC-CLOR 60	7209.1152	2811.554928	19.9	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 30

7/29/14	PIC-CLOR 60	20547.7776	8013.633264	56.3	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 30
8/9/14	PIC-CLOR 60	7017.192	2736.70488	19.5	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
8/14/14	PIC-CLOR 60	8780.4864	3424.389696	22.8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
8/16/14	PIC-CLOR 60	9128.3472	3560.055408	21.8	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 18
8/19/14	PIC-CLOR 60	7389.0432	2881.726848	17.9	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 18
8/26/14	PIC-CLOR 60	3454.6176	1347.300864	8.2	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 26
8/28/14	PIC-CLOR 60	10027.9872	3910.915008	25.9	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
8/28/14	PIC-CLOR 60	8828.4672	3443.102208	22	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 08
8/29/14	PIC-CLOR 60	5301.8784	2067.732576	13.3	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 18
8/30/14	PIC-CLOR 60	6561.3744	2558.936016	15.6	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 26
8/30/14	PIC-CLOR 60	8792.4816	3429.067824	20.9	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 07
8/31/14	PIC-CLOR 60	12415.032	4841.86248	31.2	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 08
9/2/14	PIC-CLOR 60	8756.496	3415.03344	20.7	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 02E 01
9/2/14	PIC-CLOR 60	5517.792	2151.93888	11.3	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 30
9/3/14	PIC-CLOR 60	10627.7472	4144.821408	25	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 14
9/5/14	PIC-CLOR 60	9872.0496	3850.099344	25.5	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
9/6/14	PIC-CLOR 60	10387.8432	4051.258848	26.8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
9/7/14	PIC-CLOR 60	9800.0784	3822.030576	27.3	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 25
9/8/14	PIC-CLOR 60	4510.1952	1758.976128	11.1	A	RASPBERRY (ALL OR UNSPEC)	M 14S 03E 35
9/9/14	PIC-CLOR 60	6030.2269	2351.788491	12.5	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 30
9/11/14	PIC-CLOR 60	7652.9376	2984.645664	18.1	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 07
9/11/14	PIC-CLOR 60	4037.5843	1574.657877	10.2	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 26
9/11/14	PIC-CLOR 60	5017.2323	1956.720597	10.4	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 30
9/13/14	PIC-CLOR 60	6261.4944	2441.982816	13	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 30
9/15/14	PIC-CLOR 60	7916.832	3087.56448	20	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 32
9/15/14	PIC-CLOR 60	7676.928	2994.00192	18.2	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 18
9/16/14	PIC-CLOR 60	11131.5456	4341.302784	26.4	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 02E 01
9/16/14	PIC-CLOR 60	7916.832	3087.56448	20	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 31
9/16/14	PIC-CLOR 60	8540.5824	3330.827136	21.5	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 08
9/17/14	PIC-CLOR 60	15149.9376	5908.475664	35.8	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 09

9/17/14	PIC-CLOR 60	9956.016	3882.84624	23.7	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 18
9/18/14	PIC-CLOR 60	3166.7328	1235.025792	8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 24
9/18/14	PIC-CLOR 60	5457.816	2128.54824	13	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 26
9/19/14	PIC-CLOR 60	11935.224	4654.73736	21	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 31
9/19/14	PIC-CLOR 60	12403.0368	4837.184352	31.4	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 10
9/19/14	PIC-CLOR 60	9848.0592	3840.743088	24.9	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 14
