CALIFORNIA WATER BOARDS Central Coast - R3

Irrigated Lands Program
Total Nitrogen Applied (TNA) Report Instructions

Table of Contents

TNA Report Instructions Summary

The purpose of this document is to provide guidance on the information necessary to submit the TNA Report and instructions on how to report in GeoTracker.

Annually by March 1, growers with ranches located in Groundwater Phase Areas 2 and 3 must report crop types and acres grown, the total amount of nitrogen applied from all sources, whether crops were grown using organic or conventional methods, and information describing the basis for the amount of nitrogen applied.

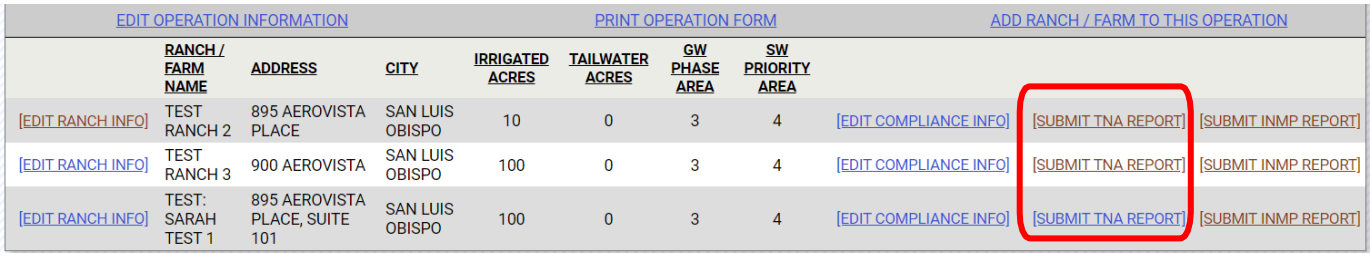
Please refer to Geotracker to determine the ranch Groundwater Phase Area designations, and the Agricultural Order 4.0 Compliance Calendar to determine corresponding years to submit the TNA Report:
https://www.waterboards.ca.gov/rwqcb3/water_issues/programs/ilp/compliance_calendar/index.html

How to Report TNA in Geotracker

To submit the TNA Report, log in to GeoTracker by navigating to http://geotracker.waterboards.ca.gov/esi.

Enter your username and password and click on, Login to GeoTracker ESI.

To submit the TNA report click on the “[SUBMIT TNA REPORT]” link, located to the right of each ranch name.

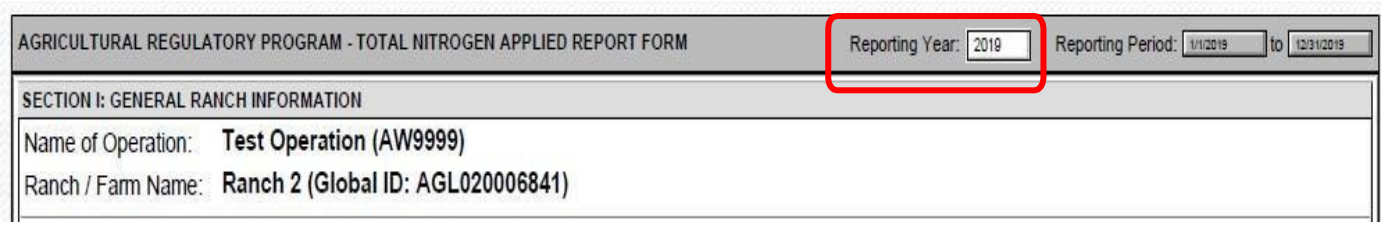


EDIT OPERATION INFORMATION | PRINT OPERATION FORM | ADD RANCH / FARM TO THIS OPERATION

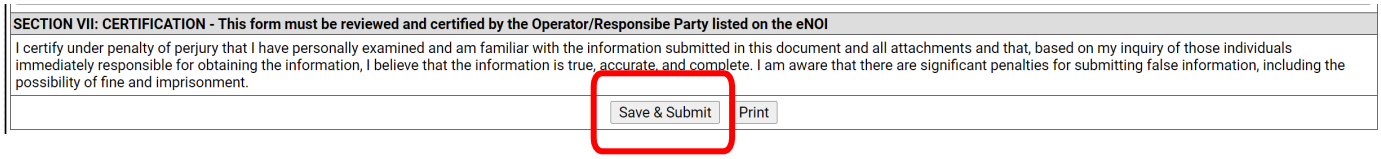
	RANCH / FARM NAME	ADDRESS	CITY	IRRIGATED ACRES	TAILWATER ACRES	GW PHASE AREA	SW PRIORITY AREA			
[EDIT RANCH INFO]	TEST RANCH 2	895 AEROVISTA PLACE	SAN LUIS OBISPO	10	0	3	4	[EDIT COMPLIANCE INFO]	[SUBMIT TNA REPORT]	[SUBMIT INMP REPORT]
[EDIT RANCH INFO]	TEST RANCH 3	900 AEROVISTA	SAN LUIS OBISPO	100	0	3	4	[EDIT COMPLIANCE INFO]	[SUBMIT TNA REPORT]	[SUBMIT INMP REPORT]
[EDIT RANCH INFO]	TEST: SARAH TEST 1	895 AEROVISTA PLACE, SUITE 101	SAN LUIS OBISPO	100	0	3	4	[EDIT COMPLIANCE INFO]	[SUBMIT TNA REPORT]	[SUBMIT INMP REPORT]

How to Submit the TNA Report

Select the TNA reporting year from the dropdown menu “Reporting Year” located in the upper right corner of the form.



Complete all sections of the TNA Report and click on the “SAVE & SUBMIT” button located at the bottom of the form.

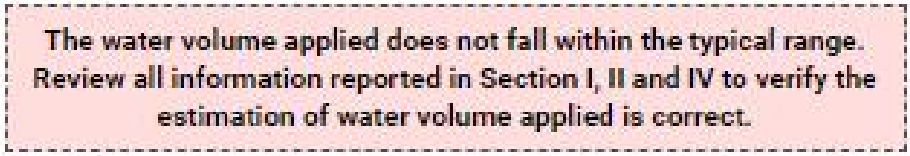


If the TNA Report is complete, a pop-up message will appear stating that the TNA Report has been successfully saved and submitted. This confirms that the TNA Report has been submitted. Click on “OK”.

Warning Pop-up Messages

Some sections of the form contain warning pop-up messages, when the value entered is below or above a typical range. The warning pop-up message will appear in red to alert the user to check the value and/or units (i.e., pounds nitrogen/crop acre). These warning pop-up messages will not prevent the TNA Report from being saved or submitted.

Example warning pop-up message:



How to Correct Submittal Errors

Geotracker will not allow an incomplete TNA Report to be saved or submitted. If a TNA Report is incomplete and the “Save & Submit” is clicked on, a highlighted yellow list of incomplete and required fields will appear at the top of the form. If this occurs, please correct the errors listed in yellow at the top of the page.

