



INDEX FRESH®

# THE INSIDER

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## CULTURAL PRACTICES

Over the years I've been writing for Index Fresh's newsletter, The Insider, I've touched on many subjects mostly directed toward improving avocado yields. These topics have covered a myriad of subjects ranging from irrigation and fertilization to girdling and biochar, but I've never made specific recommendations for things that have proven themselves to be worthwhile and that we should all be doing today. Many of you are currently practicing many

of these cultural tasks, however there are many growers who could benefit from these production boosting ideas. Hopefully this article will address the main cultural tasks, we should all be doing so that we're all following the path toward maximizing production. Below find my "Top Ten" list of tasks we should all be doing which are presented in order from least to most important. This is my way of encouraging you to read this article through to the end.

### Insect Monitoring

At least twice a month you should all have somebody look at your trees to insure there are no infestations taking place in your grove. Persea mite, Avocado Thrips as well as the newer PSHB are just some examples of pests which, if left untreated, can devastate a grove or the crop. Keeping an eye on the grove, coupled with proper treatment if discovered, will minimize the adverse affect of an infestation when it occurs.

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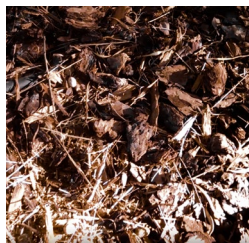


### Harvesting

It's well known that keeping fruit on the tree longer than necessary will negatively impact the following years' crop. This is a result of the tree doing "double duty" with resources from the tree being allocated to both the new crop for next year as well as continuing to support the old crop which set the year before. If all or a good portion of the old crop can be removed from the tree early in the season, overall yields will improve. The grower should keep in mind that market pricing has an obvious role in overall financial returns so market conditions should also play a role in harvest timing. The availability of labor is another factor limiting harvesting so generally speaking it's better to be proactive in lining up picking contractors well in advance of the harvest to help insure an optimal timing.

### Girdling

There's little doubt that girdling a branch will significantly increase the yields on the girdled branch the following year. Girdling is a powerful tool which, when used properly, can reduce alternate bearing, possibly increase fruit size and when combined with a coordinated pruning program significantly increase yields. Care should be taken to only girdle healthy trees to reduce decline rates in sick trees. In addition, the width of the girdle should be narrow (the width of a saw or knife blade) to allow rapid healing of the cambium, promoting sizing for the heavier crop.



### Mulching

Not only will mulching improve the structure and fertility of the soil but it can reduce evaporation and suppress weeds especially in newly planted groves. In a mature grove the benefits of mulching are



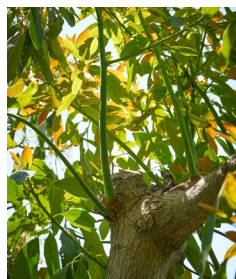
probably not as significant as on a small new tree where weed development is more likely. Mulching provides many benefits, but there are also risks associated with bringing material into our groves from outside sources. To avoid introducing food safety and pest issues (Shot Hole Borer) it is best to use certified mulch and to understand the source.

### Mounding and Soil Preparation

If you're planting some new trees there're few things that you can do that would be better for the tree than mounding and soil preparation. The looser soil and better drainage, brought about by mounding will benefit root growth, tree growth and production significantly throughout the entire life of the tree. If you're putting new trees in the ground you should certainly be doing this.

### Pruning

The benefits of pruning are many with studies showing consistent increases in yield and tree health. If done right, pruning can significantly improve light management, tree height, limb rejuvenation, fruit size and overall productivity. When combined with an effective girdling program the benefits of pruning can be even further pronounced. For best results pruning should be conducted during the winter and spring months to encourage new wood to flower the following year.



### High Density

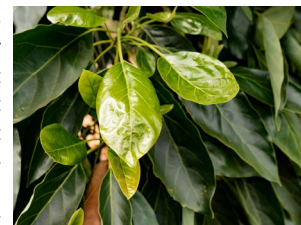
I think there's been enough work done to put this one on the list. High density plantings can result in significantly greater yields per acre especially during the early years of the groves development. If combined with proper mounding and soil preparation these increased yields can be dramatic when compared to groves planted at conventional spacing. Harvesting costs



are significantly less in high density plantings and because high density orchards require a disciplined pruning program, the high costs associated with pruning tall trees back to a manageable height can be avoided. Anyone considering the development of a new grove or increasing their existing plantings should give strong consideration to high density growing.