9/19/14	PIC-CLOR 60	2518.992	982.40688	6	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 26
9/20/14	PIC-CLOR 60 EC	5480.7825	2033.370308	21.1	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/20/14	PIC-CLOR 60	3166.7328	1235.025792	8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 24
9/20/14	PIC-CLOR 60	1919.232	748.50048	4	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 15
9/20/14	PIC-CLOR 60	8204.7168	3199.839552	17.1	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 15
9/20/14	PIC-CLOR 60	4738.104	1847.86056	12.9	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 30
9/21/14	PIC-CLOR 60	9812.0736	3826.708704	24.7	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 32
9/21/14	PIC-CLOR 60	7652.9376	2984.645664	18	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 09
9/21/14	PIC-CLOR 60	4390.2432	1712.194848	10.4	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 15
9/22/14	PIC-CLOR 60	10291.8816	4013.833824	24.3	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 10
9/22/14	PIC-CLOR 60	3358.656	1309.87584	8	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 24
9/23/14	PIC-CLOR 60	4834.0656	1885.285584	12	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 02E 36
9/23/14	PIC-CLOR 60	12666.9312	4940.103168	34.9	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 08
9/24/14	PIC-CLOR 60 EC	8571.8399	3180.152603	33	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
9/24/14	PIC-CLOR 60	6945.2208	2708.636112	16.4	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 32
9/24/14	PIC-CLOR 60	4198.32	1637.3448	10	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 15
9/24/14	PIC-CLOR 60	10397.7992	4055.141688	21.9	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 15
9/25/14	PIC-CLOR 60	949.54	370.3206	2	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 15
9/25/14	PIC-CLOR 60	8492.6016	3312.114624	17.7	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 02E 25
9/26/14	PIC-CLOR 60	5625.7488	2194.042032	13.2	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 15
9/26/14	PIC-CLOR 60	4870.0512	1899.319968	12.2	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 02E 36
9/27/14	PIC-CLOR 60	10831.6656	4224.349584	25.8	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 26
9/27/14	PIC-CLOR 60	6321.4704	2465.373456	16	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 35
9/28/14	PIC-CLOR 60	8540.5824	3330.827136	21.4	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 32

9/28/14	PIC-CLOR 60	599.76	233.9064	1.5	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 35
9/28/14	PIC-CLOR 60	2123.1504	828.028656	5	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 12
9/30/14	PIC-CLOR 60	2770.8912	1080.647568	7	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 08
9/30/14	PIC-CLOR 60	9020.3904	3517.952256	22.9	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 06
10/1/14	PIC-CLOR 60 EC	5283.6065	1960.218012	17.9	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 07
10/1/14	PIC-CLOR 60 EC	8884.7239	3296.232567	30.1	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 07
10/1/14	PIC-CLOR 60	1439.424	561.37536	3.6	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 08
10/1/14	PIC-CLOR 60	8768.4912	3419.711568	22.1	A	RASPBERRY (ALL OR UNSPEC)	M 14S 03E 35
10/2/14	PIC-CLOR 60	6549.3792	2554.257888	16.4	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 06
10/2/14	PIC-CLOR 60 EC	8194.0177	3039.980567	34.7	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 30
10/3/14	PIC-CLOR 60	2255.0976	879.488064	5.5	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 06
10/3/14	PIC-CLOR 60 EC	8825.6891	3274.330656	29.9	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 07
10/3/14	PIC-CLOR 60 EC	4693.2594	1741.199237	15.9	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 07
