



News & Notes of the UCSC Farm & Garden

Issue 122, Summer 2009

Selecting, Growing, and Ripening European Pears

– by Orin Martin

On the growing of backyard fruits –

“Its object is to show the range and variety of our resources and to emphasize very firmly that to have the best fruit you must grow it yourself.”

– Edward A. Bunyard, *The Anatomy of Dessert*

Such is the way with European pears (*Pyrus communis*), which actually hail from regions of temperate Europe and Western Asia (Southern Caucasus Mountains into the Northern Mountains of Iraq and Iran, formerly Persia). Pears have been cultivated for over 4,000 years. Dried slices of cultivated pears have been unearthed in Swiss cave dwellings dating to 400 B.C.E. Both ancient cultures of the Greeks and Romans show records of pear propagation, cultivation and appreciation as a dessert fruit. Most of the quality varieties of today were bred by first French and Italian monks (1500s–1800s) and then their Belgium counterparts (1800s).

Commercial pear variety offerings are stuck in the same rut apple varieties were mired in until 20 or 30 years ago. With apples you could get any variety you liked as long as it was Granny Smith (green), Red Delicious (red), or Golden Delicious (yellow). These days supermarket (as well as your New Leafs, Staff of Lives, etc.) pears devolve to: Bartlett (early and yellow), Comice (midseason and the world’s most popular mail order gift fruit at Christmastime), D’Anjou (late and green) and Bosc (later still and a dull bronzy, russet color). It’s not that these aren’t exquisite pears at their peak of ripeness, it’s just that there are so many other choices that expand and extend the eating experience and season of ripeness (*see varietal descriptions, page 6*).

As a home-grown, backdoor fruit, the pear properly grown, picked in a timely manner and ripened off the tree can be both a sublime and rewarding experience. On the other hand, pear growing has its demerits to offset its merits. Pear growing is not for the impatient, with standard size trees taking up to 20 years to reach their stride and bear a sizeable crop. Even semi-dwarf trees take 5–8 years to carry a good fruit load. There are no truly dwarfing rootstocks for pears and it is hard to keep tree height under 12–18 feet. Fortunately there are a few natural dwarf varieties: Seckel, Honey, Dana’s Hovey and Bella Di Guigno (*see page 6 for descriptions*).

Ah yes, and then there is “pestilence”—disease. With pears, scab is not as big a problem as it is with apples. The leaves are virtually immune owing to their waxy cuticle (surface) while the fruit is susceptible under moderate temperatures (50s–70s°F) and persistent wetness (> 7–9 hours consecutive hours). We call this spring in Santa Cruz. Sulphur sprays, especially liquid lime sulphur sprayed annually just at bud break, can keep fungal populations of scab at bay. If wetness persists longer than 7–10 hours at a stretch (nighttime doesn’t count as scab needs light to germinate) repeat sprays are required from flowering through leafing out and young fruit (grape-size) set.

I only spray the Chadwick Garden’s pears in the “bad” years, when wet conditions persist well into the spring (May–June). They usually exhibit little or no fruit scab and virtually no leaf scab. In truth, because pears are often mildly russeted they don’t “show” the scab as much as apples and there seems to be higher consumer acceptance/tolerance for scab on pears than on apples. However, failing to spray sulphur during the wet years has fairly disastrous results that season and will build up an inoculation count that can be devastating for years to come.

The other, and in truth more devastating, disease issue with pears is fire blight, which is caused by a bacterium, *Erwinia amylovora*. Fire blight overwinters as cankers on pears, apples (although not in the Santa Cruz area

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yet), quinces (bigtime), and the ornamental Cotoneaster and Pyracantha. Fire blight enters the tree via flowers during warm, wet springs when the bloom period is long and weak, as happens in El Niño and low chill winters, and is spread from branch to branch and tree to tree by pollinating honey bees.

Because it is a bacterial rather than a fungal infection, fungicides are of no help in combating the disease. The way it affects the tree is to cause rapid die back, which appears as a blowtorch-like withering of branches “tip to stem.” It can spread at a dramatic pace—I once watched a beloved 15-foot-tall heirloom Flemish Beauty pear die to the ground in a little over a week. In Santa Cruz County you can expect a bad fire blight spring 1–3 years in ten. The 1990s featured 4 or 5 such El Niño springs. Thankfully, this millennium has yet to see an outbreak—the upside of episodic dry stretches.

