UC CE UNIVERSITY OF CALIFORNIA Agriculture and Natural Resources Cooperative Extension

Sacramento Valley Prune News

May, 2025 – Part 2

In This Issue

Submitted by:

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Save The Dates					
Date	**Event**	**Time**	**Location**		**Contact**
May 29	**Prune Research Tour, Part 1**	8-12 p.m.	Davis/ Winters	Register Here!	Jaime Ott, njott@ucanr.edu
June 24	**N. Sac Valley Groundwater and SGMA**	12-2 p.m.	Los Molinos Vets Hall	TBD	Jaime Ott, njott@ucanr.edu
July 15	**Prune Research Tour, Part 2**	8-12	TBD	TBD	Jaime Ott, njott@ucanr.edu

Some Factors to consider when evaluating a new crop enterprise for your farm

Domena A. Agyeman, UCANR Economic Advisor; Butte, Glenn, and Tehama Counties

One of the common requests I have received from crop producers and other agricultural stakeholders in the Sacramento Valley is for insights into alternative crop options that are drought- and disease-resistant and have the potential to command higher prices. With high production costs squeezing profits for major crops like walnuts, almonds, and prunes, and yields becoming increasingly uncertain due to weather and disease, it is no surprise that growers are showing increased interest in exploring new crop enterprises they can diversify into. **A crop enterprise** is a farm activity focused on producing a single crop commodity, like prunes, almonds, or walnuts. Your overall farm business operation includes all the enterprises you manage. Choosing the right crop enterprise for your farm is key to success.

This article draws on the PRIMER method designed by Professors Tim Woods and Steve Isaacs of the University of Kentucky Cooperative Extension. In no particular order of importance, PRIMER stands for: Profitability, Resources, Information, Marketing, Enthusiasm, and Risk. Each factor comes with guiding questions to help growers assess whether a new farm enterprise is a good fit. The full PRIMER for selecting a new farm enterprise, which includes detailed worksheets and factor-specific questions for deeper evaluation can be found here. This article highlights the basic, yet essential questions that are often overlooked. If you answer more "Yes" than "No" or "Maybe," then you are a good candidate to pursue your options further in a detailed analysis.

Profitability: Unless the operation is intended as a hobby, assessing profitability is a necessary step before adopting any new crop enterprise. Profitability is not just about high market prices, it also depends on yield potential and production costs, For crops that take more than a year to start producing or generating revenue like orchards, an investment analysis may be necessary to understand whether it can realistically generate enough returns to cover the potential initial and year-by-year expected production costs over time. Upfront or initial investments, such as planting, land acquisition or irrigation systems, are expenses needed to get started. Measures like the net present value (NPV) which consider the time value of money and the size of the stream of returns over time can help evaluate whether the long-term returns will be worth the investment. Some high-value crops may appear attractive due to strong market prices but come with significant costs that can quickly erode margins. Market conditions may play a role. Attractive prices may draw many

producers to the same crop, leading to oversupply and depressed prices. Taking a balanced approach that accounts for expected costs, yields, and market conditions will help make more informed decisions.

Questions	Yes	No	Maybe
Does this crop have promise to deliver enough revenue related to the required investment			
Can I build in special competitive factors that can enable profits to be durable over time?			
Is there a considerable upfront cost to be incurred?			
Can I set specific, measurable, attainable profit goals for this crop?			

Resources: A new crop enterprise may require a different set of resources such as land, labor, equipment, and buildings. When current resources can be leveraged, the risk of entering a new venture is significantly reduced. Being realistic about what you already have and what you are willing or able to invest can help avoid costly surprises. Additionally, lenders may be hesitant to provide financial support for large capital investments for untried alternatives.

Questions	Yes	No	Maybe
Is this crop adaptable to my area?			
Do I have experience with this crop?			
Do I have, or can I get, the resources needed (e.g, labor, machinery, land), to produce this crop?			

Information: Access to relevant information is essential when considering a new crop enterprise. While the internet has expanded access to agricultural knowledge, the abundance of information requires careful filtering to identify trustworthy sources and details relevant to your specific situation. Without accurate and applicable information, even the most promising crop enterprise can lead to costly missteps. Research-based insights shared through workshops, field days, and newsletters from cooperative extension services have long been a trusted resource for helping California farmers make informed decisions. Additionally, talking to other growers with firsthand experience can provide valuable real-world perspective.

Questions	Yes	No	Maybe
Do I have the “know how” to produce and sell this crop?			
If I don’t “know how “, do I know who to ask?			
Is the expertise (e.g., extension advisors, PCAs, or experienced growers) for this crop available in my area?			
Is most of the production information (e.g, manual or guide) readily available in my area?			