10/3/14	PIC-CLOR 60	11455.416	4467.61224	27	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 10
10/3/14	PIC-CLOR 60	8421.2302	3284.279778	20	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 18
10/4/14	PIC-CLOR 60	10621.7496	4142.482344	25.3	A	LETTUCE, LEAF (ALL OR UNSPEC)	M 15S 03E 15
10/4/14	PIC-CLOR 60	15353.856	5988.00384	40	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 03
10/4/14	PIC-CLOR 60 EC	8005.1067	2969.894586	33.9	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 30
10/5/14	PIC-CLOR 60	3443.8219	1343.090541	17	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 15
10/5/14	PIC-CLOR 60	15353.856	5988.00384	40	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 03
10/5/14	PIC-CLOR 60	8000.7984	3120.311376	17.2	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 02E 25
10/6/14	PIC-CLOR 60	5757.696	2245.50144	15	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 03
10/6/14	PIC-CLOR 60 EC	1948.1454	722.7619434	6.6	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 07
10/6/14	PIC-CLOR 60 EC	8099.5622	3004.937576	34.3	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 30
10/6/14	PIC-CLOR 60	9979.2867	3891.921813	23.7	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 18
10/8/14	PIC-CLOR 60 EC	5454.8072	2023.733471	21	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 03
10/8/14	PIC-CLOR 60	5529.7872	2156.617008	13	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 32
10/10/14	PIC-CLOR 60	3838.464	1497.00096	10	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 03
10/10/14	PIC-CLOR 60	1667.3328	650.259792	4	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 18
10/11/14	PIC-CLOR 60	16193.52	6315.4728	38.3	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 14

10/11/14	PIC-CLOR 60	8866.8518	3458.072202	22.4	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 06
10/12/14	PIC-CLOR 60	6491.8022	2531.802858	16.4	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 06
10/13/14	PIC-CLOR 60	7077.168	2760.09552	17.6	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 06
10/13/14	PIC-CLOR 60	6477.408	2526.18912	13.4	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 30
10/14/14	PIC-CLOR 60 EC	5076.9851	1883.561472	21.5	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 06
10/16/14	PIC-CLOR 60 EC	5407.5794	2006.211957	22.9	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 06
10/17/14	PIC-CLOR 60	5889.6432	2296.960848	14.9	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 04E 32
10/18/14	PIC-CLOR 60 EC	5265.8961	1953.647453	22.3	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 06
10/18/14	PIC-CLOR 60	9944.0208	3878.168112	25	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 06
10/20/14	PIC-CLOR 60 EC	10567.2131	3920.43606	37.3	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 03E 07
10/22/14	PIC-CLOR 60 EC	5336.7378	1979.929724	22.6	A	STRAWBERRY (ALL OR UNSPEC)	M 14S 03E 14
10/24/14	PIC-CLOR 60 EC	9209.4148	3416.692891	39	A	STRAWBERRY (ALL OR UNSPEC)	M 15S 04E 16
11/8/14	PIC-CLOR 60	4270.2912	1665.413568	10.8	A	RASPBERRY (ALL OR UNSPEC)	M 14S 03E 14
11/15/14	PIC-CLOR 60	1079.568	421.03152	2.7	A	RASPBERRY (ALL OR UNSPEC)	M 14S 03E 14
11/17/14	PIC-CLOR 60	3334.6656	1300.519584	8.1	A	BLACKBERRY	M 14S 03E 02

DATE	PRODUCT NAME	POUNDS PRODUCT APPLIED	POUNDS CHEMICAL APPLIED	AREA TREATED	UNIT AREA	COMMODITY NAME	MTRS
3/1/2011	TELONE II CA	9187.8299	8958.134153	27	A	GRAPES, WINE	M 27S 25E 28
3/4/2011	TELONE II CA	8360.9353	8151.911918	24.57	A	GRAPES, WINE	M 27S 25E 28
3/18/2011	TELONE II CA	3564.462	3475.35045	29	A	GRAPES, WINE	M 27S 25E 28
4/4/2011	TELONE II CA	3322.119	3239.066025	27	A	GRAPES, WINE	M 27S 25E 28
5/20/2011	TELONE II CA	4129.929	4026.680775	16	A	GRAPES, WINE	M 27S 24E 24
10/12/2011	TELONE II CA	15379.7043	14995.21169	45.2	A	ALMOND	M 27S 26E 19
10/14/2011	TELONE II CA	15413.7333	15028.38997	45.3	A	ALMOND	M 27S 26E 19
