Appendix 4

Example Plant Lists and Water Requirement Calculations for Tucson, Arizona plus a Sonoran Desert Foods Harvest Calendar

This appendix contains estimated water needs for vegetable gardens and three multi-use perennial plant lists specific for Tucson, Arizona (water needs will fluctuate depending on planting density, soil type, placement, and exposure). There is a far more diverse array of suitable plants and cultivars available for this area than the lists suggest. These lists are meant simply as both a partial introductory guide for Tucsonans, and as a template for people elsewhere to create plant lists specific to their location and climate. See the Plant Lists & Resources page of www.HarvestingRainwater.com for a growing list of regional rain garden plant lists. See the end of this appendix for the Place-Based Wild and Cultivated Food Plants Harvest Calendar illustrating regional harvest periods for diverse plantings that provide resilient bounty in all seasons.

Estimated annual or monthly water requirements can be easily calculated for plants by looking up their mature size, water needs (low, medium, high), and evergreen or deciduous nature on the plant lists, and then using the simple calculations that follow the lists. These estimates are very helpful in determining what plants, and how many, can be sustained within a Tucson, Arizona site's rainwater budget (calculated in chapter 2) and potential supplementary water from household greywater (estimated from boxes 2.6–2.9).

The vegetation section of the resources appendix of volume 2 of *Rainwater Harvesting for Drylands and Beyond* lists some of the books from which I compiled the information. Local gardening groups, herbalists, primitive skills enthusiasts, native plant societies, locally owned plant nurseries, and my own direct observations then fleshed out the lists, and can help you form your lists too. Chapter 4 in this book, and the chapter on vegetation and the planting section of the chapter on infiltration basins in volume 2 offer still more tips.

Box A4.1. Approximate Annual Water Requirements for Mulched Vegetable Gardens in Tucson, Arizona, planted in Sunken Basins

Based on "Economic Value of Home Gardens in an Urban Desert Environment" by David A. Cleveland, Thomas V. Orum, and Nancy Ferguson, *horts cience* 20(4):694-696.1985

50 ft^2 3,180 gallons	100 ft^2 6,360 gallons	150 ft^2 9,540 gallons	200 ft^2 12,720 gallons	250 ft^2 15,900 gallons	300 ft^2 19,080 gallons
4.5 m^2 12,080 liters	9 m^2 24,160 liters	13.5 m^2 36,250 liters	18 m^2 48,080 liters	22.5 m^2 60,420 liters	27 m^2 72,500 liters

The table in box A4.1 shows, for various size vegetable gardens (square feet or square meters), approximate yearly water needs. Note that these gardens are mulched and in sunken basins, in conformance with the principles and strategies of water harvesting.

In the plant list tables that follow (boxes A4.2–A4.4), **approximate water needs** are listed as:

LW = low water use of 10 to 20 inches (250 to 500 mm) of water per year

MW = medium water use of 20 to 35 inches (500 to 900 mm) of water per year

HW = high water use of 35 to 60 inches (900 to 1,500 mm) of water per year.

The numbers 1, 2, 3, or 4 in parenthesis signify the approximate irrigation needs of the plants once they become established (this often takes 2 to 3 years).

(1) = no supplemental irrigation,

(2) = irrigation once a month in the growing season,

(3) = irrigation twice a month in the growing season,

(4) = irrigation once a week in the growing season.

Ratings based on Arizona Department of Water Resources Low Water Use/Drought Tolerant Plant Lists and direct observation.

Rain Garden Zone – ideal planting area(s) within or beside a rain garden—best placements listed first.

Bottom – typically bottom of a basin or swale. Prone to temporary pooling of water and cold air.