The remedy(s) for fire blight is simple:

- Cut out all infected wood ASAP. Disinfect your loppers and saw in a bleach solution between each cut and burn infected wood.
- Plant fire blight resistant varieties, such as Seckel, Honey, and Atlantic Queen. Note, Bartlett is especially prone to fire blight.
- Light a candle at the house of worship of your choosing, genuflect and offer a prayer of contrition...

On the low-maintenance scale, pears require far less scrupulous thinning than apples: They can be thinned to 2 and occasionally 3 per cluster, whereas apples must be thinned to 1 per cluster and about 6” between fruit on a limb. Pears’ long, tapered necks and long stems allow room for 2 or 3 fruit in a cluster to both enlarge and color. Pears don’t color as highly or brightly as apples, thus not all portions of the fruit need exposure to sunlight.

While pears exhibit some alternate-bearing tendencies (i.e., a heavy set one year, a light one the next, which is true of almost all fruit species), this is only slight compared to apples.



Buttira Precoce Morettini, by Stephanie Martin

Ripening Summer and Winter Pears

“Getting a perfect pear from farm to table is a risky and complicated business. Each step along the way requires the attention of someone with knowledge and skill. First the pear must be picked from the tree when it is mature but not fully ripe. It must experience a period of cool storage, the optimal length of which varies according to variety. Then it must be brought to room temperature to finish ripening. At every step of the way, from tree to market, to kitchen, it must be handled gently to avoid bruising.”

Alice Waters, *Chez Panisse Fruit*

There are two basic classes of pears—summer and winter. Think of summer and winter pears as being as vastly different as summer and winter squashes.

Summer Pears

Summer pears, as the name implies, crop early (July–September) and sweeten and ripen on the tree. They tend to be small (2–3” in length) or medium (4–5”) sized. Two notable exceptions would be the ubiquitous Bartlett (6”) and the Bulgarian bred Ubileen (8”).

Summer varieties feature a very thin, delicate and easily bruised skin that severely limits storage, shipping and thus marketing. While they have limited commercial appeal owing to their fragility, they are an easy-to-harvest, sublime treat for the home grower. They also offer intriguing possibilities to the small niche grower catering to local restaurants and local farmers’ market stalls. The taste experience goes something like this:

- Thin, dissolving skin
- Fine-textured flesh that is soft, melting and often aromatic
- A rich, buttery sweetness with a slight background taste of mild acidity

These summer pears lack the characteristic grit or stone cells of most winter pears, whose cell structure imparts a gritty but pleasant component to the taste experience.

Pears ripen from the inside out. Because of the smaller size and the makeup of cell walls in summer pears, they can be ripened on the tree, or require only a brief period (as little as 3–5 days, as much as two weeks) of post-harvest chilling to convert starches to sugar.

How to determine ripeness with summer pears:

- Taste it*
- Color should brighten, even glow
- When (gently) squeezed fruit should give slightly, especially around the neck
- Seeds should be dark brown to black
- Fruit should be slightly aromatic, especially around the calyx (bottom) end

*As I often tell apprentices, an indicator of *unripeness* on any fruit: 5–6 pears at the base of the tree, each with one bite taken out of it ...

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Summer/early Fall Calendar

Summer Pruning Workshop

Saturday, July 25, 10 am - 1 pm

Louise Cain Gatehouse, UCSC Farm

Although we often think of pruning as a winter chore, a little extra attention this summer will help your fruit trees thrive now and into next season. Learn the basics of summer pruning from fruit tree experts Orin Martin and Matthew Sutton. Wear comfortable shoes, sun protection, and bring a snack. \$15 for Friends' members; \$20 general, payable at the workshop. No pre-registration necessary. *Part of the Friends' Fruit Tree Care workshop series.*