10/15/2011	TELONE II CA	15413.7333	15028.38997	45.3	A	ALMOND	M 27S 26E 19
10/16/2011	TELONE II CA	395.4634	385.576815	2.45	A	ALMOND	M 27S 26E 19

10/16/2011	TELONE II CA	605.3022	590.169645	3.75	A	ALMOND	M 27S 26E 19
10/16/2011	TELONE II CA	605.3022	590.169645	3.75	A	ALMOND	M 27S 26E 19
10/16/2011	TELONE II CA	605.3022	590.169645	3.75	A	ALMOND	M 27S 26E 19
10/16/2011	TELONE II CA	11500.7517	11213.23291	33.8	A	ALMOND	M 27S 26E 19
10/16/2011	TELONE II CA	1669.3698	1627.635555	20.4	A	POTATO (WHITE, IRISH, RED, RUSSET)	M 28S 26E 06
10/16/2011	TELONE II CA	4934.4776	4811.11566	60.3	A	POTATO (WHITE, IRISH, RED, RUSSET)	M 28S 25E 01
10/25/2011	TELONE II CA	4533.8341	4420.488248	57	A	POTATO (WHITE, IRISH, RED, RUSSET)	M 28S 26E 16
10/25/2011	TELONE II CA	6462.4806	6300.918585	19	A	GRAPES, WINE	M 27S 25E 28
11/16/2011	TELONE II CA	2340.6297	2282.113958	19	A	GRAPES, WINE	M 27S 25E 28
11/30/2011	TELONE II CA	8330.5415	8122.277963	25	A	GRAPES, WINE	M 27S 24E 25
11/30/2011	TELONE II CA	8330.5415	8122.277963	50	A	GRAPES, WINE	M 27S 24E 25
2/28/2012	TELONE II CA	15299.418	14916.93255	44.96	A	ALMOND	M 28S 26E 04
3/2/2012	TELONE II CA	11569.8599	11280.6134	34	A	GRAPES, WINE	M 27S 25E 28
3/27/2012	TELONE II CA	3879.5079	3782.520203	34	A	GRAPES, WINE	M 27S 25E 28
4/2/2012	TELONE II CA	12931.0199	12607.7444	38	A	UNCULTIVATED AGRICULTURAL AREAS (ALL OR UNSPEC)	M 27S 25E 28
4/24/2012	TELONE II CA	4335.9206	4227.522585	38	A	UNCULTIVATED AGRICULTURAL AREAS (ALL OR UNSPEC)	M 27S 25E 28
7/21/2012	TELONE II CA	9693.721	9451.377975	80	A	CARROTS, GENERAL	M 29S 26E 06
7/31/2012	TELONE II	7418.698	7233.23055	27.6	A	ALMOND	M 29S 25E 04
7/31/2012	TELONE II CA	23931.3736	23333.08926	79	A	ALMOND	M 29S 25E 04
8/10/2012	TELONE II CA	8784.9346	8565.311235	72.5	A	CARROTS, GENERAL	M 28S 25E 08
10/11/2012	TELONE II	1504.0648	1466.46318	18.5	A	POTATO (WHITE, IRISH, RED, RUSSET)	M 28S 25E 01
10/13/2012	TELONE II	1504.0648	1466.46318	18.5	A	POTATO (WHITE, IRISH, RED, RUSSET)	M 28S 26E 06
10/14/2012	TELONE II	3343.4954	3259.908015	39.7	A	POTATO (WHITE, IRISH, RED, RUSSET)	M 28S 26E 06
10/17/2012	TELONE II	3465.4466	3378.810435	42.6	A	POTATO (WHITE, IRISH, RED, RUSSET)	M 28S 26E 17
10/18/2012	TELONE II	5447.1536	5310.97476	66.9	A	POTATO (WHITE, IRISH, RED, RUSSET)	M 28S 26E 17
11/24/2012	TELONE II	9745.9334	9502.285065	73	A	CARROTS, GENERAL	M 28S 25E 13
12/7/2012	TELONE II	7916.6654	7718.748765	26	A	ALMOND	M 28S 25E 08
1/7/2013	TELONE II	5487.804	5350.6089	20	A	ALMOND	M 27S 24E 35
1/11/2013	TELONE II	9837.3968	9591.46188	28.7	A	GRAPES, WINE	M 27S 25E 28
1/18/2013	TELONE II	7534.5516	7346.18781	22	A	ALMOND	M 27S 25E 31

1/19/2013	TELONE II	304.878	297.25605	1	A	CHERRY	M 28S 25E 04
2/14/2013	TELONE II	3678.8612	3586.88967	29.4	A	GRAPES, WINE	M 27S 25E 28
2/27/2013	TELONE II	9715.4456	9472.55946	29	A	GRAPES	M 28S 25E 17
7/14/2013	TELONE II	7845.5272	7649.38902	64.3	A	CARROTS, GENERAL	M 28S 25E 03
7/31/2013	TELONE II SOIL FUMIGANT	4347.7685	4086.90239	36	A	CARROTS, GENERAL	M 28S 25E 07
7/31/2013	TELONE II	4380.0806	4270.578585	36	A	CARROTS, GENERAL	M 28S 25E 07
9/24/2013	TELONE II	9115.8522	8887.955895	27	A	GRAPES	M 27S 25E 33
10/14/2013	TELONE II	2916.6662	2843.749545	35.9	A	POTATO (WHITE, IRISH, RED, RUSSET)	M 28S 26E 06
10/14/2013	TELONE II	2916.6662	2843.749545	36	A	POTATO (WHITE, IRISH, RED, RUSSET)	M 28S 26E 07
11/8/2013	TELONE II	7601.6248	7411.58418	22.2	A	ALMOND	M 29S 25E 01
11/29/2013	TELONE II	7740.0394	7546.538415	22.6	A	GRAPES, WINE	M 28S 25E 03
12/5/2013	TELONE II	1717.4794	1674.542415	5.02	A	GRAPES, WINE	M 28S 25E 03
12/13/2013	TELONE II	3495.9344	3408.53604	42	A	POTATO (WHITE, IRISH, RED, RUSSET)	M 28S 25E 19
12/23/2013	TELONE II	3533.536	3445.1976	28.5	A	GRAPES, WINE	M 28S 25E 03
12/24/2013	TELONE II	8561.9905	8347.940738	25	A	GRAPES	M 27S 25E 33