### Soil and leaf testing

In order to maximize yields it's important to know the status of your grove. Liebig's Law tells us that production is limited by the least available resource, but if you don't know what that least available resource is, then you're shooting in the dark. A leaf and soil test will give you these answers which will allow you to correct for these deficiencies to maximize production for the current and subsequent years. Getting an annual soil and leaf analysis is a must if you want to maximize the productivity of your grove.

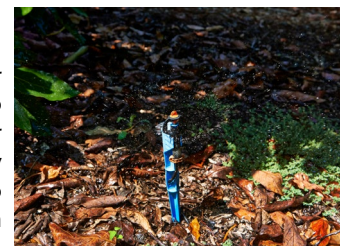


### Fertilization

Applying the proper fertilizer at the proper time is a key component toward maximizing productivity. When combined with an annual soil and leaf tests, fertilization is my number two most important activity a grower can do to maximize the yields of their grove. For a small fee, testing labs will often provide a recommended fertilizer application schedule outlining not only what fertilizer to use, but when to apply it in a specific amount based on the results of the testing they do. Well worth the money.

### Irrigation

When it comes to the number one activity that a grower can do to optimize production proper irrigation tops the list. I recently sat down with a new grower who purchased a 20-acre grove in



Escondido. He told me that his yields were about 3,500 pounds for the entire grove that year. When I asked about his irrigation he stated that he was applying about 1-acre foot of water per year. In Escondido, the recommended amount should be about four acre feet per year. This grower would have done considerably better by taking that same amount of water and applying to five of his twenty acres which would have undoubtedly given him far better production than his current technique. If you're not irrigating properly it doesn't matter if you're doing everything else right.

### Closing Thoughts

While the above activities are important tools that we should be practicing there are many other things to be aware of which may or may not play a significant role in your grove. Do you have root rot? If you do then doing periodic trunk injections of phosphorous acid is something that will definitely improve your production. Are your trees over 40-feet tall with the canopy at the top? Then you should consider an annual pruning program directed toward maintaining a lower tree height and improve light penetration. While the above activities on my "Top Ten" list are important that doesn't mean that there aren't other things we should be doing from time to time to maximize our groves productivity. Depending on the specific needs of your grove there are likely many other things you could add to my list to insure your success.

**JOHN CORNELL, NEWSLETTER EDITOR**

## MARKET UPDATE

2017 was a remarkable avocado season. High prices through most of the season, coupled with an "off" year in California production contributed to an early finish to the season. Seasonal supply gaps from Mexico have added volatility at points throughout the season. Higher than expected pricing led to early-season shipments from Chile. As we know, each season is different, and 2018 will continue to follow that trend.

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## 2018 Supply Forecast

California	400 million pounds
Mexico	1,850 million pounds
Chile	100 million pounds
Peru	100 million pounds
<b>Total</b>	<b>2,450 million pounds</b>

In order to move this volume, the US consumption will have to average approximately 47 million pounds per week. This is a modest increase compared to the 41.9mp/week that we moved in 2015 and the 43mp average weekly movement in 2016 and through September in 2017.

## California

It is still too early for the official California estimate, but industry reports put the crop at about 400 million pounds for 2018. This is nearly double the "off" year of 2017. Shipments will certainly start earlier than they have the last couple of seasons. Over 60% of the crop is estimated to be in the northern growing districts of Ventura, Santa Barbara, and San Luis Obispo Counties.

California avocados continued to garner a premium over imported fruit in 2017. For much of the season the California premium was nearly 10% above Mexico's price and as much as a 30% premium vs. other countries of origin.

## Mexico

**The Mexican Hass Avocado Importers' Association (MHAIA)** has established a crop estimate of 1.85 billion pounds. This fruit will come in later than in previous seasons as supply gaps in Loca caused severe shortages in August. In order to hit this budget, Mexico must ship an average of 950 loads per week from now through the end of June.

This level of imports from Mexico will generate over \$55 million in advertising funds. **Avocados From Mexico** will be using these funds to promote avocado consumption in the USA via social media, television, retail promotions, and foodservice outreach.



They recently opened a culinary center at their headquarters in Dallas which will be used to develop and promote avocado-centric recipes throughout the year.

## Chile

For the second year, record-high pricing fueled by the shortage of Michoacan's Flor loca has brought renewed interest from Chile for their early season shipments. In recent years, Europe and the Chilean domestic market have been more attractive destinations for Chilean avocados than the US market. This appears to be changing as US demand growth continues to out-pace supply growth.

