

## General Guidance on the Timeline Requirements for Irrigated Lands Regulatory Program (ILRP) Nitrogen Management Plans (NMPs) for Citrus Crops

This guidance document was developed to help citrus growers understand and visualize the timeline and due dates of the annual Irrigated Lands Regulatory Program (ILRP) Nitrogen Management Plan (NMP) and the NMP Summary Report in High Vulnerability Areas (HVA). The NMP requirements are generally based on a calendar year (January through December) which does not align with the majority of citrus harvests. The figures provided in this document help understand the overlapping timelines for citrus crops, but brief narrative descriptions have also been provided. Recommendations on what units to use for the projected and actual yields are also included. Four generalized examples are provided, while acknowledging there will be exceptions to these examples:

- Navels, lemons, pomelos, and some mandarins (Large Farm, HVA – [Figure 1](#))
- Navels, lemons, pomelos, and some mandarins (Small Farm, HVA – [Figure 2](#))
- Early navel harvest (Large Farm, HVA – [Figure 3](#))
- Valencia's (Large Farm, HVA – [Figure 4](#))

The NMP Worksheet that was approved by the Central Valley Regional Water Quality Control Board (**Regional Board**) briefly discusses citrus timelines in the worksheet instructions quoted below. The important points for this document have been underlined.

### Crop Nitrogen Planning – Page 1

- “1. Enter the calendar year for which this report is based upon. Information in the NMP Worksheets should be based upon the calendar year a crop is harvested (i.e. winter cereal grains and some citrus should report information based on the year they are harvested even if fertilization is in the previous year). Newly planted trees or vines should report amount of nitrogen applied even if no crop is harvested.”

### Definitions – Page 3

- “Crop Year (Harvested): The crop year is typically January 1 to December 31. The exception is some winter cereal grains and some types of citrus; their crop year is based on when the crop is harvested. The date of the completion of harvest for the management unit will determine the timing for submission of a Summary Report to the water quality coalition (if required). For example, crops harvested in 2015 will need to be reported to the Coalition in 2016.”

Based on these instructions, the Crop Year (Harvested) for citrus should be the year in which harvest was completed (otherwise described in this document as the “Crop/Harvest Year”). For example, if navel harvest was completed in June 2016, that crop information and all the nitrogen planning and applications for that crop would be considered the 2016 Crop/Harvest Year. For “Large Farms” (> 60 acres) in HVAs, the NMP Summary Report would be due to the water quality coalition (s) by March 1, 2017. Specific hypothetical examples are discussed below.

#### **Example 1: Generalized timeline requirements for navels, lemons, pomelos, and some mandarins harvested from a large farm in a HVA.**

This example is generally based on navel oranges, but similar concepts should apply to many lemons, pomelos, and some mandarins. It is possible that the NMP and NMP Summary Report process could span approximately 27

## TIMELINE REQUIREMENTS FOR NITROGEN MANAGEMENT PLAN CITRUS CROPS Irrigated Lands Regulatory Program

---

months for one Crop/Harvest Year (e.g., January 2016 through March 2018) and overlap with the next Crop/Harvest Year. [Figure 1](#) illustrates a generalized timeline for this scenario.

The first year that large farms in HVAs were required to complete a NMP was 2015, but the NMP did not have to be certified. This year was considered a practice run. Since navel harvest was not completed until June 2016, this harvest would be considered the 2016 Crop/Harvest Year. Nitrogen applications that occurred in April through July 2015 ([Figure 1](#)) will be included in the “Actual N” column 27 and the “Post Production Actuals” box (Boxes 11 and 12) of the NMP. The first NMP Summary Report was due by March 1, 2017. Submission of the NMP Summary Report completes the 2016 Crop/Harvest Year.

The initial nitrogen management planning and nitrogen applications for the 2017 Crop/Harvest Year begin while the 2016 Crop/Harvest Year crop is being harvested ([Figure 1](#)). Although these nitrogen applications are applied in 2016, the nitrogen is actually for the next crop harvest that will be completed in 2017, so they should be included in the 2017 Crop/Harvest Year NMP and NMP Summary Report. It is important to align nitrogen applications with the crop harvest that actually utilizes the applied nitrogen. The harvest is completed in June 2017, and the NMP Summary Report will be submitted to the coalition by March 1, 2018. This process continues on an annual basis.