Marketing: Successfully growing a new crop is only the first step, you also need to sell it profitably. That is why a good marketing plan is just as important as a good production plan. Building relationships with potential buyers and understanding their preferences is critical to meeting market demands. Researching buyer preferences can help identify unique product features that enhance market appeal. Growers should also evaluate which available marketing channels, be it direct sales, contracts, wholesale, retail, or cooperative marketing, best align with their business goals, as prices can vary significantly across channels. For crops that must be sold to processors or handlers, growers should understand their requirements, including contract terms, and whether they are accepting new growers. Marketing is often one of the most

challenging aspects of a new enterprise, as it involves answering a wide range of questions. Pages 19-22 of Woods and Isaacs new enterprise selection guide provide four practical worksheets that can help producers develop a marketing strategy tailored to their proposed enterprise.

Questions	Yes	No	Maybe
Am I willing to spend as much effort in marketing as in production?			
Is selling a new product to a customer something I'm comfortable with?			
Are there several promising customers who could be pursued?			
Will I have to do the major part of the marketing?			

Enthusiasm: Enthusiasm can fuel the determination needed to overcome challenges, pursue new knowledge, and push a new enterprise toward success. However, it is important to balance passion with objectivity. While strong emotional ties may drive commitment, they can also cloud judgment and lead to decisions that overlook practical or financial realities—even for experienced managers. That is why it is essential to clearly identify both the reasons for pursuing a new crop enterprise and the reasons for choosing not to during the evaluation stage. Pairing these reflections with a list of specific, measurable, and attainable goals can help clarify your motivations and answer the key question: Why do I want to do this? That said, many growers today are asking about new crop options not out of excitement, but out of necessity, because current options don't seem profitable due to high production costs and low prices. This shift in motivation is entirely understandable and important to acknowledge. Even if enthusiasm is not a main driver, taking the time to reflect on your goals and expectations remains a valuable part of the decision-making process.

Questions	Yes	No	Maybe
Is this something I will enjoy doing?			
Is there enough variety in the production and marketing activity to keep this interesting?			
Is this something I can get better at with practice?			

Risk: Agriculture involves many sources of risk and uncertainty, whether from production, markets, finances, legal, or personal factors. When evaluating a new crop enterprise, it is important to ask: What are the key risks involved, and how am I prepared to manage them? A sound decision-making process identifies the major risks and considers how they can be mitigated. Some examples of risk management strategies are diversification, insurance, marketing contracts, and credit reserves. Keep in mind that the more unusual or unfamiliar a crop enterprise is to your region, the greater the potential risk.

Questions	Yes	No	Maybe
Are there significant sources of production risk?			
Are there significant sources of financial risk?			
Are there significant sources of marketing risk?			

Exploring new crop enterprises can be a good strategy for growers looking to adapt to rising costs, market shifts, and environmental challenges. However, choosing the right enterprise involves more than identifying a high-value crop price, it requires careful evaluation of your goals, resources, and risk tolerance. The PRIMER method offers a practical starting point, guiding you through key considerations: profitability, resources, information, marketing, enthusiasm, and risk. Taking time to ask the right questions about these factors upfront can help you avoid mistakes and build a stronger foundation for long-term success.

If you would like to talk through the PRIMER evaluation in the context of your operation, you can contact me at dagyeman@ucanr.edu or 530-552-5812.

Resources

Woods, T., & Isaacs, S. PRIMER for Selecting New Enterprises for Your Farm. University of Kentucky Cooperative Extension Service. Agricultural Economics Extension No. 00-13 August 2000

GDH30 for 2025: where we stand and what it means

Jaime Ott, UCCE Tehama, Shasta, Glenn, and Butte Counties

The growing degree hours in the 30 days after full bloom (GDH30) is a measurement which predicts reference date, harvest date, and fruit sizing potential. It is counterintuitive, but **higher** GDH30 (warmer weather after bloom) results in **earlier** reference date, **earlier** harvest date, and **smaller** maximum fruit size.

The Bottom Line

- GDH30 in the Sac Valley is high this year (7,500-8,000 degree hours)
- We expect an earlier reference date and earlier harvest date given a late March bloom timing, and less fruit sizing potential than in a cooler spring.
- You might consider thinning **earlier** and **harder** than usual to counteract the effects of our warm spring on fruit size at harvest
- **Cropload management, water management, and nutrient management are the most important factors affecting your fruit size at harvest**. While GDH30 influences fruit size, it is a comparatively small effect and out of your control. You do control cropload, irrigation, and fertilization.