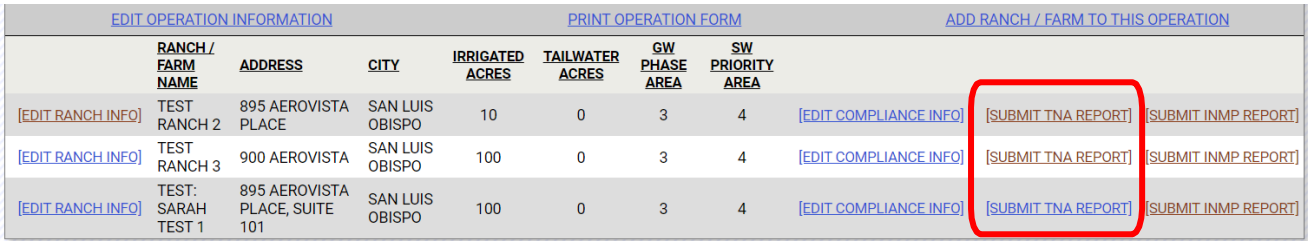
Example of a highlighted yellow list of errors.

- *PHYSICAL RANCH ACRES REPORTING* IS A REQUIRED FIELD.
- *TOTAL VOLUME OF WELL / CITY WATER / SURFACE WATER* IS A REQUIRED FIELD.
- *AVERAGE NITRATE CONCENTRATION IN WELL / CITY WATER / SURFACE WATER* IS A REQUIRED FIELD.
- *NITRATE / NITROGEN SELECTION* IS A REQUIRED FIELD.
- *CROP TYPE* IS A REQUIRED FIELD.
- *TOTAL CROP ACRES* IS A REQUIRED FIELD.
- *NITROGEN PRESENT IN SOIL* IS A REQUIRED FIELD.
- *NITROGEN APPLIED IN CONVENTIONAL FERTILIZERS* IS A REQUIRED FIELD.
- *AT LEAST ONE NITROGEN PRESENT IN SOIL MUST BE > 0*
- *BASIS* IS A REQUIRED FIELD.

After errors are corrected, click on the “Save & Submit” button at the bottom of the form. If the report is complete, a pop-up message will appear stating that the TNA Report has been successfully saved and submitted. This confirms that the TNA Report has been submitted. Click on “OK”.

How to View a Saved TNA Report

To view a previously submitted TNA Report, click on the “[SUBMIT TNA REPORT]” link located to the right of each ranch name. Once on the reporting page, select the TNA Report year from the dropdown menu “Reporting Year” located in the upper right corner of the form click on the dropdown menu for Reporting Year at the top of the report in the grey box and select the reporting year.



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[EDIT RANCH INFO]	TEST: SARAH TEST 1	895 AEROVISTA PLACE, SUITE 101	SAN LUIS OBISPO	100	0	3	4	[EDIT COMPLIANCE INFO]	[SUBMIT TNA REPORT]	[SUBMIT INMP REPORT]

Information Needed to submit a TNA Report

TNA reporting period: January 1st to December 31st of each year.

TNA reporting deadline: TNA Reports must be received by March 1st of each year, or within 60 days after terminating a ranch.

Records Required to Report TNA:

a. Total nitrogen applied in pounds per crop-acre (lbs./crop-acre) in fertilizers and amendments and all other materials/products containing nitrogen in any form or concentration, including but not limited to, organic and inorganic fertilizers, foliar fertilizers, slow-release fertilizers, compost, compost teas, manure, and extracts;

b. Average nitrogen concentration in the estimated volume of irrigation water applied during the annual reporting period and the calculated or estimated nitrogen load in pounds/ranch-acrefrom irrigation water; and

c. Total nitrogen present in the soil (pounds/crop-acre) available for crop uptake. The Total nitrogen present in the soil must be measured at least once per annual reporting period for each ranch and only needs to be reported once for the first crop listed on the report form.

How to Report Crop Information:

Select the specific crop name from the dropdown menu and follow the instructions below depending on the crop growing duration and harvest events.

Short-Term Crops

Short-term crops are crops that grow for less than 12 months. These crops should be reported in the year when they were harvested. In the Crop Duration column, select “S-Short-term Crop (< 12 months long)” for crops that were harvested during the reporting period.

Select “SI-NFH – Short and Intermediate-term Crop (less than 24 months long) NOT Final Harvest” for short term crops that were not harvested during the reporting period. For example: a strawberry crop that was grown for 4 months in 2024 but will not be harvested until 2025 for a total crop duration of 7 months can be reported as SI-NFH. When the short-term crop is harvested, report the nitrogen applied to the entire crop throughout its growing cycle.

Intermediate-Term Crops

Intermediate-term crops grow for more than 12 months but less than 24 months (examples are strawberries and bell peppers). The nitrogen applied during the entire growing cycle of these crops, is reported multiple times. First, for the first year when the crop is planted, and second, in the year when the crop is harvested. When the crop is harvested, report the total amount of nitrogen applied in fertilizers during the entire crop growing cycle. In the first year, when the crop is not harvested, in the Crop Duration column select “SI-NFH, Short and Intermediate-term Crop (12 to 24 months long), Not Final Harvest”. This indicates that the crop is still in the ground and will be finally harvested after December 3. To report baby

crops (e.g., baby lettuce) select the "crop, baby" option from the crop dropdown menu. 9 31st. Note: all crops reported as “SI-NFH”, will automatically appear in the TNA form the next year, and all the reported information will be auto-populated. All the auto-populated values will be highlighted pink. In the first year report the amount of nitrogen applied to the crop from the beginning of its growing cycle until December 31st.

In the following (second) year, or when the intermediate-term crop is harvested, update the Crop Duration column selection from “SI-NFH, Short and Intermediate-term Crop (12 to 24 months long), Not Final Harvest”, to “I-FH, Intermediate-term Crop (12 to 24 months long), Final Harvest”. In the second year, report the nitrogen applied from fertilizers and other materials throughout the entire crop growing cycle.

Long-Term crops

Long-term crops grow for more than 24 months (i.e., blueberries). Long-term crops may be harvested some years, but not every year. If the long-term crop was harvested select “L-FAH”, Long-term Crop (> 24 months long), Final or Annual Harvest” in the Crop Duration column. If the long-term crop was not harvested that year, enter zeroes (0) in the amount of crop material and nitrogen removed at harvested, and select “L-NFAH, Long-term Crop (> 24 months long), Not Final or Annual Harvest” in the Crop Duration column. Note: all crops reported as “L-NFAH”, will automatically appear in the TNA form the next year, and all the reported information will be auto-populated. All the auto-populated values will be highlighted pink. On an annual basis, report the amount of nitrogen applied to the crop during the reporting period, from January 1st to December 31st.

Section I: General Ranch Information

Name of Operation, AW#, Ranch Name, and Global ID

This information is auto filled from the ranch information page (ranch eNOI) in Geotracker.