Box A4.2. Native Multi-Use Trees for the Tucson, Arizona Area

Species	Water Needs	Rain Garden Zone	Size	Cold Tolerance	Elevation Range	Growth Rate	Type of Tree	Human Uses	Wildlife	Domestic Animals That Use plant
Desert ironwood (*Olneya tesota*)	LW (1)	terrace top	25 × 25′ (7.6 × 7.6m)	sh 15°f (-9°C)	2,500′ (750m) and below	moderate	e	f, m, nf, s, T	Birds, pollinators, large and small mammals	Chickens, goats
velvet mesquite (*Propsopis velutina*)	LW (1)	terrace bottom	30 × 30′ (9 × 9m)	h 5°f (-15°C)	1,000–5,000′ (300-1,500m)	fast	sD	f, fW, m, nf, P, s, W	Birds, pollinators, large and small mammals	Chickens, goats, cattle, honey bees, dogs
screwbean mesquite (*Prosopis pubescens*)	LW (2–3)	terrace bottom	20 × 20′ (6 × 6m)	h 0°f (-17°C)	4,000′ (1,200m) and below	moderate	D	f, fW, m, s, W, WB	Birds, pollinators, large and small mammals	Chickens, goats, cattle, honey bees, dogs
Cat Claw acacia (*Senegalia greggii*)	LW (1)	terrace top	20 × 20′ (6 × 6m)	h 0°f (-17°C)	Below 5,000′ (1,500m)	moderate to fast	D	m, P, s, T, W	Birds, pollinators, large and small mammals	Cattle, honey bees
Whitethorn acacia (*Vachellia constricta*)	LW (1)	terrace top	10–15 × 10–15′ (4.5 × 4.5m)	h 5°f (-15°C)	2,500–5,000′ (750-1,500m)	moderate to fast	sD	f, G, m, s	Birds, pollinators, large and small mammals	Cattle
Desert Willow (*Chilopsis linearis*)	LW (2–3)	terrace bottom	25 × 25′ (7.6 × 7.6m)	h –10°f (-23°C)	1,500–5,000′ (450-1,500m)	fast	D	fr, fW, m, s, W, WB	Birds and pollinators	Cattle, honey bees
Canyon hackberry (*Celtis reticulata*)	mW (2–3)	terrace bottom	up to 35 × 35′ (10.6 × 10.6m)	h –20°f (-28°C)	1,500–6,000′ (450-1,800m)	moderate	D	f, s, W, WB	Birds, pollinators, large and small mammals	Chickens
foothills Palo verde (*Parkinsonia microphyllum*)	LW (1)	terrace top	25 × 25′ (7.6 × 7.6m)	h 15°f (-9°C)	500–4,000′ (150-1,200m)	slow to moderate	D	f, s, W	Birds, pollinators, large and small mammals, desert tortoise	Cattle, honey bees
Blue Palo verde (*Parkinsonia floridum*)	LW (2)	terrace bottom	30 × 30′ (9 × 9m)	h 15°f (-9°C)	500–4,000′ (150-1,200m)	fast	D	f, s, W	Birds, pollinators, large and small mammals, desert tortoise	sheep, honey bees

Box A4.3. Native Multi-Use Shrubs, Cacti, and Groundcover for the Tucson, Arizona Area