Planting the Thanksgiving Feast

Sunday, August 30, 10 am - 1 pm

Louise Cain Gatehouse, UCSC Farm

August is the time to start planning for your fall and winter vegetable garden. Gardening pro Trish Hildinger will teach you how to plan ahead and extend your gardening season with timely tips on what to plant and how to plant it for harvest in November and through the winter. Wear comfortable shoes and bring a snack. \$15 for Friends' members; \$20 general, payable at the workshop. No pre-registration necessary. *Part of the Friends' Victory Gardens workshop series.*

Farm & Garden Fall Plant Sale

Friday, September 11, 12 noon - 6 pm

Saturday, September 12, 10 am - 2 pm

Barn Theatre Parking Lot, UC Santa Cruz
(corner of Bay & High Streets)

Fall is a wonderful time to plant vegetable crops that will extend your gardening season (see *Planting the Thanksgiving Feast* workshop, above) and to give perennials a good head start for spring. A wide selection of the region's best-suited varieties of organically grown winter vegetables and perennial landscape plants will be available. Friends' members receive a 10% discount on all plant and Friends' merchandise purchases. Proceeds support the Farm & Garden Apprenticeship training program.
Note the days: Friday and Saturday.

If you'd like more information about these events, need directions, or have questions about access, please call 831.459-3240 or see our web site, www.ucsc.edu/casfs.

Please note that we cannot accept credit card payments for classes (cash or check only).

Co-sponsored by the Center for Agroecology & Sustainable Food Systems at UC Santa Cruz, and the Friends of the UCSC Farm & Garden.

Annual Meeting

Sunday, September 13, UCSC Farm, 2:30–3:30 pm

Grow a Farmer Celebration Reception

Sunday, September 13, UCSC Farm

Optional Farm Tour: 3:30 pm

Reception: 4:30 – 7:00 pm

We're still working out the details, but want to make sure you have this important date on your calendar as we gather for the Friends of the Farm & Garden's annual meeting. After the meeting and optional tour, we'll be holding a reception to celebrate the successful Grow a Farmer campaign to build housing for apprentices on the UCSC Farm (*see page 4*). More information, including details on how to RSVP and reception cost, will be coming your way later this summer.

Fall Harvest Festival

Saturday, September 26, 11 am - 5 pm UCSC Farm

Save the date now, and plan to join us for our annual Farm celebration! Great music, food, apple tasting, an apple pie bake-off, garden talks, hay rides, kids' events, tours, cooking demonstrations, community group information, and an all-around good time are in the works. Free for members of the Friends of the Farm & Garden and for kids 12 and under; \$5 general admission. Call 459-3240 or email jonitann@ucsc.edu for more information or if you'd like to volunteer.

Also coming up –

A Taste of the Harvest: Life Lab's Seasonal Benefit Event & Silent Auction

Saturday, September 12, 4 pm - 7 pm

Life Lab Garden Classroom, UCSC Farm

Join us for a seasonal tasting prepared by Jon Dickinson of Café Cruz to benefit Life Lab's Garden Classroom programs. Enjoy hors d'oeuvres, wine, organic beer, and a silent auction in the beautiful Garden Classroom at the UCSC Farm overlooking the Monterey Bay. See <http://www.lifelab.org/dinner.php> or call 831.459-4074 or email development@lifelab.org for details.

Apprentice Housing Project Goes Out to Bid! Grow a Farmer Campaign Fuels Construction Start

The race to raise funding for the Apprentice Housing Project at the UCSC Farm was coming down to the wire, when Stonyfield Yogurt founders Meg and Gary Hirshberg announced a new gift of \$25,000, taking us past the \$250,000 goal set for June 30th.

Once we cleared that hurdle, we could show the UCSC construction office that we had the funding to take the project out to bid. The Hirshbergs had contributed an earlier gift of \$20,000 to the project, but Meg, a 1978–79 apprentice, wanted to see the goal met. “Let’s do this,” she said.

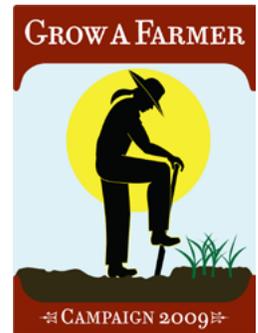
And do it we will, it appears. The construction project, including eight 4-unit cabins, solar shower, accessible parking and paths, and other infrastructure, is currently being advertised for competitive bids. We need to see an affordable bid to plan for all eight cabins, but things are looking very good for a late August start to the construction project.