Note: information in the eNOI must be current and accurate prior to submitting the TNA Report.

Physical Ranch Acres Reporting

The physical ranch acres reporting value will be auto-populated from the eNOI, however growers can overwrite it with a value greater than zero. The physical ranch acres reporting value cannot be zero. If a crop is planted, and/or irrigated, and/or either conventional or organic fertilizer was applied during the reporting period, but could not be harvested (e.g., disease, pest infestation, etc.) report as follows: the TNA form report must be submitted with the volume of irrigation water applied (which could be a zero value), crop type, crop acres planted, the fertilizer type, the amount of fertilizer applied (which could be a zero value) and select “No Yield” in the “Additional Information” column of “Section IV: Nitrogen Applied with Conventional and Organic Fertilizers” to indicate the crop could not be harvested.

If no crop was grown during the reporting period, leave the physical ranch acres value as populated from the ranch eNOI (or update this information if needed) and report all the physical ranch acreage as fallow acres (i.e., physical ranch acreage = 50 and fallow acreage = 50, which results in zero acreage).

The physical reporting acreage includes all farmed acres plus any fallowed acres (not under crop production) during the entire reporting period (January 1st to December 31st). Report the fallowed acres in the “Physical Ranch Acres Reporting” box and separately in the corresponding “Fallow Acres” box.

Note: reporting acreage must include cover crops acres, even if no nitrogen was applied to the cover crops.

Fallow Acres

Report any fallowed acres that were not under crop production during the entire reporting period (January 1st to December 31st).

Sum of Total Crop Acres

This value is automatically calculated from crop acres reported in “Section IV: Nitrogen Applied with Conventional and/or Organic Fertilizers”. This value is intended to help ensure all required acres are reported.

The sum of the crop acres plus the fallow acres should equal or exceed the physical ranch acres reported. If any acres of the ranch were fallow throughout the entire reporting period, enter them in the “Fallow Acres” box. If there are unusual circumstances where the sum of the total crop acres plus fallow acres are less than the physical ranch acres reporting, provide an explanation in “Section VI: Explanations and Comments”.

Greenhouse, Nursery, or Hydroponic Reporting Selections

Select one of the options to best describe how the irrigation water is managed, collected, and discharged from the greenhouse, nursery, or hydroponic production.

For example: If a greenhouse operation has a reverse osmosis (RO) system installed that recycles irrigation water up to 5 times, and the salts (brine) of the RO system is cleaned and removed as dry material, then the proper selection is "All excess water is captured and recycled; the only waste is dry material, which is properly disposed of."

APN(S) Assessor Parcel Numbers

The Assessor Parcel Number APN information is automatically generated and updated in the TNA Report from the ranch eNOI. Select the APN(s) that corresponds to acreage included in the TNA Report.

If APN(s) are not selected, provide an explanation in “Section IV: Explanations and Comments”.

In instances where an APN(s) was removed from the ranch eNOI, prior to TNA Report submittal, the APN(s) must be temporarily added back to the ranch eNOI. After the TNA Report is submitted, remove the APN(s) from the ranch eNOI.

Errors in Section I

The field “Physical Ranch acres reporting is a required field. Make sure you report the number of acres that correspond to the TNA report.

The background of the "Sum of Total Crop Acres" cell will be pink if the sum of the crop acres reported in “Section IV: Nitrogen Applied with Conventional and/or Organic Fertilizers” and in “Fallow Acres”, is less than the “Physical Ranch Acres Reporting”. If this error is received, double-check that crop acres grown and harvested during the reporting period and acres fallowed during the entire reporting period (January 1st to December 31st) are reported.

Section II: Nitrogen Applied with Irrigation Water

Include water sources and applications of water (leaching, runoff, backflush, operational spills, etc.). Do not include rainwater.

Section II-A: Water Source(s)

Report the primary source of irrigation water applied to the ranch during the reporting period. If the ranch used water from more than one type of water source, select the one that provided the most volume. This section contains two dropdown menus; the first one includes options to select if the primary source is from a well, city, or surface water source. The second includes options to select if the irrigation water comes from a recycled/reclaimed source.

If the ranch used well, city water, and/or surface water, the nitrogen applied with this source of irrigation water is reported by completing "Section II-B: Well / City Water / Surface Water". If the ranch used water from a recycled or reclaimed water project, the nitrogen applied with this source of irrigation water is reported by completing "Section II-C: Recycled / Reclaimed Water". If the ranch used well, city, and/or surface water and a recycled / reclaimed source, complete both sections and select the recycled / reclaimed water option that includes the words "and another source" at the end. If the ranch used water from more than one type of recycled / reclaimed source, select the one that provided the most volume.

Section II-B: Well / City Water / Surface Water

Average Nitrate Concentration in Well / City Water / Surface Water (mg/L)

Report the average nitrate concentration, in milligrams per liter (mg/L) of well, city, or surface water used as the primary source of irrigation water on the ranch. This number should include the amount of nitrate naturally dissolved in the water during use. This number should not include liquid fertilizers applied during fertigation.

To determine the average nitrate concentration you must, obtain a laboratory analysis or utilize a portable measuring device that provides a discrete numeric result for the nitrate concentration of the primary source of irrigation water, at a minimum, applied to the ranch, during the reporting period.

Select the proper units to report the average nitrate concentration of irrigation water: Nitrate as Nitrate (commonly shown as NO3 in laboratory reports) or Nitrate as Nitrogen (commonly shown as N, NO3-N, or NO3NO2N in laboratory reports). Please note that milligrams per liter (mg/L) = parts per million (ppm).

If more than one source of water is used to irrigate, and concentrations for each source are known, estimate the volume applied from each source of irrigation water to obtain the weighted average nitrogen concentration. Tip: Please refer to the "Weighted Average Concentration" tool to calculate the weighted average nitrogen concentration if more than one sample from one or more sources of irrigation water was used.

Note 1: A discrete measurement is required for the primary source of irrigation water applied. However, any methodology, such as nitrate quick test, can be used to measure the concentration of all other sources of irrigation water applied (i.e., backup wells).

Estimated Total Volume of Well / City Water / Surface Water Applied to Entire Reporting Acres During Reporting Period (gallons)

Enter the estimated total gallons of city or surface water applied to the entire reporting acreage during the reporting period (January 1st to December 31st). If the total volume of irrigation water applied from all sources during the reporting period is zero, you must provide an explanation in "Section IX: Explanations and Comments."

The estimated total volume of irrigation water applied should include any water applied for leaching, runoff, backflush, operational spills, etc., but rainwater should not be included. Tip: Please refer to the "Convert to Gallons" tool to convert the volume applied from acre-feet or acre-inches into gallons.

The average nitrogen concentration and the estimated total volume reported in Section II-B are used to calculate the "Nitrogen Applied with Irrigation Water (lbs./ranch-ac)" value under "Section II-D: Nitrogen Applied".