Species	Water Needs	Rain Garden Zone	Size	Cold Tolerance	Elevation Range	Growth Rate	Type of plant	Human Uses	Wildlife	Domestic Animals That Use plant
o reganillo (*Aloysia Wrightii*)	LW (2)	terrace bottom top	5 × 5′ (1.5 × 1.5m)	h 15˚f (-9˚C)	1,500-6,500′ (450-2,000m)	moderate	D shrub	f, f r	Pollinators	h oney bees, livestock
Desert h oneysuckle (*Anisacanthus thurberi*)	LW (2)	bottom terrace	u p to 5′ (1.5m)	h 25˚f (-3˚C)	2,500–5,000′ (750-1,900m)	moderate	D shrub		Pollinators	s heep, cattle
Quail-brush (*Atriplex lentiformis*)	LW (1)	terrace top	u p to 8x12′ (3m)	h 15˚f (-9˚C)	Below 4,000′ (1,200m)	fast	e shrub	f, f B, m, n f, s C, s P	Birds, large mammals	h oney bees, livestock
Chiltepine (*Capsicum annum*)	LW (2)	top terrace	u p to 3′ (1m)	f rost sensitive	Below 4,000′ (1,200m)	slow to moderate	e shrub, D w/ frost	f, m	Birds	Chickens
Desert h ackberry (*Celtis pallida*)	LW (2)	terrace top	u p to 10′ (3m)	h 20˚f	1,500-3,500′ (450-1,000m)	slow to moderate	s D shrub	f, m, s C, W	Birds, pollinators, mammals	Chickens, honey bees, cattle
Brittlebush (*Encelia farinosa*)	LW (1)	top	3′ (1m)	s h 28˚f	Below 3,000′ (1,000m)	fast	e shrub	m, G	Pollinators, birds, large mammals	
m ormon Tea (*Ephedra trifurca*)	LW (2)	top terrace	3-12′ (1-3m)	h	u p to 4,500′ 1,300m)	slow	e shrub	e,m,P,T	Pollinators, birds, large mammals	h oney bees
o cotillo (*Fouquiera splendens*)	LW (1)	top terrace	u p to 15′ tall (4.5m)	h 10˚f	Below 5,000′ (1,500m)	slow	D “shrub”	e, m, Lf	Pollinators, birds	
Chuparosa (*Justicia californica*)	LW (2–3)	terrace	4′ (1.2m)	s h 28˚f	1,000–2,500′ (300-750m)	moderate to fast	D shrub	f	Birds, pollinators	
Creosote (*Larrea tridentata*)	LW (1)	top terrace	u p to 11′ (3.3m)	h 5˚f (-15˚C)	Below 4,500′ (1,300m)	slow to moderate	e shrub	G, m, W	Birds, pollinators, mammals	
Wolfberrry (*Lycium fremontii*)	LW (1)	terrace bottom top	3-5′ (1-1.5m)	h	2,500′ and below (750m)	moderate to fast	D shrub	f, m, s C	Birds, pollinators	Chickens, honey bees, livestock
Penstemon (*Penstemon parryi*)	LW (1)	bottom terrace	u p to 3′ (1m)	h 15˚f (-9˚C)	1,500–4,500′ (450-1,300m)	moderate	e ground-cover shrub	m	Birds, pollinators	
a rrowweed (*Pluchea purpurascens*)	m W (2)	bottom terrace	u p to 10′ (3m)	h -13˚f (-25˚C)	Below 3,000′ (1,000m	moderate	e shrub	f, f W, m, s, s C	deer, pollinators	h orses, cattle, honey bees
Jojoba (*Simmondsia chinensis*)	LW (1)	terrace top	u p to 7′ (2.1m)	h 20˚f	1,000–5,000′ (300-1,500m)	slow to moderate	e shrub	f B, m, s C, s P, WB	Large and small mammals	Cattle
s aguaro (*Carnegiea gigantea*)	LW (1)	top	u p to 40′ tall (12m)	s h 21˚f	600–3,600′ (180-1,100m)	slow	e cactus	f, G, m, W, T	Birds, bats, pollinators	Chickens
Barrel Cactus (*Ferocactus wislizenii*)	LW (1)	top terrace	4-8′ tall (1-2.4m)	h 15˚f (-9˚C)	1,000–5,600′ (300-1,700m)	slow	e cactus	f, h C, m, P	Birds, pollinators, mammals	Pigs
s taghorn Cholla (*Opuntia versicolor*)	LW (1)	terrace top	3-10′ tall (1-3m)	h	2,000–3,000′ (600-900m)	moderate to fast	e cactus	f, m, s C	Birds, pollinators, mule deer	Cattle
Prickly Pear (*Opuntia engelmanii*)	LW (1)	top terrace	u p to 5′ tall (1.5m)	h 10˚f	1,000–6,500′ (300-1,900m)	moderate	e cactus	e Ps, f, Lf, m, P	Birds, pollinators, mammals, tortoise	s heep, cattle (when thorns burned off)

s ee Plant Lists & r esources page at www.h arvestingr ainwater.com for more.