The Grow a Farmer Campaign, initiated this year to raise the final amount of the funding needed for the housing project, is still very active, with the Penthouse at One Market grand opening benefit in San Francisco taking place today as this newsletter goes to press. A total of \$430,000 has been raised for this project since Olivia Boyce Abel issued her challenge grant that started the fundraising at the 40th anniversary celebration in 2007. We are still fundraising for the housing, as ev-

ery dollar raised now will be one we don’t need to use from the general funds set aside for this project. If we don’t have to use them for the housing, our general funds (raised from produce sales and apprentice tuition) could be saved for next season’s seeds, scholarships, and salaries.

The outpouring of support for this project from around the country has been truly heartening. Gifts ranging from \$25 to \$25,000 came in from over 400 individuals, over 50 businesses, including many restaurants that did benefits, and grants from five foundations. We are so grateful for the support that has come from so many people. In our next newsletter we will thank everyone who has contributed to this project, so it will be a thick issue!

Please save the date for a groundbreaking celebration on Sunday, September 13th. This reception will be held at the UCSC Farm from 4:30 pm to 7 pm and will commemorate not just the start of the housing project but also the 100th birthday of Alan Chadwick. We will send invitations to Friends members next month that will request an RSVP. Please note in the event calendar (*page 3*) that the Friends Annual Meeting and a tour will be held that same day.



Chadwick Garden Poetry Anthology Now Available

Thanks to the amazing work of Friends’ Board member Robin Somers with help from co-president Kurt Christiansen, the Friends of the Farm & Garden are proud to announce the publication of the *Chadwick Garden Anthology of Poets*.

This anthology of 31 writers who have taken part in our annual Poetry and Music in the Garden event over the years brings together the work of some of the region’s finest poets, including local favorites Patrice Vecchione, Gary Young, Nate Mackey, Kathleen Flowers, Amber Sumrall, and Stephen Meadows.

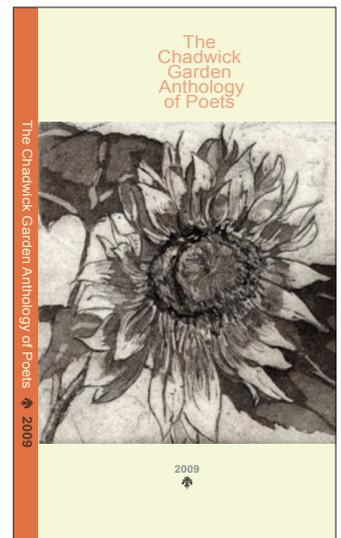
Introductions by Beth Benjamin and Kurt Christiansen provide a wonderful background on garden founder Alan Chadwick and on the evolution of the annual gathering of poets and musicians that the Friends sponsor each year.

Beautiful illustrations by Stephanie Martin grace the elegant layout provided by Marti Som-

ers. And endless thanks are due to Chadwick Garden Manager Orin Martin for all his work to nurture such a wonderful setting.

The 134-page anthology is available for \$20 (tax and shipping included) from the Friends of the UCSC Farm & Garden. To order your copy, send a check made payable to UC Regents to: Friends of the Farm & Garden, 1156 High St., Santa Cruz, CA 95064, attn: Poetry Book.

You can also find the anthology at Bookshop Santa Cruz and at UCSC’s Baytree Bookstore.



Native Salvias for the Garden

With over 700 salvia species to choose from, a gardener could spend a lifetime exploring this amazingly diverse genera. The center of that botanical diversity extends from southern Mexico into Central America, but California also boasts 20 species of native salvias—along with a wide variety of cultivars developed from native species. Perfect for the low maintenance landscape, these salvias need little or no water, additional fertility or pruning once established.

Christof Bernau, who manages the gardens and perennial borders at the UCSC Farm, is a big fan of native salvias for home gardens—in part because they “bring home” the sights and smells of so many beautiful California landscapes. “Salvias recall some of the scents that can be so pungent—in a good way—when you’re out hiking in coastal areas or coast range chaparral, or in some of the hotter, drier parts of the Sierra,” says Bernau. “I’d encourage people to go out and hike in the wild and use that knowledge to give these plants the right place in your garden.”