Section II-C: Recycled / Reclaimed Water

Report if Recycled / Reclaimed irrigation water was used on the ranch from any of the nine recycled or reclaimed water projects and/or the four general categories listed below. If the source of Recycled / Reclaimed irrigation water used is not listed, select "Other" and type the name of the recycled or reclaimed water project.

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The contact information for each project are listed below. Projects include:

- Blue Valve, San Benito County Water District Delivered Water. Water District Website: https://www.sbcwd.com/about-us/, Delivered Water: https://www.sbcwd.com/recycled-water/, Phone: (831) 637-8218.

- CSIP, Monterey County Water Resources Agency, Castroville Seawater Intrusion Project/ Salinas Valley Reclamation. Water Agency Website: https://www.co.monterey.ca.us/government/government-links/water-resources-agency/about/contact, Email: mcwater@co.monterey.ca.us, Seawater Intrusion Project: https://www.montereyonewater.org/210/Castroville-Seawater-Intrusion-Project-O, Email: customerservice@my1water.org, Phone: (831) 372-3367 or (831) 422-1001.

- Hollister Domestic Recycled Water Plant, Hollister Tertiary Treated Recycled Water. Website: https://hollister.ca.gov/government/city-departments/community-services/utilities-sewer/, Email: pio@hollister.ca.gov, Phone: (831) 637-7100.

- Laguna County Sanitation District, Santa Maria. District Website: https://www.countyofsb.org/1355/Laguna-Sanitation, Phone: 805-803-8750.

- Los Osos Water Recycling Facility, Los Osos. Waste Water Project Website: https://www.slocounty.ca.gov/Departments/Public-Works/Committees-Programs/Los-Osos-Wastewater-System.aspx, Email: publicworks@co.slo.ca.us, Phone: (805) 781-5252.

- PVWMA, Pajaro Valley Water Management Agency. Recycle Water Website: https://www.pvwater.org/recycled-water, Email: Info@PVWater.org, Phone: (831) 722-9292.

- Santa Cruz Davenport Reclamation Facility, Davenport County Sanitation District. District Website: https://dpw.co.santa-cruz.ca.us/Home/SewerWater/DavenportCountySanitationDistrict.aspx, Email: dpwsanitation@santacruzcounty.us, Phone: (831) 454-2160.

- SCRWA, Santa Clara Valley Water District and South County Regional Wastewater Authority, Gilroy and Morgan Hill Recycled Water. Wastewater Authority (SCRWA) Website: https://www.cityofgilroy.org/561/South-County-Regional-Wastewater-Authori, Email: scrwamail@ci.gilroy.ca.us, Phone: (408) 848-0480.

- Trilogy Master Plan Community Reclaimed Water in Nipomo, Woodlands Water Recycling Facility. Facility Website: http://woodlandsmwc.com/water-conservation/water-conservation-at-the-woodlands/, Email: lonnier@wallacegroup.us, Phone: (805) 540-5208.

General Categories include:

- Domestic Reclaimed Water with Secondary Treatment.
- Fruit and Vegetable Processing Facility (Recycled Water),
- Olive Processing Facility (Recycled Water),
- Winery Processing Facility (Recycled Water).

Total Nitrogen Concentration (report as NO3-N, Nitrogen) in Recycled/Reclaimed Water (mg/L)

Contact the processing facility directly to obtain the Nitrogen concentration as NO3-N in the recycled water, and the community services, the sanitation district, or the city(ies) to obtain the Nitrogen concentration as NO3-N in reclaimed water. If the total nitrogen concentration as NO3-N is not available, you must sample the recycled/reclaimed water used to irrigate crops and report the total nitrogen concentration as NO3-N. Growers must sample the recycled / reclaimed water used to irrigate crops to report the total nitrogen concentration when:

1. The agency, city, or facility sampling location of the total nitrogen concentration is upstream of the location where the grower, the agency, city, or facility blend the delivered water with water from another source (i.e., additional on-farm wells),

2. When the total nitrogen concentration is not available.

Estimated Total Volume of Recycled / Reclaimed Water Applied to Entire Reporting Acres During Reporting Period (gallons)

Enter the estimated total gallons of recycled or reclaimed water applied to the ranch during the period (January 1st to December 31st). If the total volume of irrigation water applied from all sources during the reporting period is zero, you must provide an explanation in “Section IX: Explanations and Comments.”

Contact the corresponding agency or facility to verify the volume of recycled or reclaimed water delivered. The estimated total volume of irrigation water applied should include water applied for leaching, runoff, backflush, operational spills, etc. Rainwater should not be included.

The total nitrogen concentration and the estimated total volume reported in Section II-C are used to calculate the "Nitrogen Applied with Irrigation Water (lbs./ranch-ac)" value under "Section II-D: Nitrogen Applied".

Section II-D: Nitrogen Applied with Irrigation Water

Nitrogen Applied with Irrigation Water (water from all sources) (pounds/ranch-acre)

This value corresponds to the pounds of nitrogen from irrigation water applied to each ranch-acre (lbs./ranch-ac) during the reporting period.

The value in automatically calculated using information provided in "Section I: General Ranch Information" and "Section II: Nitrogen Applied with Irrigation Water".

Section II-E: Volume Check

This value corresponds to the estimated average acre-feet of water applied to each crop-acre and is intended to help ensure that reported volumes of water and crop-acre information is entered accurately.

The value is automatically calculated using information provided in "Section II: Nitrogen Applied with Irrigation Water" and "Section IV: Nitrogen Applied with Conventional and/or Organic Fertilizers."

Errors in Section II

"Section II-A: Water Source(s)" is a required field.

"Section II-B" and/or "Section II-C", nitrogen concentration in water and estimated total volume of water applied to entire reporting acres during reporting period are required fields.

Report nitrogen and volume information for irrigation water applied.

"Section II-E: Volume Check" background will be pink if the estimated acre-feet of water applied to each crop-acre is not typical for crops grown in the central coast region. Review all information reported in Sections I, II, and IV of the form to ensure that the estimated average acre-feet of water applied to each crop-acre grown is correct.

Section III: Nitrogen Applied with Compost and Other Materials

Material Applied

Report information for compost, amendments, mulches, and other materials applied to the ranch during the reporting period. Select the type of material(s) applied from the dropdown menu. The dropdown list of materials to report includes “Compost”, “Mulch”, “Amendments (High Carbon)”, “Amendments (Other)”, “None”, and “Other”. If “Other” is chosen, a text field will appear, and you must provide a description of this material. Select “None” if no material was applied during the reporting period.

If the same type of material is applied more than once, their applications can be reported individually on separate rows or combined on one row. If combined, report the total pounds of nitrogen applied from all the applications, the total acres that received all the applications, and the weighted average for the C:N ratio, as applicable.

The C:N ratio is not required; it is an optional field.