Box A4.4. Exotic Multi-Use Fruit Trees, Vines, and Cacti for the Tucson, Arizona Area

Species	Cultivatars	Water Needs	Rain Garden Zone	Size	Cold Tolerance or Needs	Growth Rate	Type of plant	Human Uses	Wildlife	Domestic Animals That Use plant
apple (*Malus pumila*)	anna, ein shemer	mW (3)	terrace top	15-20' × 15-20' (4.5-6m)	150-250 chill hours	moderate	D tree	f, s	Birds, pollinators, deer	Chickens
apricot (*Prunus armeniaca*)	royal or Blenheim, katy	mW (2-3)	terrace top	25 × 25' (7.6 × 7.6m)	300-400 chill hours	moderate	D tree	f, fB, s, WB	Pollinators	Chickens
Carob (*Ceratonia siliqua*)	Casuda, santa fe, sfax	mW (3)	terrace top	25 × 25' (7.6 × 7.6m)	sh 23°f (-5°C)	moderate	e tree	f, fB, s, WB		honey bees, sheep, goats, pigs, cows, horses
Chinese Jujube (*Ziziphus jujuba*)	Lang, Li	LW (2)	terrace top	20-30' × 10-20' (6m)	h 0°f (-17°C)	moderate	D tree	f, m		Chickens
Citrus – grapefruit	Duncan, ruby red, marsh	hW (3)	top terrace	14-20' (4-6m)	sh 27°f (-2°C)	moderate	e tree	eo, f, fB, m, s	Pollinators	honey bees
Citrus – lemon	improved meyer, Lisbon	hW (3)	top terrace	up to 20 × 20' (6 × 6m)	sh 31°f (0°C)	moderate	e tree	eo, f, fB, m, s	Pollinators	honey bees
Citrus – sweet orange	valencia, Trovita, marrs, sanguinelli Blood	hW (3-4)	top terrace	12-20' × 12-20' (5m)	sh 27°f (-2°C)	moderate	e tree	eo, f, fB, fr, m, s	Pollinators, humming-birds	honey bees
Date palm (*Phoenix dactylifera*)	medool, khadrawy, halawy, zahidi, maktoom, only females produce fruit	mW (3-4)	terrace bottom	up to 40' tall (12m)	sh 22°f (-5.5°C)	moderate	e tree	f, fW, m, s, W, WB	Birds	Chickens, dogs, camels, horses
Grape (*Vitis spp.*)	flame, ruby, Lomanto, Black manukka, Thompson	mW (4)	terrace top	5-90' long	h 0-10°f (-17°C)	moderate	D vine	f, fW, s, (on trellis)	Birds, pollinators, small mammals	Chickens, honey bees
fig (*Ficus carica*)	Black mission, Conadria	mW (3)	terrace	15-30' (4.5-9m)	h 15°f (-9°C) >100 chill hours	fast	D tree	f, fB, m, s	Birds, bats, pollinators	Chickens
Loquat (*Eriobotrya japonica*)	Big Jim, Tanaka, Champagne, Gold nugget	hW (4)	terrace	20 × 20' (6 × 6m)	Tree h 10°f (-12°C) fruit & flowers sh 28°f (-2°C)	moderate	e tree	f, s, WB		Chickens, honey bees
nopal (*Opuntia ficus-indica*)	Burbank, Quillota, Papaya, honey Dew, florida White	LW (1-2)	terrace top	up to 10' tall (3m)	h 20°f (-6°C)	moderate to fast	e cactus	ePs, f, fB, Lf, m, sC	Pollinators, desert tortoise, javalina	Chickens, pigs, sheep, cattle
olive (*Olea europaea*) *	ascolano, Barouni, haas, manzanillo, mission	mW (2)	terrace top	up to 30 × 30' (9 × 9m)	Tree h 15°f (-9°C) Green fruit sh 28°f (-2°C)	moderate	e tree f, fB	m, s, W, WB	Birds	Chickens
Peach (*Prunus persica*)	Desert Gold, mid Pride, rio Grande	mW (3-4)	terrace top	15-25' (4.5-7.6m)	h 15°f (-26°C) 250-350 chill hours	moderate to fast	D tree	f, fB, m, s	Birds, pollinators	Chickens, honey bees
Pomegranate (*Punica granatum*)	Wonderful, fleishman, Papago, sweet	LW (2-3)	terrace top	12-15' (5-4.5m)	h 15°f (-9°C) 200-200 chill hours	moderate	D shrub to tree	f, fB, m, P, sC, T	Birds	Chickens, honey bees