12/27/2013	TELONE II	6164.6332	6010.51737	18	A	ALMOND	M 28S 25E 06
1/25/2014	TELONE II	3099.593	3022.103175	25	A	GRAPES	M 27S 25E 33
3/21/2014	TELONE II	9207.3156	8977.13271	74	A	CARROTS, GENERAL	M 28S 25E 13
4/2/2014	TELONE II	6361.7876	6202.74291	18.6	A	GRAPES	M 27S 25E 28
4/24/2014	TELONE II	2337.398	2278.96305	18.8	A	GRAPES	M 27S 25E 28
8/15/2014	TELONE II	11890.242	11592.98595	34.7	A	GRAPES, WINE	M 27S 25E 28
8/25/2014	TELONE II	9715.4456	9472.55946	28.4	A	GRAPES, WINE	M 27S 25E 28
9/5/2014	TELONE II	4329.2676	4221.03591	34.8	A	GRAPES, WINE	M 27S 25E 28
9/26/2014	TELONE II	9806.909	9561.736275	29.15	A	ALMOND	M 29S 26E 06
10/23/2014	TELONE II	12240.8517	11934.83041	36.5	A	ALMOND	M 28S 25E 20
10/31/2014	TELONE II	8384.145	8174.541375	25	A	ALMOND	M 28S 26E 04
10/31/2014	TELONE II	11778.4534	11483.99207	35.1	A	ALMOND	M 28S 26E 09
11/17/2014	TELONE II	5121.9504	4993.90164	63	A	POTATO (WHITE, IRISH, RED, RUSSET)	M 28S 26E 06
11/19/2014	TELONE II	3252.032	3170.7312	9.6	A	ALMOND	M 27S 25E 32
11/19/2014	TELONE II	5833.3324	5687.49909	70.2	A	POTATO (WHITE, IRISH, RED, RUSSET)	M 28S 26E 17

11/25/2014	TELONE II	6445.1209	6283.992878	21.14	A	ALMOND	M 28S 25E 32

DATE	PRODUCT NAME	POUNDS PRODUCT APPLIED	POUNDS CHEMICAL APPLIED	AREA TREATED	UNIT AREA	COMMODITY NAME	MTRS
4/7/2011	TELONE II CA	8350.7367	8141.968283	24.6	A	ALMOND	M 02S 07E 16
4/9/2011	TELONE II CA	1413.6676	1378.32591	11.7	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 07E 29
4/9/2011	TELONE II CA	1958.9394	1909.965915	12	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 07E 29
4/21/2011	TELONE II CA	6058.5756	5907.11121	50	A	CARROTS, GENERAL	M 02S 07E 29
5/31/2011	TELONE II CA	5531.4795	5393.192513	16.6	A	ALMOND	M 02S 08E 06
6/3/2011	TELONE II CA	4117.509	4014.571275	12.1	A	WALNUT (ENGLISH WALNUT, PERSIAN WALNUT)	M 02S 08E 02
7/12/2011	TELONE II CA	5128.0794	4999.877415	15.07	A	ALMOND	M 02S 07E 16
7/21/2011	TELONE II CA	6465.5099	6303.872153	19	A	ALMOND	M 03S 08E 09
8/22/2011	TELONE II CA	6805.7999	6635.654903	20	A	ALMOND	M 03S 08E 17
8/25/2011	TELONE II CA	14348.7265	13990.00834	36	A	ALMOND	M 02S 07E 12
10/11/2011	TELONE II CA	3099.2643	3021.782693	9.31	A	ALMOND	M 02S 08E 14
10/11/2011	TELONE II	3119.2068	3041.22663	9.31	A	ALMOND	M 02S 08E 14
10/14/2011	TELONE II	1720.6298	1677.614055	5.1	A	WALNUT (ENGLISH WALNUT, PERSIAN WALNUT)	M 02S 08E 03
10/15/2011	TELONE II	2195.1216	2140.24356	6.41	A	ALMOND	M 02S 08E 10
10/17/2011	TELONE II	1138.2112	1109.75592	3.35	A	ALMOND	M 02S 07E 22
10/23/2011	TELONE II CA	7149.1192	6970.39122	21.01	A	ALMOND	M 02S 08E 14
10/27/2011	TELONE II CA	2786.9448	2717.27118	8.2	A	PEACH	M 02S 08E 16
10/27/2011	TELONE II	3260.3653	3178.856168	9.52	A	ALMOND	M 02S 08E 05
11/1/2011	TELONE II CA	9392.5088	9157.69608	36.9	A	UNCULTIVATED AGRICULTURAL AREAS (ALL OR UNSPEC)	M 02S 07E 34
11/2/2011	TELONE II CA	4889.2705	4767.038738	19.2	A	ALMOND	M 03S 07E 03
11/4/2011	TELONE C-35	5480.6402	3474.725887	10.13	A	PEACH	M 02S 08E 13
11/7/2011	TELONE II CA	6926.9714	6753.797115	20.5	A	ALMOND	M 02S 07E 22
11/7/2011	TELONE II CA	2403.235	2343.154125	7.1	A	ALMOND	M 02S 07E 25

11/7/2011	TELONE II CA	6926.9714	6753.797115	20.05	A	ALMOND	M 02S 07E 22
11/7/2011	TELONE II CA	2403.235	2343.154125	7.1	A	ALMOND	M 02S 07E 25
11/11/2011	TELONE II CA	6038.3803	5887.420793	17.7	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 07E 23
11/11/2011	TELONE II CA	12914.8637	12591.99211	38	A	ALMOND	M 02S 08E 15
11/15/2011	TELONE II CA	13951.8898	13603.09256	41	A	ALMOND	M 02S 07E 33
11/16/2011	TELONE II CA	4251.1005	4144.822988	12.4	A	ALMOND	M 02S 07E 17
11/16/2011	TELONE II CA	4251.1005	4144.822988	12.4	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 07E 17
11/17/2011	TELONE II CA	584.9555	570.3316125	1.72	A	WALNUT (ENGLISH WALNUT, PERSIAN WALNUT)	M 01S 08E 34
