



## IRRIGATION AND NUTRIENT MANAGEMENT PLAN (INMP) WORKSHEET INSTRUCTIONS

Complete an Irrigation and Nutrient Management Plan (INMP) Worksheet for every Management Unit in your membership. All INMP Worksheets must be kept on farm for all Management Units and made available upon request during inspections by the Los Angeles Regional Water Quality Control Board (Regional Board).

Each section heading below (all CAPS) corresponds to the section heading on the INMP Worksheet. The numbered references correspond to each numbered box on the INMP Worksheet. **Items with an asterisk shall be submitted to VCAILG on the Irrigation and Nutrient Management Report (INMR).**

### MEMBER INFORMATION

Enter the Ventura County Agricultural Irrigated Lands Group (VCAILG) membership identification number (**Member ID#**) and the **Member Name** associated with this membership.

### MANAGEMENT UNIT INFORMATION

**\*Items with an asterisk shall be submitted to VCAILG on the INMR.**

Enter the **Management Unit ID** for the Management Unit that you are writing the plan. A Management Unit is defined as a contiguous piece of land that has the same crop that is also the same age and managed with the same irrigation and fertilization program. For nurseries, a Management Unit can be a single contiguous location.

Enter the **Crop Year (Harvested)**. Information on INMP Worksheets should be based on the calendar year in which harvest was completed. This includes winter crops (i.e. berries, rotational vegetables, and some citrus crops such as navel oranges) for which fertilization may have occurred in the previous calendar year but harvest was completed in the following calendar year. Fertilization does not need to occur within the same calendar year to be considered a part of the current crop year.

Enter the **Crop Type**. Check with VCAILG for questions regarding specific crop naming conventions. If you have a permanent crop, enter the **Crop Age (Perennial Only)** in years.

Indicate if the Management Unit you are writing the plan for was identified as a **Statistical Outlier** by VCAILG for the previous crop year. VCAILG conducts a statistical analysis on the data provided from members for the nitrogen applied and nitrogen removed (based on yield) to determine statistical outliers. VCAILG provides annual feedback to members on reported nitrogen use including if the Management Unit was identified as a statistical outlier. If the Management Unit was identified as a statistical outlier in the previous crop year, mark "Yes". Contact VCAILG for any questions about this notification and statistical outliers.

Indicate if the Member meets at least one of the following **alternative reporting** qualifications for "A" only reporting, as listed below. If one of more criteria qualify, then Section 3: Harvest Yield is not required.

1. Growers that (1) operate in areas with evidence of no or very limited nitrogen impacts to surface water or groundwater, (2) have minimal nitrogen inputs, and (3) have difficulty measuring yield;



2. Diversified socially disadvantaged growers, as defined by the Farmer Equity Act of 2017, with (1) a maximum total acreage of 45 acres, (2) gross annual sales of less than \$350,000, and (3) a crop diversity greater than 0.5 crops per acre (one crop for every two acres); or
3. Growers with (1) a maximum total acreage of 20 acres, and (2) a crop diversity greater than 0.5 crops per acre (one crop for every two acres).

Indicate whether the Members total farming operation consists of 10 or fewer acres. If yes, certification of the INMP is not required.

## PARCEL MANAGEMENT

Use this table to account for all parcels for which the INMP covers. Multiple parcels or portions of parcels may be included in a single plan if they all have the same:

- Crop
- Crop age
- Fertilizer inputs
- Irrigation management
- Nitrogen management practices

Enter the **Assessor's Parcel Number (APN)** for each parcel associated with your plan.

Enter the **Operator Field/Block Name**, which is the name by which the farming operating refers to a particular field or block. If this does not apply, you may leave it blank.

Enter the **Irrigated Acres** for each parcel or portion of parcel to which this plan applies.

Sum the irrigated acres from each parcel for the **Total Acres** covered under the plan.