### **Example 2: Generalized timeline requirements for navels, lemons, pomelos, and some mandarins harvested from a small farm in a HVA.**

This example is generally based on navel oranges, but similar concepts should apply to many lemons, pomelos, and some mandarins. This example is very similar to Example 1, but a NMP was not required in 2015 since it is a small farm ([Figure 2](#)). The first NMP was required in 2016 for a crop harvest that is completed in 2017. Therefore, the first NMP Summary Report is not due to the water quality coalitions until March 1, 2018. Growers that fall within this example are not required to submit a NMP Summary Report to the coalitions in 2017.

### **Example 3: Generalized timeline requirements for navels that are completely harvested by December from a large farm in a HVA.**

This example assumes a large farm (> 60 acres) in a HVA ([Figure 3](#)). The first year that large farms in HVAs were required to complete a NMP was 2015, but the NMP did not have to be certified. This year was considered a practice run. The first NMP Summary Report was required by March 1, 2017.

In this example, we are assuming navel harvest begins and ends the same year, so the 2017 Crop/Harvest Year begins in January and concludes in December 2017 ([Figure 3](#)). Nitrogen management planning began in January 2017 after harvest of the 2016 crop is completed, and the NMP was certified by March 1, 2017. Nitrogen applications generally occur in April through July, and crop harvest is completed in October through December 2017. The NMP Summary Report for the 2017 Crop/Harvest Year will be submitted to the water quality coalitions by March 1, 2018.

### **Example 4: Generalized timeline requirements for Valencias from a large farm (>60 acres) in a HVA.**

This example assumes a large farm (> 60 acres) in a HVA that grows Valencia oranges, but similar concepts may also apply to other citrus such as grapefruit. Crop harvest was completed by September 2016, so all nitrogen planning, nitrogen applications, and yield for that harvest is considered the 2016 Crop/Harvest Year ([Figure 4](#)). The initial nitrogen management planning and applications occurred in the spring to early summer of 2015. The first year that the NMP required certification was 2016, and the first NMP Summary Report was due by March 1 of 2017.

The initial nitrogen management planning and nitrogen applications for 2017 Crop/Harvest Year occurred during harvest of the 2016 Crop/Harvest Year ([Figure 4](#)). Since these nitrogen applications were for fruit that will be harvested in 2017 (the “second crop”), they will only be reported on the “Actual N” and “Post Production Actuals” column of the 2017 Crop/Harvest Year NMP, not on the 2016 Crop/Harvest Year NMP. The NMP Summary Report for the 2017 Crop/Harvest Year will be due to the water quality coalitions by March 1, 2018.

## What do I use for my projected and actual yields? (gross vs. net yields)

According to the Nitrogen Management Plan Summary Report Instructions page 1 and instruction number 7:

- “For A/Y (applied over yield) divide the Total Available N Applied by the Actual Yield ([box #20 + box #23] / box #11). Actual Yield is the gross weight of crop that is removed from a field . . .”