11/17/2011	TELONE II CA	5735.4516	5592.06531	16.9	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 07E 25
11/17/2011	TELONE II CA	3300.813	3218.292675	9.7	A	ALMOND	M 02S 08E 32
11/19/2011	TELONE II CA	16428.8375	16018.11656	48.4	A	ALMOND	M 02S 08E 15
11/23/2011	TELONE II CA	5684.9634	5542.839315	16.71	A	ALMOND	M 02S 07E 01
12/2/2011	TELONE II CA	3756.3169	3662.408978	11.04	A	ALMOND	M 02S 07E 28
12/5/2011	TELONE II CA	100.9763	98.4518925	0.3	A	ALMOND	M 02S 07E 01
12/5/2011	TELONE II CA	737.1267	718.6985325	2.2	A	ALMOND	M 01S 07E 36
12/29/2011	TELONE II CA	1221.8127	1191.267383	3.6	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 01S 08E 33
1/10/2012	TELONE II CA	7146.0899	6967.437653	21	A	ALMOND	M 03S 08E 09
1/24/2012	TELONE II CA	6057.1619	5905.732853	17.8	A	ALMOND	M 02S 08E 25
5/24/2012	TELONE II CA	15313.0498	14930.22356	45	A	UNCULTIVATED AGRICULTURAL AREAS (ALL OR UNSPEC)	M 03S 08E 17
6/3/2012	TELONE II CA	9996.6497	9746.733458	55	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 03S 07E 14
6/7/2012	TELONE II	3170.7312	3091.46292	9.3	A	ALMOND	M 02S 08E 06
6/14/2012	TELONE II CA	2949.3146	2875.581735	8.85	A	ALMOND	M 02S 07E 35
6/21/2012	TELONE II CA	12650.3059	12334.04825	69.6	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 03S 07E 14
7/14/2012	TELONE II CA	9087.8634	8860.666815	50	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 03S 07E 14
9/17/2012	TELONE II	958.9429	934.9693275	2.8	A	ALMOND	M 03S 08E 16
10/18/2012	TELONE II	1331.3006	1298.018085	3.7	A	ALMOND	M 03S 08E 11
10/20/2012	TELONE II	3082.3166	3005.258685	9	A	ALMOND	M 03S 08E 16
10/29/2012	TELONE II	4634.1456	4518.29196	13.5	A	WALNUT (ENGLISH WALNUT, PERSIAN WALNUT)	M 02S 08E 24
10/29/2012	TELONE C-35	4409.069	2795.349746	8.8	A	WALNUT (ENGLISH WALNUT, PERSIAN WALNUT)	M 02S 08E 24
10/30/2012	TELONE II	7073.1696	6896.34036	20.7	A	ALMOND	M 02S 08E 24

10/30/2012	TELONE II	1310.9754	1278.201015	3.85	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 08E 11
11/6/2012	TELONE II	2428.8614	2368.139865	7.1	A	ALMOND	M 02S 08E 15
11/16/2012	TELONE II	1168.699	1139.481525	3.5	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 08E 09
11/16/2012	TELONE II	6335.873	6177.476175	18.5	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 08E 10
11/17/2012	TELONE II	6097.56	5945.121	17.8	A	ALMOND	M 02S 07E 17
11/17/2012	TELONE II	2906.5036	2833.84101	8.5	A	ALMOND	M 02S 07E 23
11/20/2012	TELONE II	3556.91	3467.98725	10.4	A	ALMOND	M 02S 07E 13
11/20/2012	TELONE II	2794.715	2724.847125	8.16	A	ALMOND	M 02S 07E 12
11/20/2012	TELONE II	1971.5444	1922.25579	5.8	A	ALMOND	M 02S 07E 13
11/20/2012	TELONE II	853.6584	832.31694	2.5	A	ALMOND	M 02S 07E 13
11/20/2012	TELONE II	7877.0313	7680.105518	23	A	WALNUT (ENGLISH WALNUT, PERSIAN WALNUT)	M 02S 08E 26
11/20/2012	TELONE II	2611.7882	2546.493495	7.63	A	ALMOND	M 02S 08E 16
11/26/2012	TELONE II	10955.2828	10681.40073	32	A	ALMOND	M 02S 07E 02
11/27/2012	TELONE II	29308.9384	28576.21494	85	A	WALNUT (ENGLISH WALNUT, PERSIAN WALNUT)	M 02S 08E 35
11/27/2012	TELONE II	14877.2334	14505.30257	43.44	A	ALMOND	M 02S 07E 02
11/28/2012	TELONE II	102.6423	100.0762425	0.3	A	ALMOND	M 02S 07E 01
11/29/2012	TELONE II	8617.8848	8402.43768	25	A	CHERRY	M 02S 08E 27
11/30/2012	TELONE II	15792.6804	15397.86339	45.5	A	ALMOND	M 02S 08E 27
12/10/2012	TELONE II	12158.0265	11854.07584	35.5	A	APPLE	M 02S 08E 27
12/10/2012	TELONE II	7192.072	7012.2702	21	A	CHERRY	M 02S 08E 28
12/10/2012	TELONE II	3119.2068	3041.22663	10	A	ALMOND	M 01S 08E 34
12/11/2012	TELONE II	3424.7962	3339.176295	10	A	ALMOND	M 03S 07E 01
12/11/2012	TELONE II	6301.625	6144.084375	18.4	A	WALNUT (ENGLISH WALNUT, PERSIAN WALNUT)	M 02S 08E 32
12/11/2012	TELONE II	8322.2548	8114.19843	24.3	A	ALMOND	M 01S 07E 25
12/15/2012	TELONE II	1369.9185	1335.670538	4	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 07E 15