Nitrogen Applied in Compost and Other Materials (total pounds)

Report in pounds the total nitrogen applied from compost, amendments, and all other nitrogen containing materials (such as compost teas, humic acids, bacterial extracts, soil enhancers, but do not include the nitrogen applied with conventional and/or organic fertilizers, which must be reported in “Section IV: Nitrogen Applied with Conventional and/or Organic Fertilizers’. The value(s) reported for compost and/or amendment applications must be converted from pounds or tons of gross material to pounds of nitrogen.

To determine the pounds of nitrogen applied in compost, amendments, and all other nitrogen containing materials, its necessary to know the percentage of nitrogen present in the material applied. The percentage of nitrogen present in the material applied is provided by the manufacturer, or by taking a sample to a lab. The lab will report the percentage of nitrogen. To report the total pounds of nitrogen applied in compost, amendment, and other materials, multiply the pounds applied by the percent nitrogen (N %) content.

Ranch Physical Acres Where Compost and Other Materials were Applied

Report the total number of ranch acres (physical acres) that received nitrogen applications from compost and amendments and all other materials were made. To calculate and report the physical acres accurately refer to the examples below.

Example 1:
If a grower applies 20 pounds of nitrogen to 10 physical ranch-acres, then applies 30 pounds of nitrogen to a different 5 physical ranch-acres, and finally applies 30 more pounds of nitrogen to another 10 physical ranch-acres; report 80 pounds of nitrogen (20+30+30=80) to a total of 25 ranch-acres (10+5+10=25).

Example 2:
If a grower applies 20 pounds of nitrogen to 10 physical ranch-acres, then applies 30 pounds of nitrogen to those same 10 physical ranch-acres, and finally applies 30 more pounds to the same 10 physical ranch-acres; report pounds of nitrogen (20+30+30=80) to 10 ranch-acres.

C: N Ratio of Compost and Other Materials (optional)

The carbon-to-nitrogen ratio (C:N ratio), is a ratio of the mass of carbon to the mass of nitrogen in a substance. The C:N ratio is not a required field. To determine the C:N ratio of compost or other material, contact an agricultural laboratory and inquire about this type of testing. The following three laboratories are available and provide this service:

- Dellavalle Laboratory Inc
  https://dellavallelab.com/agricultural-services/
- ALC Consolidated
  https://aglaboratory.com/plant-analysis-2/
- FGL Agricultural Lab
  http://www.fglinc.com/frmCustomerServices.php?choice=agronomics&currentpage=CustomerServices

Errors in Section III

If the reported ranch physical acres where compost or any other reported material was applied is higher than the physical ranch acres reported in Section I, the cell will be shown in yellow. Please verify that the reported number of physical acres where compost and other materials were applied, was calculated correctly.

Section IV: Nitrogen Applied with Conventional and / or Organic Fertilizers

In this section, report crop information and all conventional and/or organic fertilizer applications. Growers must report the pounds of nitrogen applied to their crops in both conventional and organic fertilizers. Report the nitrogen applied with fertilizers containing urea, ammonia, ammonium, nitrate, and all other forms of molecular nitrogen[1].

Specific Crop(s) Grown During Reporting Period

Report information for each specific crop grown on the ranch during the reporting period. Select specific crop(s) from the dropdown menu. A list of crops is included at the end of these instructions. Note: if the crop/s you are reporting on are not listed, select “Other” and enter the specific crop name in the pop up text box.

If a short, intermediate-term, or a long-term crop with the Not Final Harvest selection was reported in the previous year, that crop will be auto populated in the following year’s report.

[1] Nitrogen applied in compost, amendments, manure, and all other materials containing nitrogen must be reported in “Section III: Nitrogen Applied with Compost and Other Materials.”

When the short, intermediate-term, or long-term crop is harvested, update the Nitrogen Applied to reflect the total nitrogen applied throughout the entire growing cycle, and update the Crop Duration to the corresponding Final Harvest selection.

Crops Options Strawberry crops.

The drop-down menu includes a list of multiple strawberry crop options, with different growing duration and special cropping programs. Bell pepper. Growers can indicate single-harvest or multiple-harvest. Broccoli, cauliflower, and lettuce crops can be reported for the winter or summer seasons.

Multiple Crop Rotations (same specific crop)

If a specific crop is grown multiple times during the reporting period, each crop rotation can be reported separately (on more than one row). Water and fertilizer inputs are usually very different when the crops grow during different seasons. In this scenario, report information for lettuce crops on two reporting rows[2]. For example, water and fertilizer inputs might be different for lettuce crops grown in the winter versus the summer. The same applies to the crop's evapotranspiration and the amount of crop material harvested.

If a specific crop is grown multiple times during the year, all the crop rotations can also be combined and reported in a single row. All the nitrogen applications made to each crop rotation must be combined into a single row. In this case, calculate and report the total nitrogen fertilizer applications made to all the crops combined, the weighted average crop evapotranspiration of all the crops combined, and the total amount of nitrogen removed at harvest from all the crops combined.

Aggregated Crops (of the same or different specific crops)

Different crops can be aggregated and reported on one row only if they were intermingled with individual plants of different specific crops growing next to each other, on the same field, at the same time, and received the same amount of water and fertilizer. See examples below to determine under what circumstances different crops can be aggregated and reported together, and when they cannot be aggregated.

- Combine mixes of different crops planted together: A mix of different specific crops grown together such as radicchio, escarole, and arugula, that are intermingled in the same row and receive the same amount of water and fertilizer can be reported on a single line as "spring mix" or "mixed greens".

[2] The reporting of combined rotations of the same crop is acceptable but not advisable. We encourage growers to report each crop on its separate row, so the reported values correspond to that only crop and the calculation of weighted averages is not needed.

- Combine mixes of lettuces planted together: Different varieties of lettuce grown together, such as red-leaf lettuce, green-leaf lettuce, and butter lettuce, that are intermingled on same row and/or field and receive the same amount of water and fertilizer can be reported on a single line as "lettuce, leaf".

- Separate mixes of different crops planted separately: Alternating rows of different crops, such as radicchio, arugula, escarole, and lettuce, that are grown on the same field but not the same row must be reported on separate lines.

- Combine mixes of lettuces planted separately: If the rows have different varieties of the same type of crop, such as red-leaf lettuce, green-leaf lettuce, butter- head lettuce, etc., they can be reported as "lettuce, leaf" as one crop in the TNA form.

Cover Crops

All cover crops should be reported, including cover crops grown in between commercial crops production (in rotation) and cover crops grown in the fallowed acres (without commercial crops production in rotation). Select the correct cover crop option from the “Specific Crops Grown During Reporting Period” drop-down menu. Select either legume/non-legume or irrigated/non-irrigated. Also report the cover crops acreage and the nitrogen applied as fertilizers (if any applications were made).

Crops with Multiple Cuttings

Short-term and intermediate-term crops. Crops such as spinach, kale, and spring mix can be reported as crops with multiple cuttings. Select the “multiple cuttings” option from the drop-down menu.

If the short-term or intermediate-term crop had multiple cuttings, it must be reported as one crop in one row, even if it is harvested multiple times. In other words, multiple cuttings don’t represent multiple crops.