* order fruiting olives from santa Cruz olive Tree nursery (www.santacruzolive.com) or Peaceful valley farm supply (www.groworganic.com).

Terrace – typically atop a terrace or pedestal within, or on bank, of a basin or swale. Shallower and less frequent temporary pooling than bottom zone.

Top – area beside, but not in a basin or on its banks, where plant's root crown stays high and dry, but plant's roots can access water harvested in basin; top of berm. Driest and warmest of the three zones.

Abbreviations signify: D=deciduous, E=evergreen, EO=essential oil, EPS=earth plaster/pigment stabilizer, F=food, FB=firebreak species, FR=fragrant, FW=fiber/basketry/weaving material, G=glue, H=hardy, HC=hair conditioner, LF=living fence, M=medicinal, NF=nitrogen-fixing, P=pigment or dye, S=shelter/shade, SC=screen, SD=semi-deciduous, SH=semi-hardy, SP=soap, T=tanning hides, W=wood/timber, WB=windbreak.

"Pollinators" can include: butterflies, native solitary bees, beneficial predatory wasps.

how to estimate the Water requirements **in a Given Month** for a Listed Plant in Tucson, arizona

Based on the "How To Develop A Drip Irrigation Schedule" handout from the LOW 4 Program of the Pima County Cooperative Extension/University of Arizona Water Resource Research Center.

A similar "plant water requirement estimator" can be created for other areas according to local evapotranspiration rates.

For an additional resource, see the Arizona Department of Water Resources for their Drought Tolerant/Low Water Use Plant Lists http://www.azwater.gov/azdwr/WaterManagement/AMAs/LowWaterUsePlantList.htm

They have plant lists specific to Tucson, Phoenix, and the Pinal, Prescott, and Santa Cruz Active Management Areas (AMAs)

1. Identify the plant as evergreen or deciduous, and as high, medium, or low water requirement. *For example, a Velvet Mesquite is deciduous with a low water requirement.*

2. Determine the canopy diameter of the plant (the diameter of the leafy part of the plant). This can be the plant's current canopy or its potential canopy at maturity. *Let's say our example mesquite has a 20-foot canopy.*

3. Determine the plant's water requirement in inches for a given month. See the tables in boxes A4.5A and A4.5B, which show how many INCHES of water the plant needs to receive beneath its canopy to maintain its health. *According to the table in box A4.5B, the June water requirement of our deciduous, low water requirement mesquite is 3 inches.*

Box A4.5A. Monthly Water Requirement in Inches–Evergreen plants

Water Requirement	J	F	M	A	M	J	J	A	S	O	N	D	Annual Total
Low	0	0	2″	2″	3″	3″	3″	2″	2″	2″	1″	0	20″
medium	0	0	3″	4″	5″	5″	5″	4″	4″	3″	2″	0	35″
high	0	3″	5″	6″	8″	9″	7″	6″	6″	5″	3″	0	58″

Box A4.5B. Monthly Water Requirement in Inches–Deciduous plants

Water Requirement	J	F	M	A	M	J	J	A	S	O	N	D	Annual Total
Low	0	0	0	2″	3″	3″	3″	2″	2″	0	0	0	15″
medium	0	0	0	4″	5″	5″	5″	4″	4″	0	0	0	27″
high	0	0	0	6″	8″	9″	7″	6″	6″	5″	0	0	47″