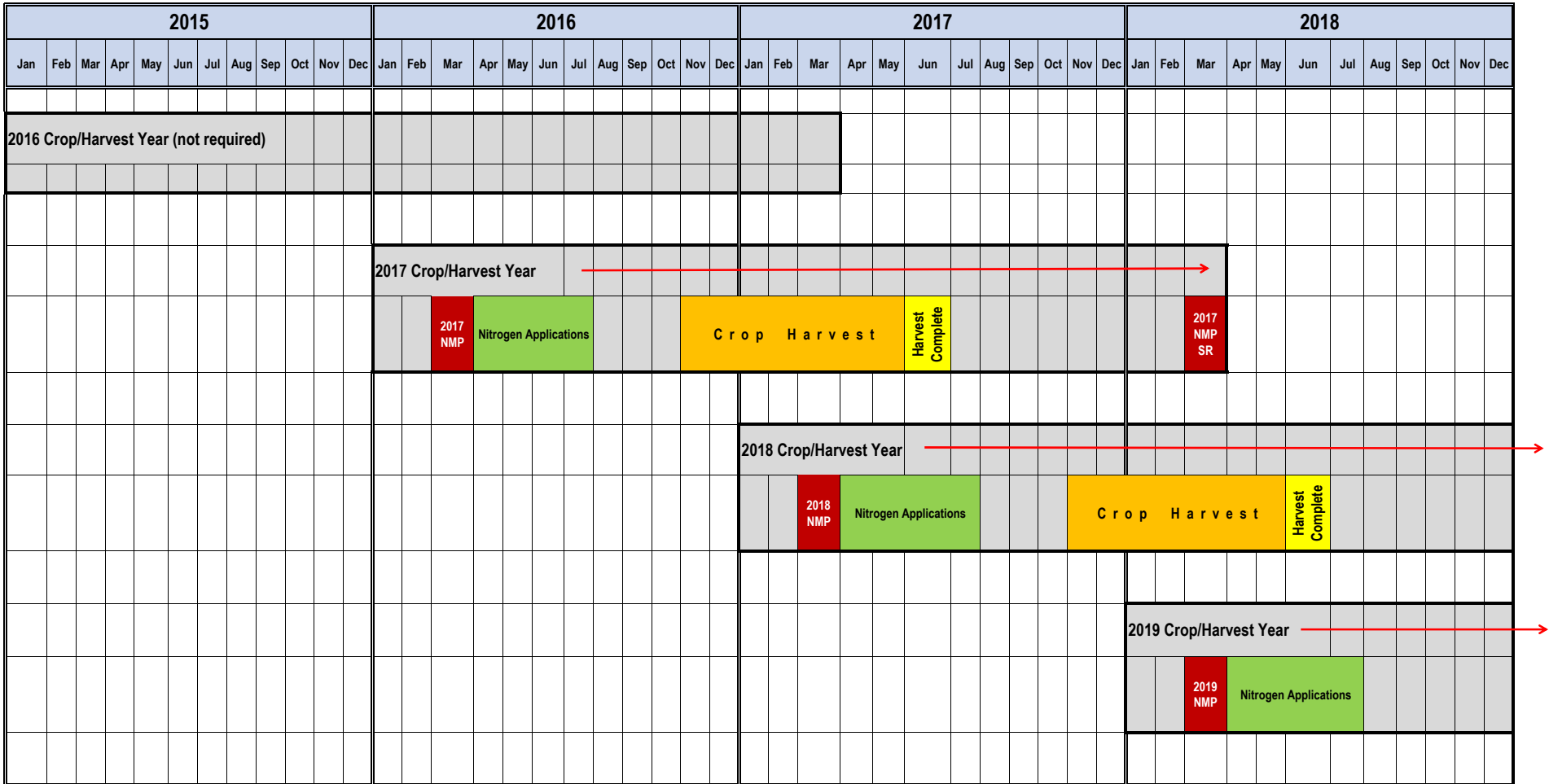
In order to determine a nitrogen recommendation for the NMP (Box 9), a projected yield must be determined. Actual crop yield is also required on the NMP (Box 11). There has been some confusion regarding what production units should be used for the projected yield (e.g. total bins picked per acre vs. packed cartons, etc.). If the number of packed cartons from the packing house (“packout yield”) is used as the projected yield, it may only represent 70-90% of the fruit that was actually picked from the field. This packout yield represents the **net weight** of crop removed from the field. For nutrient management purposes, the total amount of fruit that is picked from the trees and removed from the field should be used for the projected yield (**gross yield**). Culled and juiced fruit still removes some nitrogen and other applied nutrients, so it also needs to be included when determining a nutrient recommendation. If the total predicted amount of picked fruit is not used to calculate a nitrogen recommendation, under application of nitrogen and other nutrients is likely to occur. See the example below:

- Yield from contracted harvesting company = 45 bins/acre
- Assume 1.85 lbs nitrogen removed per 1000 lbs of harvest fruit (1.85 lbs N/1,000 lbs fruit; from CDFA FREP website - [https://apps1.cdfa.ca.gov/FertilizerResearch/docs/N\\_Citrus.html](https://apps1.cdfa.ca.gov/FertilizerResearch/docs/N_Citrus.html))
- 70% Nitrogen Use Efficiency Factor
- Using these assumptions, the nitrogen recommendation would be approximately 107 lbs N/acre.
- Assume the packinghouse packed 70% of the total picked fruit (756 cartons/acre or 31.5 bins/acre).
- If the packout yield of 756 cartons/acre was used as the projected yield for nitrogen planning, the nitrogen recommendation would only be 75 lbs N/acre instead of 107 lbs N/acre (70% of what it should be).
- This 32 lbs N/acre difference could contribute to reduced yields.
- **Recommendation: Use total harvested bins/acre as the projected yield and the actual yield (gross yield) on the NMP.**



## Generalized ILRP Reporting Guidance for Citrus Crops - Navels, Lemons, Pomelos, and some Mandarins.

**Figure 2.** General timeline for the Nitrogen Management Plan (NMP) requirements for navels, lemons, pomelos, and some mandarins from a small farm in a HVA that harvests from approximately October through June.