Crops with Annual Harvests

Tree crops, such as avocados, vineyards, nuts, or citrus are long-term crops because they grow for more than 24 months. In some cases, they are not harvested for the first few years after planting. In the years when the crop is not harvested, select the “not final or annual harvest” option from the Crop Duration dropdown menu. During the year(s) when the crops are harvested, select the “final or annual harvest” option from the Crop Duration dropdown menu.

Crops with Selective Harvesting

Some short an intermediate-term crops are “Selectively Harvested”. A crop is selectively harvested when only portions of the plant/crop are removed from the field while the remaining tissues (such as stems and leaves) continue to grow. The green tissue(s) remaining in the ground, after the crop is selectively harvested, do not start a new crop. Most flower and herb crops are examples of selectively harvested crops.

For selectively harvested crops, the crop duration must be selected based on the length of time the entire crop (entire plant) remains in the ground until it is completely harvested, shipped or sold, at end of the crop life cycle or sale/shipment (each harvest does not represent a new crop).

Bulbed Crops

Bulbed crops can regrow throughout the year(s). When all the green material is removed from the ground of a bulbed crop, it will regrow as a new plant/ crop, and should be reported as a new crop in a separate row.

Total Crop Acres

Report the crop-acres for each specific crop reported. Each individual crop’s “Total Crop Acres” may be equal to, greater than, or less than the total acreage of the ranch, depending if the rotations of the same crop were combined and reported in a single row, or not.

If a specific crop is grown and harvested more than one time during the annual reporting period, and the crop rotations are combined and reported in a single row, the total crop acres of that crop is equal to the sum of acres planted each time (each rotation).

The reporting of combined rotations of the same crop is acceptable but not advisable. We encourage growers to report each crop on its separate row, so the reported values correspond to that only crop and the calculation of weighted averages is not needed.

Example: A grower grows a crop of head lettuce on 10 acres, then a crop of broccoli on 10 acres, and then a crop of head lettuce on 10 acres. The grower has the option to combine the lettuce crops. Report 20 acres of head lettuce (10+10=20) and 10 acres of broccoli.

Therefore, each individual crop's "Total Crop Acres" can be equal to,, more than, or less than the physical ranch acres.

If the grower chooses to report their crops seasonally, such as reporting Lettuce (Spring/Summer) and Lettuce (Fall/Winter) on separate rows, then the crop-acres reported for each specific crop should correspond to the acres grown and harvested for that specific crop only. In the example above, the grower would report 10 acres of 23 Lettuce, Head (Fall/Winter) and on another line would report 10 acres of Lettuce, Head (Spring/Summer).

Greenhouse and Nursery Crops

To determine the acres of crops grown in container (or trays), calculate the general area where the containers or trays placed (not the pot diameter area). If the plants are produced in pots placed on 2 acres, the 2 acres should be reported as the crop acres.

When multiple plants pots/crops are produced multiple times during the annual reporting period, each time the pots/crops are brought-in and shipped-out, must be accounted as new crops and the crop acres must be added up. In other words, the crop acres need to be accounted for each time a crop is harvested, or a pot is shipped/moved out of the operation. For example, if pots are grown on a one-acre parcel are brought-in and shipped-out twice that year, the grower should report 2 crop acres.

Nitrogen Present in the Soil (pounds/crop-acre)

Report the nitrogen present in the soil in pounds per crop-acre (lbs./crop-ac) for at least one crop, measured at least once per annual reporting period for the ranch. The objective of this requirement is to inform future nitrogen applications; therefore the nitrogen present in the soil should be accounted for as a source of nitrogen[3] prior to fertilizing.

If growers do not have a value to report on hand, they may use a placeholder of 0.001 with the expectation that they will update this to a value obtained from either a laboratory test or Nitrate quick test.

a. Growers should take a soil sample for laboratory analysis, use a nitrate quick test, or use an alternative method to evaluate nitrogen content in the soil prior to each crop planting, prior to seeding the field, prior to pre-side dressing, or when appropriate to determine nitrogen available in the soil for the current or following crop, prior to applying fertilizer

[3] The proper timing to measure soil nitrogen content in the soil depends on the crop growing cycles and fertilizer management. Measure nitrogen content in the soil when soil nitrogen content is high and must be accounted for as a source of crop nitrogen and prior to or when crop fertilizer application decisions are made. It is incorrect to measure nitrogen in the soil after the rainy season, when values are low, or at a time when no fertilizer application decisions are made. In the Salinas Valley, with multiple crop rotations, the appropriate time is between the first and second crops or in the spring. For strawberry crops, the appropriate measurement may be prior to slow-release fertilizer applications. Consult with a local crop advisor to determine the appropriate time to measure soil nitrogen content.

nitrogen. Soil nitrogen content must be measured at the time of year or the stage during the crop cycle when soil nitrogen content is high and therefore should be accounted for as a source of nitrogen. Agricultural Order Monitoring and Reporting Program page 6 list item 11.

b. If a ranch has many small blocks then blocks can be grouped into a large management unit to comply with the soil measurement requirement.

c. The method chosen to measure nitrogen content, the forms of nitrogen to measure (nitrate, urea, ammonia, all) and the effective rooting depth, should be decided when samples are taken. Unit conversions also apply, nitrogen in parts per million (ppm) in the effective root-zone must be converted to pounds of nitrogen per crop-acre.

d. Reporting of available soil nitrogen content depends on the approach used to collect the samples. If multiple soil samples are collected from different parts of the ranch, and then mixed into one composite sample to measure available nitrogen in the soil for the whole ranch, resulting in only one result from the lab, then report the soil nitrogen content on the line for each crop reported, as applicable. If multiple soil samples are collected to determine nitrogen availability by specific crop(s), field(s), or soil type(s), then report the average soil nitrogen content on the line for each crop reported, as applicable.

Note: Growers must maintain records of the amount(s) of nitrogen content in the soil, the date(s) of measurement, and justification for the timing of the measurements in the Irrigation and Nutrient Management Plan section of the Farm Water Quality Control Plan (Farm Plan).

Nitrogen Applied in Conventional Fertilizers (Total Pounds)

In this column, growers must report the Nitrogen Applied in Conventional Fertilizers as Total Pounds and the value in the column “Nitrogen Applied in Conventional Fertilizers, as pounds/crop-acre” will be automatically calculated. Tip: Please refer to the “Dry Fertilizer Nitrogen Applied” tool to calculate Pounds of Nitrogen in Dry Fertilizers. Note: report a zero if conventional fertilizers were not applied to a crop during the reporting period.

Liquid fertilizers and other liquid materials applied through the irrigation system as fertigation must be included in this section and reported as total pounds of nitrogen applied. Tip: Please refer to the “Liquid Fertilizer Nitrogen Applied” tool to calculate Pounds of Nitrogen in Liquid Fertilizers.

To calculate the amount of nitrogen applied with conventional fertilizers, convert the fertilizer N-P-K % to pounds of nitrogen. To convert to pounds of nitrogen, multiply the percent of nitrogen content in the fertilizer by the total amount of fertilizer applied.