Box A4.5C. Conversion Table: Canopy Diameter vs. Gallons/Inch under Canopy

Canopy Diameter in Feet	2	4	6	8	10	12	14	16	18	20	25	30
# of Gallons per inch of Water beneath Canopy	2	8	18	31	49	71	96	125	159	196	306	441

4. Convert the plant's water requirement from inches to gallons. Find the plant's canopy diameter in Box A4.5C. Then find the corresponding # of gallons per inch of water beneath the canopy, and multiply it by the number of inches required in June to get the total GALLONS of water required in that month. *For example, the number of gallons in an inch of water under a 20-foot diameter Velvet Mesquite is 196 gallons. The tree needs 3 inches of water in June, so multiplying 196 × 3 = a June water requirement of 588 gallons.*

how to estimate the Annual Water requirements for a Listed Plant in Tucson, arizona

Use the tables in box A4.5A or A4.5B to find the plant's estimated ANNUAL water requirement in INCHES. Multiply that number by the number of gallons per inch of water beneath the canopy (table in box A4.5C), and the plant's canopy diameter. *For example, the 20-foot diameter Velvet Mesquite needs 15 inches of water annually, and from Table A4.5C we see that there are 196 gallons per inch of water beneath a 20-foot canopy. So multiplying 15 × 196 = an annual water requirement of 2,940 gallons.*

Note 1: Annual water requirement estimates are likely all you will need to consider when designing a landscape of local native plants based on natural wild plant densities and sizes. Such vegetation is naturally adapted to the local rainfall patterns and, once established, can survive the dry periods between rains.

Monthly water requirement estimates are better suited for designing landscapes of exotics or native plants that are planted at a higher than normal density or are irrigated for larger than normal plant sizes. These estimates give you a better idea of what seasons or months require more water so that you can better plan for needed water storage and the timing of supplemental irrigation with cistern water or greywater.

The water requirements for all plants will increase as they grow, since the amount of water they transpire through their leaves increases with the increase in cumulative leaf surface area. Therefore, it is important to plan for the water needs of your plants at their mature size. However, by minimizing the amount of water available to native plants you can reduce their mature size—reducing the need for more water. For example, a Velvet Mesquite receiving approximately 6,600 gallons of water per year can grow to be 30 feet tall and wide, but if only 2,940 gallons of water per year is available to the tree, it will likely not grow to be taller and wider than 20 feet.

estimating Water requirements of Plants in new mexico

Web-search and read the free download "Roof-Reliant Landscaping" to estimate plant water needs anywhere in New Mexico.

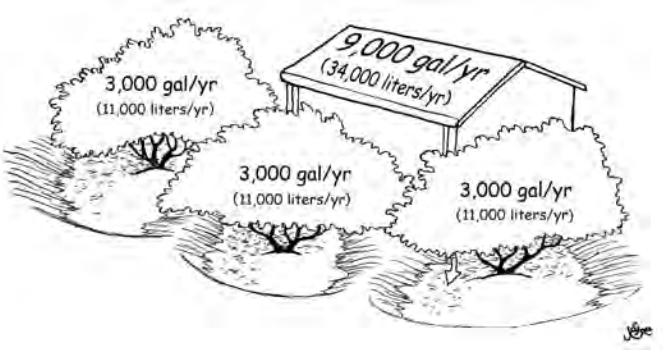

Fig. A4.1A. Annual irrigation demand in Tucson, Arizona, of low-water-use, dry-season-adapted, native mesquite trees met by rainwater supply from roof runoff. Water infiltrated and held in soil—no tanks needed

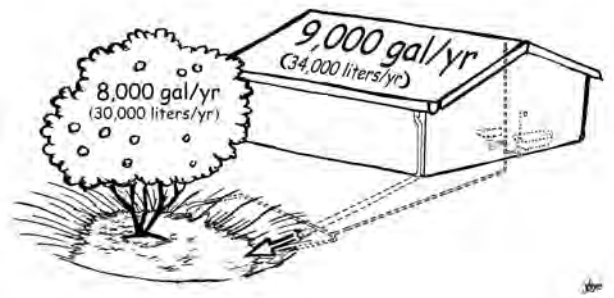

Fig. A4.1B. Annual irrigation demand in Tucson, Arizona, of higher-water-use, dry-season-susceptible, exotic citrus tree met by rainwater supply from roof runoff, and supplemented with greywater in dry times