The Details

The weather in the 30 days after full bloom has a strong effect on the growth and development of prune fruit, and helps us predict reference date, harvest date, and fruit sizing potential. Growing degree hours accumulated in the 30 days after bloom (GDH30) distills temperature data over those 30 days into a single number which is easy to compare from year to year. According to many years of research, lower GDH30 values correspond with later reference date, later harvest date, and larger fruit size at harvest. The opposite is also true: years with higher GDH30 values have earlier reference date, earlier harvest, and smaller fruit size at harvest. This year, GDH30 in the north Sac Valley is high, around 7,700-8,000 degree hours in the orchards I am monitoring. In Sutter County, GDH30 is also high, running about 7500 this year. A rule of thumb: for the same number of fruit per tree, years with GDH30 over 6,000 will have smaller fruit at harvest than a year with lower GDH30. This means that we are likely in for a poor fruit sizing year—in orchards with good fruit set, thinning early and hard will help to counteract the effects of our warm spring on final fruit size. What do I mean by "thinning hard"? Generally aiming for the lower end of a target fruit per tree count. For example, if you usually target 3500-4000 fruit per tree in a certain orchard, this looks to be a year to try hard to hit 3500 and not settle for 4000 or 4500 fruit per tree.

It may seem counterintuitive that warmer springs (higher GDH30) result in smaller fruit at harvest, but it can be explained by how prune fruit develop and grow. First, it is important to understand that development and growth are two separate processes, but both contribute to "growth" of the fruit which we might see or measure (Figure 1). Development involves cells in the fruit undergoing cell division (increasing the total number of cells) and undergoing differentiation or maturation (being assigned to a final function and taking on characteristics of that function, like pit cells hardening or the skin cells turning purple during ripening). Growth is simply the expansion of cells which are already present. In the first week or two after bloom, the "growth" we see is dominated by the increasing number of cells. After that, cell division slows rapidly, finishing well before pit hardening. The "growth" we see for the rest of the season is exclusively due to those cells getting bigger and/or heavier, like water balloons being filled. Development does continue throughout the season, but there is no more cell division, and cell differentiation and maturation do not contribute much to visible fruit growth. Temperature plays a huge role in how long the cell division part of development lasts and how many cells are produced. Warmer temperatures (higher GDH30) result in a shorter, more intense cell division stage. Cooler temperatures (lower GDH30) result in a longer, more moderate cell division stage. Before reference date thinning in a high GDH30 spring, there are not enough resources in the tree to feed all the fruit at the rate they are demanding, so each fruit produces a smaller total number of cells. Over the rest of the season (if cropload, water, and nutrients are not limiting) cells will grow to their maximum size, so fewer total cells results in a smaller maximum fruit size possible at harvest (Figure 2). Thinning earlier than normal can help counteract this by reducing the number of fruit and allowing the tree to deliver more resources to each of the remaining fruit, which should grow faster and be larger at harvest.