When multiple crop rotations of the same specific crop have been combined, report the total pounds of nitrogen applied in conventional fertilizers to all the crop-acres reported.

Nitrogen Applied in Conventional Fertilizers (pounds/crop-acre)

After the total pounds of nitrogen in conventional fertilizers was reported as total pounds in the Nitrogen Applied in Conventional Fertilizers as Total Pounds column, the “Nitrogen Applied in Conventional Fertilizers (pounds/crop-acre)” column will auto calculate to reflect the amount of nitrogen applied to each crop acre.

Long-term Crops

For long-term crops, report the total amount of nitrogen applied during the 12-month reporting period.

Multiple Crop Rotations

When multiple crop rotations of the same specific crop, are combined and reported as one record in one row, growers must calculate and report the total pounds of nitrogen applied to all the crop-acre. Refer to the example below to correctly calculate the correct value to report.

> A grower grows a first crop of head lettuce on 10 acres and applies conventional fertilizer nitrogen at 200 pounds/crop-acre, a second crop of head lettuce on 50 acres and applies conventional fertilizer nitrogen at 400 pounds/crop-acre, and a third crop of head lettuce on 100 acres and applies conventional fertilizer nitrogen at 300 pounds/crop-acre.
>
> Calculate the total crop-acres:
>
> 10+50+100 = 160 crop-acres
>
> Report Total Crop Acres: 160
>
> Calculate total pounds of nitrogen applied:
>
> (10 crop-acres X 200 pounds/crop-acre) + (50 crop-acres X 400 pounds/crop-acre) + (100 crop-acres X 300 pounds/crop-acre = (2,000 + 20,000 + 30,000 = 52,000)
>
> Total pounds of nitrogen applied = 52,000 pounds of nitrogen.

Nitrogen Applied in Organic Fertilizers (Total Pounds)

In this column, growers must report the Nitrogen Applied in Organic Fertilizers as Total Pounds and the value in the column “Nitrogen Applied in Organic Fertilizers, as pounds/crop-acre” will be automatically calculated. Report a zero, if organic fertilizers were not applied to a crop during the reporting period.

When the total pounds of nitrogen in organic fertilizers is reported in this column, the “Nitrogen Applied in Organic Fertilizers (pounds/crop-acre)” column will auto calculate to reflect the amount of nitrogen applied to each crop acre.

When multiple crop rotations of the same specific crop have been combined, report the total pounds of nitrogen applied in organic fertilizers to all the crop-acres reported.

Nitrogen Applied in Organic Fertilizers (pounds/crop-acre)

After the total pounds of nitrogen in organic fertilizers was reported as total pounds in the Nitrogen Applied in Organic Fertilizers as Total Pounds column, the “Nitrogen Applied in

Organic Fertilizers (pounds/crop-acre)" column will auto calculate to reflect the amount of nitrogen applied to each crop acre.

Liquid fertilizers and other liquid materials applied through the irrigation system as fertigation must be included in this section and reported as total pounds of nitrogen applied. . Tip: Please refer to the "Liquid Fertilizer Nitrogen Applied" tool to calculate Pounds of Nitrogen in Liquid Fertilizers.

If crops receive both nitrogen applied in conventional fertilizers and nitrogen applied in organic fertilizers, the total pounds of nitrogen applied must be distinguished and reported in respective columns. Refer to the example below to correctly calculate and report the average application of nitrogen applied in conventional and organic fertilizers.

A grower grows the first crop of head lettuce on 10 acres and applies conventional fertilizer nitrogen at 200 pounds/crop-acre, a second crop of head lettuce on 50 acres and applies conventional fertilizer nitrogen at 400 pounds/crop-acre, and a third crop of head lettuce on 100 acres and applies organic fertilizer nitrogen at 300 pounds/crop acre in addition to conventional fertilizer nitrogen at 100 pounds/crop-acre.

1) Calculate total crop-acres: 10+50+100 = 160 crop-acres

2) Calculate total pounds of nitrogen applied in **conventional** fertilizers to the three (3) head lettuce crops:

(10 crop-acres X 200 pounds/crop-acre) + (50 crop-acres X 400 pounds/crop-acre) + (100 crop-acres X 100 pounds/crop-acre = (2,000 + 20,000 + 10,000) = Total pounds of nitrogen applied in **conventional** fertilizers = 32,000 pounds of nitrogen

3) Calculate total pounds of nitrogen applied in **organic** fertilizers to the three (3) head lettuce crops: (100 crop-acres X 300 pounds/crop-acre) =

Total pounds of nitrogen applied in organic fertilizers = 30,000 pounds of nitrogen

Fertilizers Type

Specify if the crop received only conventional fertilizers, only organic fertilizers, or both conventional and organic fertilizers. "Section IV-B: Nitrogen Applied with Organic Fertilizers" becomes active when the "Only Organic" or "Organic and Conventional" selections are made in this column. If "Only Organic" fertilizer is selected, you are reporting that you applied zero conventional fertilizers to the crop during the reporting period. Therefore, the Nitrogen Applied in Conventional Fertilizers (Total Pounds) and Nitrogen Applied in Conventional Fertilizers (lbs/crop-ac) fields in Section IV-A will auto-populate with a zero value. Conversely, by selecting "Only Conventional" you are reporting that you applied zero organic fertilizers to the crop during the reporting period.

Crop Duration

Report the crop term duration: short-term, intermediate-term or long-term. In addition, report if the crops were harvested during the reporting period, as follows:

- SI-NFH, Short and Intermediate-term Crop (< 24 months long), Not Final Harvest
- S- Short-term Crop (< 12 months long)
- L-NFAH, Long-term Crop (> 24 months long), Not Final or Annual Harvest
- L-FAH, Long-term Crop (> 24 months long), Final or Annual Harvest
- I-FH, Intermediate-term Crop (12 to 24 months long), Final Harvest

A short-term Crop should be reported in the reporting year when it is harvested (finally harvested or killed). In the Crop Duration column select the “S”- option and report the total nitrogen applied to the short-term crop. For example, if a lettuce crop is planted in December 2020 but harvested in February of 2021, that lettuce crop must be included in the year 2021 TNA Report, submitted by March 1, 2022. The TNA Report must include all nitrogen applied during the entire crop cycle from December 2020 until harvest in 2021. However, if the short-term crop was not harvested during the reporting period, select the SI-NFH option to reflect the crop has not been harvested.

An Intermediate-term Crop should be reported each reporting year when it is grown. Select the “I-FH” option if it was the final harvest or the “SI-NFH” option if it was not the final harvest.

A Long-term Crop should be reported each reporting year. Select the “L-FAH” option if it was harvested or the “L-NFAH” option if it was not harvested.

Additional information

Report any additional information corresponding to the specific crop.

Nursery, greenhouses, and hydroponic operations will need to select the option that best describes how crops were grown. Additional options for propagation crops (grown for transplant) and crops grown under hoop houses are also available.