12/19/2012	TELONE II	12842.9858	12521.91116	37.5	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 07E 34
1/23/2013	TELONE II	6849.5924	6678.35259	20	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 07E 33
1/23/2013	TELONE II	11986.7867	11687.11703	35	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 07E 34
1/23/2013	TELONE II CA	2539.351	2475.867225	7.73	A	ALMOND	M 02S 08E 13
6/4/2013	TELONE II	6164.6332	6010.51737	18	A	UNCULTIVATED AGRICULTURAL AREAS (ALL OR UNSPEC)	M 03S 08E 17

8/21/2013	TELONE II	3938.5156	3840.05271	11.5	A	WALNUT (ENGLISH WALNUT, PERSIAN WALNUT)	M 02S 08E 31
8/21/2013	TELONE II CA	5018.5201	4893.057098	16	A	ALMOND	M 02S 07E 01
9/25/2013	TELONE II	1369.9185	1335.670538	4	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 07E 26
9/30/2013	TELONE II	1514.2274	1476.371715	4.42	A	ALMOND	M 02S 08E 09
10/11/2013	PIC-CLOR 60	1061.5752	414.014328	4	A	ALMOND	M 02S 08E 33
10/18/2013	TELONE II	7256.0964	7074.69399	21.2	A	ALMOND	M 02S 08E 33
11/6/2013	TELONE II	4346.544	4237.8804	13.6	A	ALMOND	M 02S 07E 01
11/7/2013	TELONE II	6371.9502	6212.651445	19	A	ALMOND	M 01S 08E 34
11/7/2013	TELONE II	7857.6207	7661.180183	63.8	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 01S 07E 36
11/8/2013	TELONE II	8067.0719	7865.395103	65.5	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 01S 08E 30
11/15/2013	TELONE II	1666.6664	1624.99974	4.9	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 07E 22
11/16/2013	TELONE II	9136.1774	8907.772965	26.7	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 03S 08E 15
11/20/2013	TELONE II	1267.1746	1235.495235	3.7	A	CHERRY	M 03S 08E 15
11/21/2013	TELONE II	1646.3412	1605.18267	4.81	A	ALMOND	M 02S 07E 17
11/22/2013	TELONE II	5660.5682	5519.053995	16.6	A	ALMOND	M 02S 08E 11
11/23/2013	TELONE II	6164.6332	6010.51737	18	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 03S 08E 09
11/24/2013	TELONE II	1300.8128	1268.29248	3.8	A	ALMOND	M 02S 08E 21
11/24/2013	TELONE II	2002.0322	1951.981395	5.85	A	ALMOND	M 02S 08E 21
11/25/2013	TELONE II	2073.1704	2021.34114	6.1	A	ALMOND	M 02S 08E 10
11/25/2013	TELONE II	3902.4384	3804.87744	11.4	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 08E 26
11/30/2013	TELONE II	6808.942	6638.71845	19.9	A	ALMOND	M 03S 08E 16
12/2/2013	TELONE II	11918.2908	11620.33353	34.8	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 08E 24
12/2/2013	TELONE C-35	22927.1588	14535.81868	43.9	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 08E 24
12/4/2013	TELONE II	5081.3	4954.2675	14.9	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 07E 22
12/4/2013	TELONE II	1869.9184	1823.17044	5.5	A	ALMOND	M 02S 07E 23
12/4/2013	TELONE II	1575.203	1535.822925	4.6	A	ALMOND	M 02S 07E 02
12/4/2013	TELONE II	6239.8364	6083.84049	18.2	A	ALMOND	M 02S 07E 02
12/4/2013	TELONE II	1575.203	1535.822925	4.6	A	GRAPES	M 02S 08E 06
12/4/2013	TELONE II	5081.3	4954.2675	16.9	A	ALMOND	M 03S 07E 03
12/5/2013	TELONE II	1057.9267	1031.478533	3.1	A	ALMOND	M 01S 07E 36

12/5/2013	TELONE II	1541.1583	1502.629343	4.5	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 08E 14
12/9/2013	TELONE II	3526.4222	3438.261645	12.9	A	ALMOND	M 02S 08E 17
12/10/2013	TELONE II	2945.3247	2871.691583	8.6	A	ALMOND	M 02S 07E 24
12/10/2013	TELONE II	4212.4993	4107.186818	12.3	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 07E 35
12/11/2013	TELONE II	3013.8207	2938.475183	8.8	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 08E 16
12/16/2013	TELONE II	1991.8696	1942.07286	5.8	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 08E 17
12/19/2013	TELONE II	5213.4138	5083.078455	17	A	WALNUT (ENGLISH WALNUT, PERSIAN WALNUT)	M 03S 07E 04
12/21/2013	TELONE II	2845.528	2774.3898	8.3	A	ALMOND	M 02S 07E 13
12/23/2013	TELONE II	9418.1896	9182.73486	27.5	A	ALMOND	M 02S 08E 21