Color, Shape and Size

Native salvias boast a broad range of beautiful flowers, most held on upright spikes in tiered or pagoda-like whorls. “Unlike a lot of other flowers where the blooms progress from the bottom up on a stem, natives are more erratic and therefore dramatic—there will be blooms on the top and bottom whorls at the same time, and back and forth throughout,” says Bernau.

Salvia blossoms also provide an important food source for honeybees, bumblebees, and native wasps (but not deer!). Most native salvias flower in the white to lavender to blue range (although some are soft pink). Hummingbirds particularly like the magenta blossoms of the aptly named hummingbird sage, *Salvia spathacea*.

Native salvias can also fill a range of size niches in the landscape. Many, such as *Salvia clevelandii* (Cleveland sage), *S. mellifera* (black sage) and *S. leucophylla* (purple sage) range in size from 3' x 3' to 6' x 6'; some, such as *S. spathacea*, are lower growing, and there are a number of prostrate cultivars that make great groundcovers (see below).

Establishment and Care

The vast majority of native salvias prefer full sun and good drainage. An exception to this sun-loving habit is *S. spathacea*. “In the wild it tends to be an oak understory plant where there’s mixed sun/shade conditions,” says Bernau, “So it can tolerate some shade in the landscape.”

Salvias require little additional fertility, and in fact excess fertility can lead to weaker, ranker growth and can shorten the plants’ overall lifespan. Adding a shovelful or two of compost when planting on an undeveloped site provides adequate nutrition, and in cases where the soil is already improved there’s no need to add anything more. Once established, a light top dressing of compost every three or four years is the most they should ever need.

Likewise, established plants in cooler coastal climates need little additional water beyond what they receive in a normal winter. “The strategy I use here with established plantings is to extend the rainy season with one or two irrigations after the rain stops and one or two in anticipation of rains returning in the fall, with a long, dry period in between,” says Bernau.

Salvias planted in the spring or summer will need to be irrigated every couple of weeks for their first summer in the ground, but even then Bernau recommends a good wet to dry swing in the top few inches of soil in order to avoid warm, wet conditions that can rot the base of the plant.

Although significant winter pruning is a mantra for most perennials, the shrubbier salvias such as *S. mellifera* and *S. clevelandii* only require a light shearing to remove past season’s flower blossoms. And although it’s okay to prune into the canopy by 20% or so to stimulate new growth, “You need to be careful not to prune into bare wood, as most native salvia species won’t regrow or will regrow awkwardly from bare wood,” says Bernau.

Some Favorite Salvias

Here are some recommended salvia species and cultivars for the Santa Cruz area; many will be available at the Fall Plant Sale on September 11 and 12 (see page 3).

Salvia spathacea – Striking, non-characteristic salvia color, large whirls of bright red blossoms. Leaves make a mildly sweet and minty tea. Hummingbirds love it! Grows 1-2' high x 4-5' wide.

S. spathacea ‘Cerro Alta’ – Yellow tubular flowers; very uncharacteristic color for salvias, not widely available (only one other salvia, *S. madrensis* from Spain, sports yellow blossoms).

S. clevelandii – Very sweet, musky aroma, lime green foliage with compact whorls of lavender to mid blue flowers. Many different cultivars are available, including ‘Alan Chickering,’ ‘Poza Blue,’ and ‘Whirly Blue.’ Common in Southern California coastal sage scrub. 3-6' tall, wide.

S. leucophylla – Similar in size and stature to *S. clevelandii*. If you need a grey element in the landscape, it offers nice soft gray foliage. Responds well to harder pruning. Soft pink flowers. Southern California coastal sage scrub.

S. mellifera – Native to the Central Coast. Small white flowers that bloom over a long period. Great food source for bees, as the name implies. 3' x 3' to 6' x 6'. *S. mellifera* ‘Green Carpet’ is a prostrate form that makes a good groundcover.