Select "R" if the crop is grown as part of a research trial or study and "not to maximize yields" or "not for human consumption."

Select "NY (no yield)" or "LY (low yield)" if applications of nitrogen were made to a crop, but all or a portion of the crop was lost, such as if the crop was "disked in" due to pests, disease, etc.

Note: All crops must be reported even if they have not been harvested, or otherwise, been killed, disked in, left on field, or, in other words, terminated but not harvested, during the reporting period.

Errors in Section IV

Crop reporting must start at Crop Row # 1. All crop reporting must include acreage, nitrogen present in soil for at least one crop, nitrogen in fertilizers and farming methods.

“Specific Crop” is a required field. At least one crop must be reported unless all acres were fallowed during the entire reporting period.

“Nitrogen Present in Soil” is a required field. Report the nitrogen content in the soil for at least one crop, this must be reported on Crop Row # 1.

“Nitrogen Applied in Conventional Fertilizers” is a required field for all crops reported. If no applications were made, please report "0", zero.

“Crop Duration” is a required field. Select the option that describes the crop duration.

“Certified Organic or Conventionally Grown” is a required field for all crops reported.

Section V: Basis for Amount of Total Nitrogen that Was Applied

Select all the boxes that apply to identify the basis for total nitrogen applied. This refers to the source of the information you used to know the amount of nitrogen taken up and/or required by each crop to grow and produce a desired yield, and to guide fertilizer application decisions. This is a required field, and it will prevent the form from being saved/submitted unless at least one option is selected.

Section VI: Explanations and Comments

Provide a brief explanation in this section if the information reported does not represent the entire 12-month reporting period, reporting acreage is different than the ranch acreage (e.g., due to fallow acres), any section in the report is incomplete, an APN(s) is deselected (provide an explanation for why total nitrogen applied is not being reported for the APN).Additional comments or explanations to assist with the processing of this form may also be included here.

Section VII: Certification

This report must be reviewed and certified by the list Operator/Responsible Party on the Operation enrollment form (eNOI) in GeoTracker. The RP must read to confirm the following statement is true, accurate, and complete: “I certify under penalty of perjury that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. ”Click on Save & Submit

By clicking on this button, you declare that you have read, understand, and accept the terms described in the Water Code Section 13267.

Questions About the TNA Report

Please contact Irrigated Lands Program Staff:

By Email: AgNOI@waterboards.ca.gov
By Phone: (805) 549-3148
By Mail: Irrigated Lands Program
Central Coast Water Board
895 Aerovista Place, Suite 101
San Luis Obispo, California 93401

Calculations and Conversions

Calculate the Pounds of Nitrogen applied with the Irrigation Water

Multiply the nitrogen concentration of irrigation water by the total volume of water used (in acre-feet from above calculation) and the appropriate conversion factor:

Nitrate concentration in water x Total volume water applied x Conversion factor.

The conversion factor to use depends on the units the lab used to report nitrate concentration. They typically use either Nitrate-Nitrogen (NO3-N) or Nitrate-Nitrate (NO3-NO3).

For nitrate-nitrogen (NO3-N) use the following formula:

> Lbs. N applied per ranch-acre = NO3-N concentration x ac-ft. water used per ranch-acre x 2.72

For nitrate-nitrate (NO3-NO3) use this formula:

> Lbs. N applied per ranch-acre = NO3-NO3 concentration x ac-ft. water used per ranch-acre x 0.62

Total volume of water = 1.41 acre-feet per ranch-acre
Average nitrate concentration = 20 mg/L as NO3
Conversion factor = 0.62

1.41 acre-feet/ranch-acre X 20 mg/L X 0.62 = 17.5 pounds of nitrogen / ranch-acre

Convert from Pounds of Fertilizer applied to Pounds of NitrogenApplied

Dry fertilizer and its active ingredients are expressed as weight per area. For example, 100 pounds of a 10-20-30 fertilizer-grade material contains 10 pounds of active ingredients nitrogen (N), 20 pounds of phosphorus (P2O5), and 30 pounds potassium (K2O), equaling 60 pounds total of active ingredients, while the remaining 40 pounds consist of inactive materials.

Example:
50 Pounds of fertilizer applied per acre
Fertilizer grade = 10-20-30
Percent nitrogen content in fertilizer = 10/100 = 10% = 0.1
50 pounds fertilizer X 0.1 nitrogen = 5 pounds of nitrogen applied per acre

Liquid fertilizer active ingredients are expressed on a volume basis. Typically, the net volume and net weight of a liquid fertilizer are available on the label. The liquid density can be calculated based on these values (divide the weight by the volume) and used to

determine pounds of nitrogen. For a few examples visit the website on "How to Convert Liquid Fertilizer into Dry Fertilizer in Fertigation for Commercial Vegetable and Fruit Crop Production".

Convert Between Nitrate as Nitrate (Nitrate-NO3) and Nitrate as Nitrogen(Nitrate-N)

To convert Nitrate-NO3 (mg/L) to Nitrate-N (mg/L):

Nitrate-NO3 (mg/L) x 0.2259 = Nitrate-N (mg/L)

> For example, to convert 45 mg/L NO3-NO3 to NO3-N: 0.2259 x 45 mg/L NO3-NO3 = 10.2 mg/L NO3-N

To convert Nitrate-N (mg/L) to Nitrate-NO3 (mg/L):

Nitrate-NO3 (mg/L) = 4.4268 x Nitrate-N (mg/L)

> For example, to convert 10 mg/L NO3-N to NO3-NO3: 4.4268 x 10 mg/L NO3-N = 44.3 mg/L NO3-NO3

Note: Laboratories might provide the nitrogen concentration in the irrigation water as Nitrate + Nitrite as Nitrogen (NO3NO2-N). In this case, apply the conversions for concentrations expressed as NO3-N (Nitrate as Nitrogen) apply.

Convert– from Soil Nitrogen content in parts per million (ppm) to Soil Nitrogen content in pounds per crop-acre (lbs./crop-ac)

N (lbs./acre) =

Nitrate-N (NO3-N) concentration (ppm) x 2 x soil sample thickness (inches) ÷ 6 in.

Note: Assuming 2 million pounds of dry soil in upper 6 inches/acre

> Example:
> Soil depth nitrate concentration (express as N) between 0 - 6 inches, is 8 ppm and between 6 - 24 inches, is 4 ppm
> Then:
> Pounds of nitrogen in 0 - 6-inches soil depth:
> 8 ppm X 2 X 6 inches ÷ 6 inches = 16 pounds nitrogen/crop-acre
> Pounds nitrogen in 6 - 24-inches soil depth:
> 4 ppm X 2 X 18 inches ÷ 6 inches = 24 pounds nitrogen/crop-acre
> Pounds nitrogen in 6 - 24-inches profile:
> 16 pounds + 24 pounds = The total is 40 pounds of nitrogen/crop-acre