1/8/2014	TELONE II	1056.9104	1030.48764	4	A	ALMOND	M 02S 08E 16
1/15/2014	TELONE II	1247.9673	1216.768118	4	A	ALMOND	M 02S 08E 08
5/17/2014	TELONE II	7084.3485	6907.239788	20.6	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 08E 04
6/27/2014	TELONE II	1747.9672	1704.26802	5.1	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 07E 13
7/7/2014	TELONE II	5260.1618	5128.657755	15.4	A	ALMOND	M 03S 08E 05
9/6/2014	TELONE II	9589.4294	9349.693665	28	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 03S 08E 16
9/27/2014	TELONE II	7192.072	7012.2702	21	A	WALNUT (ENGLISH WALNUT, PERSIAN WALNUT)	M 03S 08E 10
9/28/2014	TELONE II	12614.8354	12299.46452	36.8	A	PEACH	M 02S 08E 27
10/4/2014	TELONE II	5479.6739	5342.682053	16	A	WALNUT (ENGLISH WALNUT, PERSIAN WALNUT)	M 03S 08E 10
10/12/2014	TELONE II	9264.2262	9032.620545	27.1	A	PEACH	M 02S 08E 27
11/8/2014	TELONE II	9491.8684	9254.57169	27.7	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 07E 02
11/10/2014	TELONE II	4869.9179	4748.169953	14.52	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 08E 07
11/11/2014	TELONE II	2571.1378	2506.859355	7.4	A	WALNUT (ENGLISH WALNUT, PERSIAN WALNUT)	M 02S 08E 36
11/11/2014	TELONE II	3323.1702	3240.090945	9.7	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 08E 09
11/11/2014	TELONE C-35	5687.1409	3605.647331	10.9	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 08E 10
11/11/2014	TELONE II	5294.7146	5162.346735	15.3	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 08E 10
11/14/2014	TELONE II	3119.2068	3041.22663	9.3	A	ALMOND	M 01S 08E 34
11/14/2014	TELONE II	1712.3981	1669.588148	5	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 08E 13
11/15/2014	TELONE II	3642.3775	3551.318063	10.86	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 08E 02
11/15/2014	TELONE II	924.695	901.577625	2.7	A	ALMOND	M 03S 08E 17
11/17/2014	TELONE II	5137.1943	5008.764443	15	A	CHERRY	M 02S 08E 14

11/19/2014	TELONE II	5856.4015	5709.991463	17.1	A	ALMOND	M 02S 07E 23
11/20/2014	TELONE II	25172.2521	24542.9458	73.5	A	ALMOND	M 02S 07E 23
11/25/2014	TELONE II	684.9592	667.83522	2	A	ALMOND	M 03S 08E 09
11/25/2014	TELONE II	1369.9185	1335.670538	4	A	ALMOND	M 03S 08E 09
11/25/2014	TELONE II	9726.4212	9483.26067	28.4	A	ALMOND	M 02S 07E 35
11/29/2014	TELONE C-35	7658.3854	4855.416344	14.7	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 08E 15
11/29/2014	TELONE II	16610.2616	16195.00506	48.5	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 08E 15
11/30/2014	TELONE II	6412.6006	6252.285585	18.7	A	ALMOND	M 02S 08E 24
11/30/2014	TELONE C-35	7892.7916	5004.029874	15.1	A	ALMOND	M 02S 08E 24
12/1/2014	TELONE II	12001.0143	11700.98894	35	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 07E 27
12/1/2014	TELONE II	2218.4956	2163.03321	6.5	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 07E 25
12/8/2014	TELONE II	3152.4385	3073.627538	9.2	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 07E 22
12/8/2014	TELONE II	450.2032	438.94812	1.3	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 08E 10
12/9/2014	TELONE C-35	3798.4967	2408.246908	7.3	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 07E 01
12/9/2014	TELONE II	3191.0564	3111.27999	9.3	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 07E 01
12/9/2014	TELONE II	837.3982	816.463245	2.4	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 01S 07E 36
12/9/2014	TELONE II	2710.3654	2642.606265	7.9	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 08E 15
12/11/2014	TELONE II	4630.0806	4514.328585	13.6	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 01S 07E 35
12/30/2014	TELONE II	6628.0477	6462.346508	19.4	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 01S 07E 35
12/31/2014	TELONE II	1540.6502	1502.133945	4.5	A	SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	M 02S 08E 15