## COMMENTS/NOTES

Use the **Comment/Notes** box to provide any further information that may be pertinent to the worksheet (e.g. nitrogen use efficiency, nitrogen removal rates, reasons for substantial differences between plan and actual numbers, crop failure, unforeseen weather conditions, etc.).

## SECTION 1: PRE-SEASON PLANNING

**\*Items with an asterisk shall be submitted to VCAILG on the INMR.**

**Crop Evapotranspiration (1).** Enter the potential crop evapotranspiration (ET<sub>c</sub>) in inches anticipated for the season. Evapotranspiration rates are provided by geographical location, and multiplied by a crop-specific coefficient to estimate the amount transpired by your crops.

**Anticipated Crop Irrigation (2).** Enter the amount of irrigation water in inches expected to be applied over the course of the season.

**Irrigation Water N Concentration (3).** Enter the concentration of nitrogen in the irrigation water used on your crop as parts per million (ppm) or milligrams per liter (mg/L). The concentration of nitrogen in your irrigation



water can be obtained from sources such as local district testing, laboratory analysis, or other sources. These results can be reported as either Nitrate as N, nitrate-nitrogen, or NO<sub>3</sub>-N.

**Production Unit\* (4).** This is the standard unit that is the basis for your nitrogen management planning (tons, pounds, bins, cartons, bales, etc.); refer to your Coalition for specific production unit lists. If you use a production unit that is not pounds or tons, please provide the weight of the reported unit (i.e. “28 lb lug boxes” instead of “lug boxes”), as crops often have multiple possible harvest production units.

**Projected Harvested Yield (5).** This is the anticipated crop yield for the season, most commonly based off prior harvest yields for the Management Unit. The Projected Harvest Yield should be reported on a per-acre basis for the Management Unit covered by the plan.

**Total Nitrogen Recommended (6).** Projected Harvest Yield expectations will guide nitrogen management decisions and will inform the TOTAL N Recommended (6) to be used in Section 2: Nitrogen Management below.

## SECTION 2: NITROGEN MANAGEMENT

**\*Items with an asterisk will need to be submitted to the Coalition on the INMR.**

**Recommended/Planned N (Column A):** Complete the boxes in Section 2: Nitrogen Management in **Column A** based on the anticipated Nitrogen Sources required to obtain the **Total Nitrogen Recommended (6) and (12A)** (values in Box 6 and Box 12A should be the same). The values listed in **Column A** require certification. Use crop recommendations from CDFA, UCCE, NRCS, commodity organizations or site-specific knowledge to appropriately estimate the amount of nitrogen (N) necessary. Use Recommended/Planned N totals for each source of N and schedule applications for the crop year. Use additional tools/spreadsheets to plan timing for each application. Proper scheduling of N applications and irrigations is essential for efficient nitrogen management.

**Recommended / Planned TOTAL NITROGEN (12A):** All Nitrogen Sources in this section should be the total for **Recommended / Planned TOTAL NITROGEN (12A)**.

$$\text{Recommended / Planned TOTAL NITROGEN (12A)} = 7A + 8A + 9A + 10A + 11A.$$

Complete the following sections based on the nitrogen source:

- **Dry/Liquid Fertilizer N (7A and 7B\*).** The Dry/Liquid Fertilizers include any nitrogen- containing product with a guaranteed nutrient content. This number should be reported as the amount of nitrogen applied as pounds per acre; this may be different than the amount of fertilizer applied which may include other nutrients.
- **Foliar Fertilizer N (8A and 8B\*).** Foliar nitrogen applications include any nitrogen-containing product applied to the crop canopy or above ground plant parts, and should be reported in pounds per acre.
- **Organic Amendments (9A and 9B\*).** Organic Amendments include any nutrient applications from sources that do not have a guaranteed nutrient content, such as compost and manure applications. Applied organic amendments should be reported as the amount of nitrogen available to the plant during the crop year, in pounds per acre.
- **N in Irrigation Water (10A and 10B\*).** Enter the amount of nitrogen applied via irrigation water over the course of the crop year in pounds per acre. For planning **(10A)**, this value is calculated based on the **Anticipated Crop Irrigation (2)** and the **Irrigation Water N Concentration (3)**. For the Actual N column



**(10B)**, this value is calculated based on the actual crop irrigation and irrigation water N concentration. To calculate N in irrigation water, use the following formula:

$$\text{N concentration (ppm or mg/L)} \times \text{inches of irrigation applied} \times 0.226$$

Nitrate as nitrogen is also referred to as Nitrate as N, nitrate-nitrogen, or  $\text{NO}_3\text{-N}$ .