How long Chile will continue to ship 4-6 million pounds/week to the USA will depend on where the market settles, once Mexico hits its stride of 38-40 million pounds/week. If prices remain robust, we can expect to see Chilean fruit on our shelves through Autumn.

## Peru

It is too early to make predictions about the 2018 Peruvian crop. Their trees are in bloom now. We will have a better idea what the set looks like by early December.

In 2017 a heavy crop in the Trujillo region contributed to a roughly 100% increase in shipments vs. 2016 (142 mp vs 71 mp). This is similar to the amount of fruit that they shipped in 2014. Europe remains the principal destination for Peruvian fruit, receiving nearly 3 times more Peruvian avocados than the USA.

## Final Thoughts

US average weekly supply has been in the 42-43 million pound range for nearly 3 years now. Projections are that this supply will rise nearly 5% in 2018. The US market has demonstrated its resilience over the last 18 months. As demand for avocados continues to grow world-wide, 2018 appears to be a good year despite increase volume in the US Market.

**GIOVANNI CAVALETTO, V.P., SOURCING**

## GROWER ACCOUNTANT BELINDA STONE

Index Fresh is committed to exceptional grower service. This service comes in the form of the hard work and dedication of our field staff, but also through the support from the packinghouse and accounting groups who ensure that your pack outs, statements and payments are timely and accurate. Belinda Stone, Index's Grower Accountant is a key part of this effort.



Belinda has worked with Index Fresh for eight years and has served in her current role for three. She deals with all phases of grower accounting including pooling, packouts, statements and volume rebates. In addition, Belinda is available to answer any grower accounting questions.

Belinda lives in Riverside, is married to Monte and has two children. Please feel free to call Belinda with your grower accounting questions.

**DANA THOMAS, PRESIDENT**

## PRODUCE SAFETY RULE FSMA

The implementation of the mandatory **Food Safety Modernization Act (FSMA)** is upon us. A few key points that avocado growers should know about the Produce Safety Rule are:

- Growers who have gross sales of \$500 thousand or more for each of last three years will need to implement the rule by the end of January 2018.



- **The Federal Food and Drug Administration (FDA)** is ultimately responsible for compliance, but within California the **California Division of Food and Agriculture (CDFA)** will be responsible for regulatory inspections and compliance.
- During 2019, water testing protocol will be finalized.
- It is anticipated that growers who have implemented Good Agricultural Practices will have a low priority for inspection.
- Additional information about the Produce Safety Rule is available at: [www.fda.gov/food/guidanceregulation/fsma/ucm334114.htm#key](http://www.fda.gov/food/guidanceregulation/fsma/ucm334114.htm#key)

Index Fresh personnel will be attending training with the goal of helping growers comply with the rule. Please don't hesitate to reach out to us and we will help to track down answers to your questions.

**DANA THOMAS, PRESIDENT**

## ORGANIC AVOCADOS

Organic avocados are an important niche in today's dynamic produce mix. A trip to the produce section of your local grocery store will illustrate how organic demand (and supply) continues to grow. The variety available to consumers today is much greater than it was five years ago. If you want an orange you can choose from mandarins, cara-caras, or Navels. If you are looking for stone fruit or apples you will often have 3-5 different varieties from which to choose.

At first glance it appears that the selection of 'Hass' avocados is limited in the grocery store. But take a closer look. A recent trip to a Southern California grocery store surprised me with five different displays of avocados scattered throughout the produce section. This is an incredible amount of real estate dedicated to our product, in an industry where each inch of shelf space is jealously fought over. Closer inspection was even more enlightening. Each

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display was different. Amongst the offerings, they had large avocados at one price, small avocados at a lower price, bagged avocados in bulk, and organic avocados. How does one get certified as organic? What are some of the challenges? How is the supply and demand situation expected to evolve?

#### Certification Process

The USDA National Organic Program (NOP) establishes the rules that growers must follow for their produce to be certified as organic. They must have their farm inspected by a USDA accredited certifying agency. Once the application is submitted an onsite inspection of the farm must take place. This inspection process is done annually to maintain the farm certified as organic.

The USDA publishes lists of products (fertilizers and pesticides) that comply with the organic standards. As part of the certification process, growers must show that no non-organic materials have been used on the farm for a period 36 months.