‘Bee’s Bliss’ – This prostrate salvia cultivar will grow 1-2' high and spread 4-8' wide; can be used as a ground cover, to stabilize and anchor slopes.

S. sonomensis – This diminutive coastal range native also makes a good ground cover. ‘Dara’s Choice’ cultivar is a small subshrub 1-2' tall x 2' wide, with small whorls of dark purple flowers.

– Martha Brown

European Pears (from page 2)

Winter Pears

The winter refers not so much to time of harvest (September–November) as to both time of ripening (off the tree) and distribution for mass marketing. With high-tech, atmosphere-controlled refrigeration units (temps 32–40°F, humidity 90–95%, adjusted oxygen <1%), it is possible to hold and then ripen winter pears at room temperature through March–April.

I think pears hold up better to cold storage than any other fruit. Winter pears require 3–4 weeks (+/-) of cold storage to ripen (convert starches to sugars). If left to ripen on the tree, the interior of the fruit will be soft, mushy and fermented by the time the exterior is sweet. If picked too early, they never sweeten and remain hard. The trick is when to harvest.

The methods and tools available to large-scale commercial growers are beyond the scope and cost possible for home gardeners. Most winter pears are picked at the “green, mature stage” (maturity is a precursor to ripening), refrigerated, and then ripened at room temperature.

Indicators of maturity that commercial growers use include –

- A subtle change in skin color from dark green to light green. Red cultivars actually lose brightness 1–3 weeks prior to maturation. This change cannot be accurately assessed by the human eye. To objectify color change an expensive electronic device called a colorimeter has been developed.

- A decrease in starch and a simultaneous increase in soluble solids (mostly sugar). The tool to measure soluble solids or sugar content is called a refractometer (\$150–\$200, available from Peaceful Valley Farm Supply). This tool measures the amount of light that passes through a slice of fruit and correlates it via a color scale (Brix Scale) to a corresponding % sugar content. Most pears are picked at 8–12% sugar.

- A softening or decrease in flesh firmness. Once again, flesh firmness is objectively measured by an instrument called a penetrometer, similar in looks and function to a drill press. By measuring the resistance of the drill bit as it passes into the fruit and using an algebraic formula, mature firmness and readiness to pick can be determined.

All of this starts to sound like a Bill Murray riff in the movie *Ghostbusters*—who you gonna call—to get a ripe pear?

*Home Gardener Strategies for Picking Winter Pears,
Prior to Placing in the Vegetable Crisper Drawer of
Your Refrigerator for 2–4 Weeks*

When it comes to deciding when to pick winter pears, home gardeners have several less technical options than their commercial counterparts –

- By the calendar, or “Well, last year I picked my Bartletts starting around August 15. I picked in several

rounds through September 20.” This can work but also can be off by as much as 2–3 weeks either way, depending on the summer weather and temperatures. A note on the spring and (so far) summer of 2009: severely lacking in terms of both footcandles and heat index.

- A noticeable color change. Bartletts are the most dramatic in this regard, going from a dull green to a warm yellow hue. Bosc lose their green background tinge and become a dull bronze color. Red varieties lose brightness and gloss. Comice and D’Anjou start to develop a little background yellow-gold hue.

- Seed color change. As pears mature, seed color goes from white, to beige, to dark brown or black.

- The “Cradle Test.” Gently grasp the bottom of the pear and slowly swing it from 6:00 to 9:00 and away from you in a twisting motion. It should separate (with the stem attached) easily at maturity.

Beyond these techniques there seems to be a 6th sense necessary here as well.

Greatest Hits of Pear Varieties

These are all being grown or have been grown at the UCSC Farm (f) or Alan Chadwick Garden (g).

Summer Pears

Bartlett (f, g) – The world’s most-planted pear variety. Often associated with canned pears, and while they’re good in that regard, they are also one of the best dessert pears. Goes from green to a warm yellow color at maturation (ripe). Very short holding period on the tree, 7–10 days at maturation but the fruit comes on in waves over 3–4 weeks (Aug–Sept). The flesh is juicy with a sugary, musky flavor. It is somewhat self-pollinating (doesn’t need another variety to fruit, as do most pears). But it sets a bigger crop, in both size and number, with a pollinator. Originated in Berkshire, England in the 1700s as a chance seedling, where it is known by its proper name—Williams’ Bon Chretien—and is still referred to as that or Williams’ in Europe. It is astounding that a fruit variety has enough redeeming qualities to endure for over 200 years as a leading commercial production variety. Moderately dwarf growth habit. Note: Bartlett can be treated as either a summer or winter pear. The first 7–10 days of harvest lends itself to winter treatment and thereafter summer treatment, i.e., ripe off the tree.