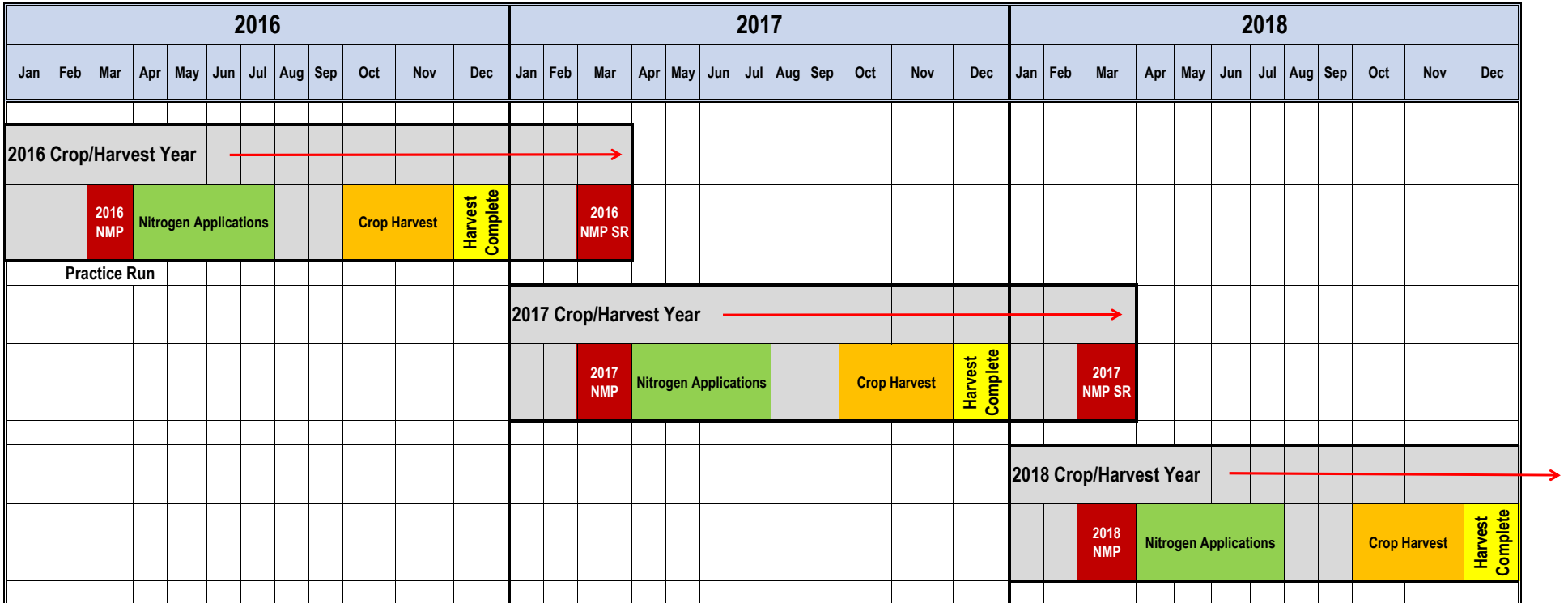


**NOTES:**  
 Each Crop/Harvest Year shown in the above bars are independent linear pathways. For example, there is no direct connection between 2016 and 2017 Crop/Harvest Year

- 201X  
NMP = The NMP Worksheet must be complete and certified by March 1 of each year.
  
- Harvest  
Complete = Approximate range of harvest completion. The year harvest is completed determines the timing for submission of the NMP Summary Report
  
- 201X  
NMP  
SR = Nitrogen Management Plan Summary Report due to coalition by March 1.

## Generalized ILRP Reporting Guidance for Citrus Crops - Early Harvest of Navels

**Figure 3.** General timeline of the Nitrogen Management Plan (NMP) requirements for a large farm in a high vulnerability area that completes navel harvest by December each year.



**NOTES:**

Each Crop/Harvest Year shown in the above bars are independent linear pathways. For example, there is no direct connection between 2016 and 2017 Crop/Harvest Years.

201X NMP = The NMP Worksheet must be complete and certified by March 1 of each year.

Harvest Complete = Approximate range of harvest completion. The year harvest is completed determines the timing for submission of the NMP Summary Report

201X NMP SR = Nitrogen Management Plan Summary Report due to coalition by March 1.