#### Challenges

Some of the principal challenges reported by growers include; weed control, phytophthora control, identification of a good source of Nitrogen, and smaller size/yields vs. conventional crops. Growers must develop a plan on how their farming practices will be different when farming organically. Weed control will definitely take more time in young groves. Mounding, mulching, and resistant rootstocks will be important aspects of dealing with root-rot. Fertilizer options will change and necessary volumes may increase when you attempt to apply sufficient amounts of nutrients to the groves. As volumes change, so surely will application methods.



organic avocados.

According to AMRIC, nearly 19 million pounds, or over 9% of the California avocados harvested in 2017 sold as organic. Nearly 80% of this volume came from the southern growing districts of Riverside and San Diego counties. According to the Hass Avocado Board organic make up about 2% of fruit brought in from Mexico and South America.

In the early 2000s, demand for organic produce was rising steadily. During the recession, demand took a dip, but began to recover in 2014. The premium must begin to widen again.

Organic avocado outlets began as a niche market in specialty shops. Today they have gone mainstream. In fact, the great majority of sales are done to regional and nation-wide retail outlets that offer organic avocados as one option in their overall avocado category management.

Organic avocados are an important component of today's market. To participate, growers must go through the certification process and adapt their farming practices accordingly. California will

When making the change to organic it is important to take into consideration the financial implications. A perusal of quote sheets might show that organic fruit is selling at a 15-20% premium over conventionally grown fruit. However, this must be measured against other differences in production, including growing costs and yield adjustments.

#### Supply and Demand

Avocado supply and demand has increased worldwide over the last 10 years. This applies to both conventionally grown as well as

continue to be a crucial component of organic availability in the US market as organics compose a smaller percentage of imported avocados. Demand growth for organic avocados has been outpacing supply as evidenced by the widening premiums that consumers have been willing to pay vs. conventionally grown fruit.

GIOVANNI CAVALETTI, V.P., SOURCING

## FIELD FOOD SAFETY NEWS

Are you purchasing mulch from a certified source?

Using mulch in the orchard is a regular cultural practice, with benefits. The best sources for mulch can be from within your own orchards. Pruning and chipping mulch is excellent for suppressing weeds, retaining moisture and providing microbial benefits to the soil. If you are purchasing mulch from a vendor, ensure they are providing you with a product that contains only plant material.

During recent food safety certifications, the use of non certified mulch has caused down scores on the audit. Not only can the mulches contain untreated animal manures, they can also contain diseases, and household trash. There is also the concern of transporting and introducing the Shot Hole Borer. Mulch is considered a biological soil amendment. It is recommended to purchase mulch from a supplier that can provide a Letter of Guarantee that no animal or household waste has been incorporated into the product. Make sure you obtain this documentation, for your records, as verification is required during the audit.



LISA STRICKLAND, FIELD FOOD SAFETY

In tree crops, application of non validated mulch is allowable if the mulch is applied prior to bud burst, or applied at least 90 days prior to harvest. This standard is for all Food Crops that are not in contact with the soil. However, you remain at risk of introducing pests (Shot Hole Borer) and diseases with non-certified mulch.

1 ripe Index Fresh® avocado  
1 cup pear juice  
2 tablespoons honey  
1/2 teaspoon pure vanilla extract  
2 cups ice

**Directions:** Cut, pit, and peel the avocado. Process avocado, juice, honey, vanilla and ice in a blender until smooth. Divide among 4 glasses.



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## FIELD STAFF

**VENTURA**  
 GARY NICHOLS  
 805.657.1747  
 BAILEY DIIOIA  
 805.570.9720

**SANTA BARBARA & SAN LUIS OBISPO**  
 GIUSEPPE BONFIGLIO  
 805.341.3059

**SOUTH**  
 JOSE AVINA  
 909.213.0595  
 KEITH BLANCHARD  
 760.514.7734

**FIELD FOOD SAFETY**  
 LISA STRICKLAND  
 951.315.8785

## EVENTS

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## CONTACT

-  [WWW.INDEXFRESH.COM](http://WWW.INDEXFRESH.COM)
-  [FIELDREPS@INDEXFRESH.COM](mailto:FIELDREPS@INDEXFRESH.COM)
-  800.352.6931
-  [FACEBOOK.COM/INDEXFRESH](https://FACEBOOK.COM/INDEXFRESH)
-  [INSTAGRAM.COM/AVOTERRA\\_BY\\_INDEXFRESH](https://INSTAGRAM.COM/AVOTERRA_BY_INDEXFRESH)
-  [APP: FRESH FACTS BY INDEX FRESH](#)



**JOHN CORNELL**  
 EDITOR, INDEX FRESH  
 JCORNELL@INDEXFRESH.COM