- **Soil – Available N in Root Zone (11A)**. Represents nitrogen in the soil root zone that is available to the crop during the growing season. Enter the amount of residual soil nitrogen based on soil samples or other available data.

**Actual N (Column B)\***: Fill in the **Actual N (Column B)** based on actual applied nitrogen amounts. This should be completed after the crop is harvested for each of the nitrogen sources outlined above. These values do not require certification. Use the Recommended/Planned N schedule to guide nitrogen applications throughout the growing season. Actual application amounts and timing can be adjusted based upon changing conditions (weather, pest damage, expected yield, tissue samples, etc.). The information in this column should reflect the actual application during the Crop Year. Refer to the Nitrogen Source section above for additional instructions and definitions.

Actual TOTAL NITROGEN (12B): Actual applied Nitrogen Sources should be the total for Actual TOTAL NITROGEN (12B).

$$\text{Actual TOTAL NITROGEN (12B)} = 7\text{B}^* + 8\text{B}^* + 9\text{B}^* + 10\text{B}^*$$

#### SECTION 4: IRRIGATION MANAGEMENT PRACTICES

**Irrigation Method (14)**. Check the box to indicate the irrigation method used the most for crop irrigation (primary irrigation) during the growing season for the Management Unit under this plan. If applicable, indicate any secondary irrigation systems. Secondary irrigation systems include those used for crop germination, frost protection, crop cooling, or salinity management.

**Irrigation Source (15)**. Select the source(s) of irrigation water to the Management Unit. Check all that apply.

**Irrigation Efficiency Practices (16)**. Check all boxes that apply to indicate irrigation efficiency practices used on the Management Unit during the season.

**Nitrogen Efficiency Practices (17)**. Check all boxes that apply to indicate any nitrogen efficiency practices used on the Management Unit during the season.

**Nitrogen Application Practices (18)**. Check all boxes that apply to indicate nitrogen application practices used on the Management Unit during the season.

**Data Informed Decision Making (19)**. Check yes or no to indicate whether fertilizer applications are informed based on results from irrigation water, soil residual, and/or tissue/petiole testing.

#### INMP CERTIFICATION



Plans are required to be certified for all growers, with the exception of growers with  $\leq 10$  acres of production who have not been designated as an outlier. The person certifying the plan must complete the **INMP Certification** section including signature, date, and method of certification. Any plan certifier should also initial the INMP Worksheet pages in the box in the bottom right corner.

Any INMP requiring certification must be certified by one of the following methods:

- Crop Advisers certified by the American Society of Agronomy (CCA). Any Certified Crop Adviser who certifies an INMP must also have completed the nitrogen management training program offered by the University of California Agriculture and Natural Resources (UCANR) and the California Department of Food and Agriculture (CDFA).
- Technical Service Providers (TSP) certified in nutrient management in California by the Natural Resources Conservation Service (NRCS)
- Self-Certified by Member who has attended the California Department of Food and Agriculture (CDFA) or other approved training program for INMP certification. The Member must retain written documentation of their attendance in the training program.
- Self-Certified by Member who adheres to a site-specific recommendation from the Natural Resources Conservation Service (NRCS Nutrient Management Plan). The Member must retain written documentation of the recommendation.

If you are exempt from INMP certification:

- You must state that your operation is  $\leq 10$  acres and that you have not previously been designated as an outlier on your INMP Worksheet.