Ubileen (g) – An unusually large pear (summer or winter) from Bulgaria that is all sugar, no grit cells, exploding with juice and a soft, buttery texture. Heavy fruit set can induce branch breakage—thin to one fruit every 8–9” (Aug).

Bella Di Guigno (g) – Hands down the earliest pear (Guigno = June in Italian) and the smallest fruit (2–3”). Crisp, sweet over tart taste. Hard to sweeten before it goes fermenty—cute though. Sets a heavy crop annually. Also pollinates Warren!

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Apprenticeship Updates

Mike Irving (Apprentice class of 2002, second-year apprentice in 2003), Teresa Kurtak (2004), and John Vars (2002, second-year in 2003) recently founded Fifth Crow Farm in Pescadero, California. On their website, the trio writes: "A small farm with a big mission, Fifth Crow Farm, offers a new and beautifully simple response to the growing demands for health, environmental stewardship, and genuinely delicious food." Learn more about their new farm at www.5thcrowfarm.com.

Teresa also recently completed her Master's degree in Social Documentation at UCSC. Her final project, entitled "The Cartel of Good Intentions," is set in Burkina Faso. This multimedia installation explores how the West continues to misrepresent food security issues in Africa. According to Kurtak, although widely consumed, Africa's native foods are virtually unknown elsewhere. This is no insignificant omission, for "ignorance is more than just an absence of knowledge: it has a history . . . a political geography laden with political and cultural struggle."

Godfrey Kasozi (1999) visited Santa Cruz recently from his home country of Uganda. An article in the June 28th *Santa Cruz Sentinel* described how Kasozi found his way to the Apprenticeship a decade ago. "A friend in Kenya alerted him to UCSC's agroecology program, which emphasizes a hands-on approach to organic and small-scale farming, as well as the social impact of the food system. In 1999, he enrolled. Six-and-a-half months later, Kasozi left with new, sustainable agricultural techniques—such as composting and crop management—that his organization could employ to bolster the community."

"This was the real knowledge that my people wanted," he says. "I took all that knowledge, packed it in my bag, and took it to Uganda."

Kasozi puts that knowledge to work through the Centre for Environmental Technology and Rural Development (CETRD), an organization he founded in western Uganda. According to the *Sentinel* article, "The center has its own training facility where people can learn about topics such as pest management, fruit improvement, soil management and conservation. The goal is to show that what is done at the center can be done at their own homes to improve their quality of life and build a foundation for future generations." For more information, including how to support Kasozi's work, see http://www.santacruzsentinel.com/ci_12707163.

The Benefits of Summer Fruit Tree Pruning

If you put your pruning tools away last winter it may be time to bring them back out. Summer pruning of fruit trees gets scant attention, yet when used in tandem with winter pruning you can strike a healthy balance between a tree's vegetative and fruiting wood to get the best possible production and fruit quality from your tree.

According to Matthew Sutton, owner of the ecological fruit tree and orchard management company Orchard-Keepers, there are three basic reasons to prune fruit trees in the summer.

"The first is to control the growth of an overly ram-bunctious tree," says Sutton. "Summer pruning has the opposite effect of winter pruning — rather than stimulating growth, it suppresses it." According to Sutton, summer pruning can keep stone fruit at a manageable 8–12 feet tall, and dissuade the reactive growth of a severely stimulated tree caused by a hard winter pruning.

Second, summer pruning maximizes the amount of sunlight that reaches the developing fruit. "For apples and pears, sunlight equals color and sweetness," says Sutton. "The more sunlight you can get on your apples and pears, the better they're going to ripen."