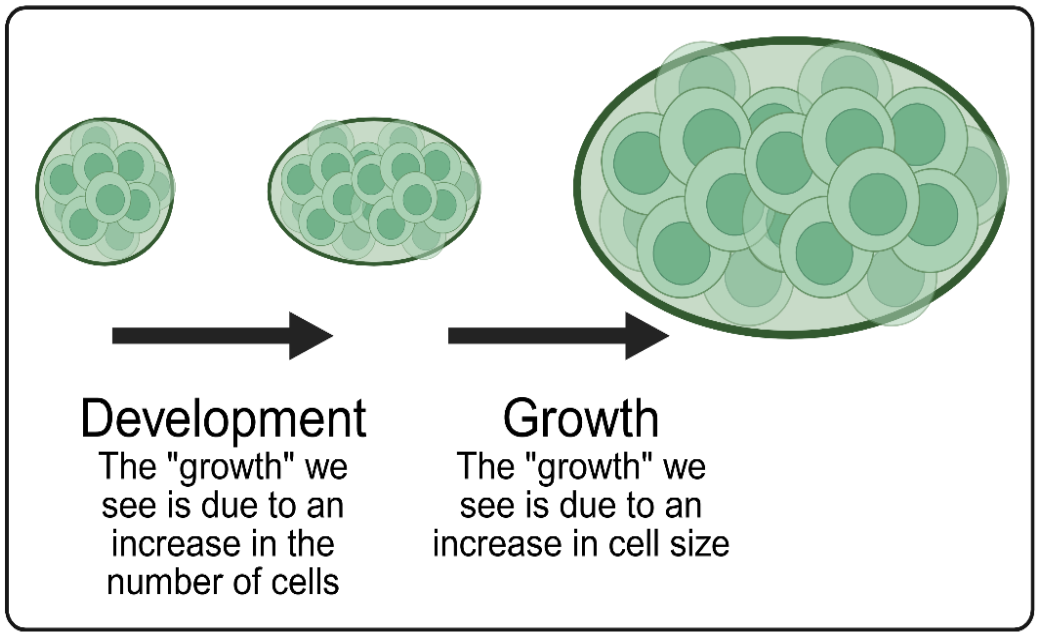

Figure 1. A simplified diagram of development (cell division) and growth in prune fruit, both of which contribute to the "growth" we see. Light green circles represent cells, each with a dark green nucleus. During the first week or two after bloom, the fruit "growth" we see is dominated by an increasing number of cells. After that, cell division slows and stops rapidly, and the "growth" we see is due to an increase in cell size.

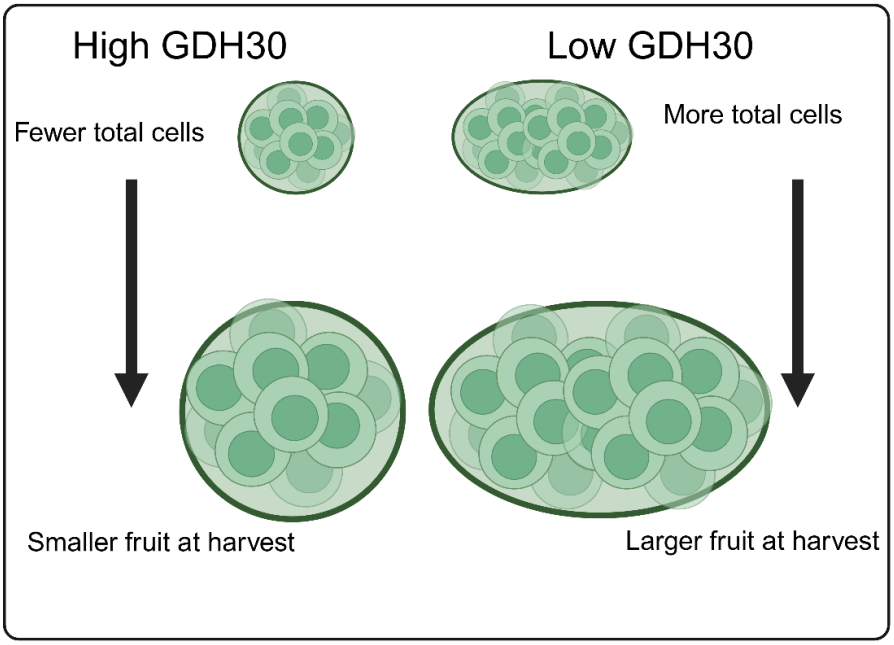

Figure 2. A representation of how GDH30 affects fruit size. In years with high GDH30, the cell division period is short and intense, leading to a smaller number of cells making up the fruit. In years with low GDH30, the cell division period is longer and more moderate, leading to a larger number of cells making up the fruit. During the season (if cropload, water, and nutrients are not limiting) cells will grow to their maximum size. This results in smaller fruit in years with high GDH30.

With all this talk about GDH30, it is important to remember that **cropload management, irrigation management, and nutrient management are the three most important things affecting your final fruit size**, and they are all under your control as a grower. GDH30 tells us about the theoretical maximum size your fruit can achieve, but those cells can't reach their maximum size if they are competing with too many other fruit (heavy cropload), if the tree is water stressed, or if there isn't enough potassium to go around. GDH30 is a valuable tool because it gives you a sneak peek at what sort of sizing year we are likely to have, helping you make thinning decisions that are tailored to the season. This year, with such a high GDH30, consider thinning as early as possible and erring on the side of taking a little more fruit off the trees. Getting cropload right and following it up with a good irrigation and fertilizer program is the recipe for the highest grower returns at harvest.

More information on GDH30, including links to the research this article is based on.
You can calculate the GDH30 for your orchard using data from your local CIMIS station at the UC Fruit and Nut Research and Information Center. The model is for peaches but also works for prunes.