And third, pruning in the summer rather than the winter can suppress the spread of diseases. As Sutton explains, "There's nothing like pruning in a wet weather pattern to spread diseases, no matter how careful you are." Fruits like apricots and peaches, which are most susceptible to diseases such as brown rot, can particularly benefit from summer rather than winter pruning.

With care, summer pruning can sometimes replace winter pruning altogether. "Once a tree has good form from proper winter pruning, then you can maintain it with summer pruning alone in some years," says Sutton. "But first you have to get the tree to the point that you can recognize what cuts need to happen in the summer."

Summer cuts are usually limited to the current season's growth and don't require a lot of sawing work. "These are maintenance cuts into the current season's wood, which are going to control an overly vigorous tree," says Sutton.

Sutton and Chadwick Garden manager Orin Martin will team up to share tips on summer pruning at a workshop on Saturday, July 25, from 10 am–1 pm at the UCSC Farm (see page 3).

"You don't necessarily go out every summer and say 'It's time to summer prune,'" says Sutton. "You look at your tree and if it's very vigorous, that's when you prune—developing that relationship with your tree so that you'll recognize whether it needs summer pruning is what we'll discuss at the workshop. We'll primarily focus on apples, but also take a look at some very vigorous plum trees and others."

—Martha Brown

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European Pears (from page 8)

Warren (g) – Found seedling from Hattiesburg, Mississippi by noted horticulturist T. O. Warren. Medium-large, asymmetrical tear-drop shaped, dull brown fruit that's not much to look at but it's all about a smooth as butter, aromatic, sugary-sweet experience. If a pear can be too sweet, this one comes close, begging the question, can there be too much of a good thing?

Locally, Apprenticeship graduate Thom Broz of Live Earth Farms has a few acres of Warrens that were planted by former UCSC Farm manager "Big" Jim Nelson in the late 1980s (he was way out ahead of the curve). He piles them high and watches them fly at local farmers' markets. A difficult tree on which to get a good fruit set (Aug–Sept).

Buttira Precoce (Early Butter) Morettini (g) – Large tree, large fruit, large sweet, spicy rich buttery taste (Aug).

Red Clapp's Favorite (g) – originated in Michigan. Large fruit, with deep red skin and abundant annual crops. Taste-wise it's basically a Bartlett with spice.

Seckel and Honey (g) – Naturally dwarf trees, these 5–8 foot "bushes" are loaded annually with small brown-red russet fruit. Aptly nicknamed the Sugar Lump.

Dawn and Tyson (f) – I know nothing of these varieties' source or origin but they are the ultimate summer sweet butter pear; a grafting project for the winter.

Winter Pears

Comice (f, g) – Or more properly Doyenne (Queen) Du Comice. Probably the world's most famous pear. Sugar balanced with acidity and smooth pear texture. Stores well for > 5–6 months (Sept).

D'Anjou (and Red D'Anjou) (f, g) (Beurré D'Anjou) – Smooth texture, lemony flavor, not the sweetest pear (Sept–Oct).

Bosc (f, g) (aka Beurré Bosc; the French have a penchant for preceding pear names with Beurré, Doyenne or Dutchess D') – Large, long-necked, tapered golden-brown, russeted skin, originally from Belgium. Spicy, sweet, aromatic and gritty good. Heavy annual crops (Sept–Oct).

Orcas (g) – Found seedling from Orcas Island, Washington. Yellow-carmine flushed skin color. Large fruit, full flavor—sweet, acid, spicy.

Rescue – Another Northwest favorite. Huge fruit with bright red-orange blush and sweet, juicy smooth textured flesh.

Other winter pear favorites include Conference, Flemish Beauty, Dutchess, and Dana's Hovey.

Postscript

Twenty years have elapsed since you decided to plant a pear tree and you've just had your first home-grown pear. What made the "Queen of Fruits" so sublime?

It's not so much that pears, especially summer types, have more sugar than apples. Both are about 10% sugar by weight. However, pears have less acidity than apples (0.2% vs. 0.8%). The sugar:acid ratio of apples is about 13:1; with pears it's 50:1. In fact, hard as it may be to fathom, pears have more sugar by weight than apricots and are about the same as peaches. It's all about the sugar:acid ratio. Harkening to this article's lead paragraph—those monks knew their science.