Prune Fruit Bloom Report, 2025

Franz Niederholzer, UCCE Farm Advisor, Colusa and Sutter/Yuba Counties

In 2025, prune bloom was late with a very hot spike in temperature around full bloom. This led to concern for a very light fruit set across all orchards (crop failure). Fortunately, five weeks after full bloom, the fruit set looks to be generally good across the Sacramento Valley. Fruit set counts in orchards from Sutter to Tehama Counites are generally very good (20-40% set). These are good fruit set numbers, but a light bloom in some orchards has contributed to a variable crop picture from orchard to orchard around the valley. However, overall, it looks like there's a good chance for a decent prune crop this year in the Sacramento Valley.

Results from this spring support the following statements:

- Early blooming years (full bloom before March 15-16) have higher risk of weather-related poor fruit set than those with later bloom (after March 16).
- A good prune fruit set can be expected when full bloom is late (after March 21).

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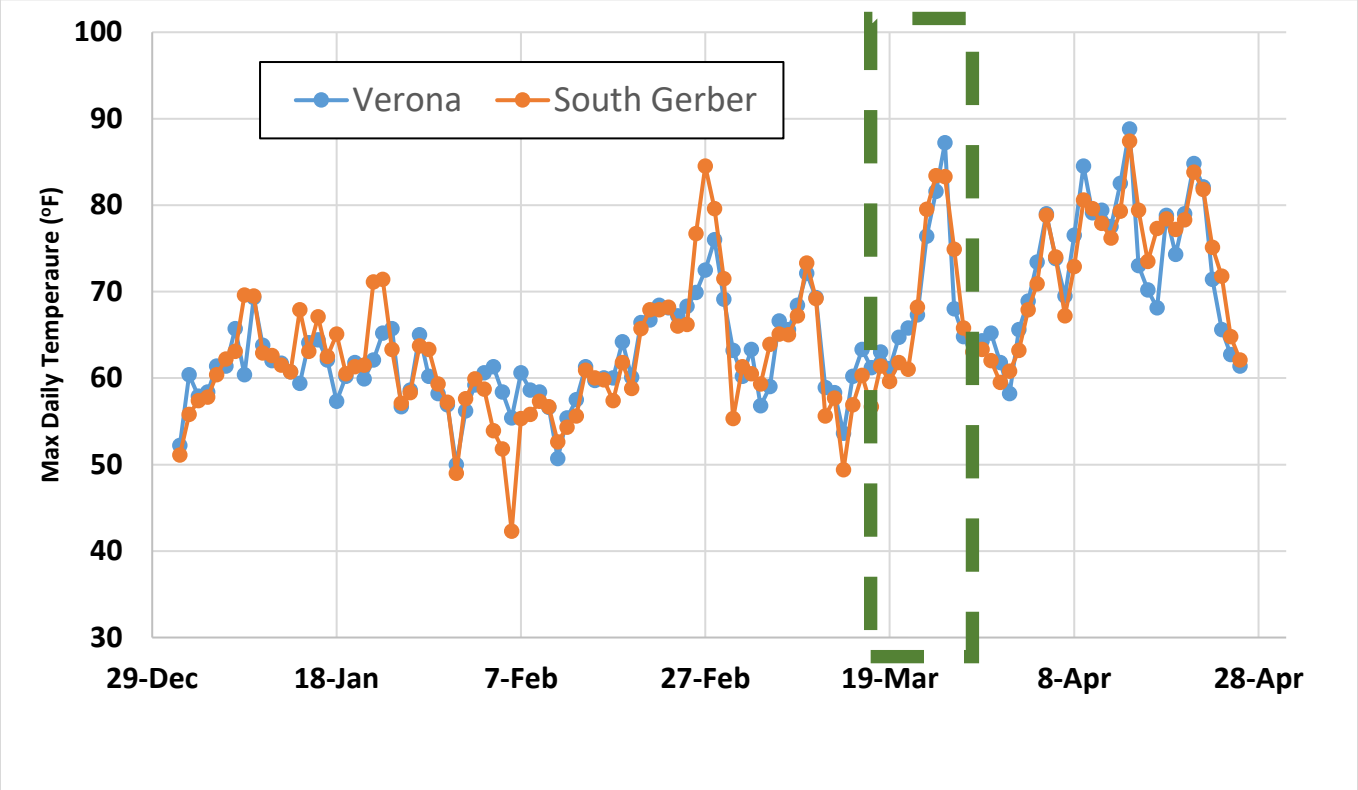
Maximum daily temperatures and timing of prune bloom (0-100% open flowers = green box), from south (Verona CIMIS station) to north (South Gerber CIMIS station) Sacramento Valley, 2025.



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Prune Newsletter