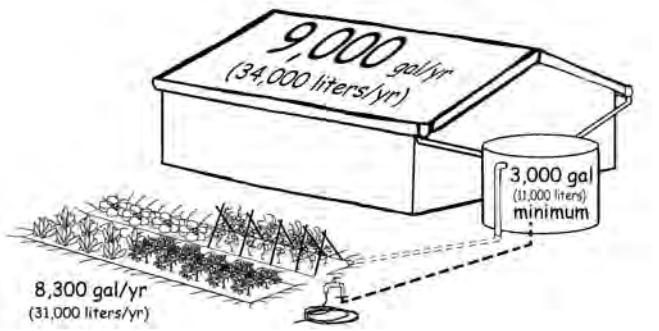

Fig. A4.1C. Annual irrigation demand in Tucson, Arizona, of 130 ft^2 (12 m^2) high-water-use vegetable garden in sunken, mulched basins. Cistern needed to dole out roof runoff in long dry times

Place-Based Wild and Cultivated Food Plants Calendars

This calendar builds on the One-Page Place Assessments introduced in chapter 2. They tell another chapter of the story of the challenges and potentials of your place, rooted in the climate and ecosystem where you live.

Figure A4.2 is a Sonoran Desert Foods Harvest Calendar for native and exotic, wild and cultivated, annual and PERRENIAL food plants that grow in the Sonoran Desert. It is not comprehensive, but instead is intended to give you a taste of the wide diversity of climate-appropriate food plants (and their cultivars or sub-varieties) whose different harvest seasons provide resilient year-round harvests. For example, if both blue (*Parkinsonia* [formerly *Cercidium*] *floridum*) and foothills palo verde (*Parkinsonia microphyllum*) trees are planted in a yard in the Sonoran Desert, there can be a three-week difference between the blooming, and harvesting, season of the two different palo verdes; and thus a three-week extension of the palo verde harvesting period for someone with access to both species as opposed to just one of them. In this location, exotic Marrs oranges are ripe in November through February, while Valencia oranges are ripe February through May and you can bud graft the fruiting stock of both species onto the same tree. The positioning of plants in different microclimates (warmer, cooler, wetter, drier locations), along with the impacts of climate change, affect where plants can grow and their harvest periods.

Plants native to the Sonoran Desert—such as mesquite, ironwood, and palo verde trees—will thrive within or next to passive water-harvesting earthworks or rain gardens. Exotic plants—such as citrus and tomatoes—typically need supplemental irrigation water from rain cisterns, gravity-fed greywater systems, and/or air conditioning condensate. Calculate your plants' water requirements to determine if you have enough on-site water to sustainably meet these supplemental irrigation needs. The plants with an asterisk—such as *pistachio*, *piñon pine*, and the Arizona native *Emory oak* (acorn)—do not grow and produce nuts in the Sonoran Desert, but they do grow in adjacent areas at higher elevations. They remind us to stay conscious of our connections with neighboring communities of plants, people, and whole ecosystems.

I strongly encourage you to prepare a harvest calendar for your location and continually update and expand it. To do this, ask questions of local herbalists, farmers, gardeners, permaculturalists, and localvores; research the local ethnobotanical record; and make your own observations. Find out which plants that can grow and produce in your area are missing from your system and the community. Plant them in locations where on-site, sustainably-harvested water sources will enable them to regeneratively produce. Then care for them, harvest them, and share their bounty.

See www.LorenziniWorks.com for additional, more comprehensive calendars done in color by the artist Jill A. Lorenzini.

See www.DesertHarvesters.org for native Sonoran Desert food plant planting, harvesting, processing, cooking tips, and resources.

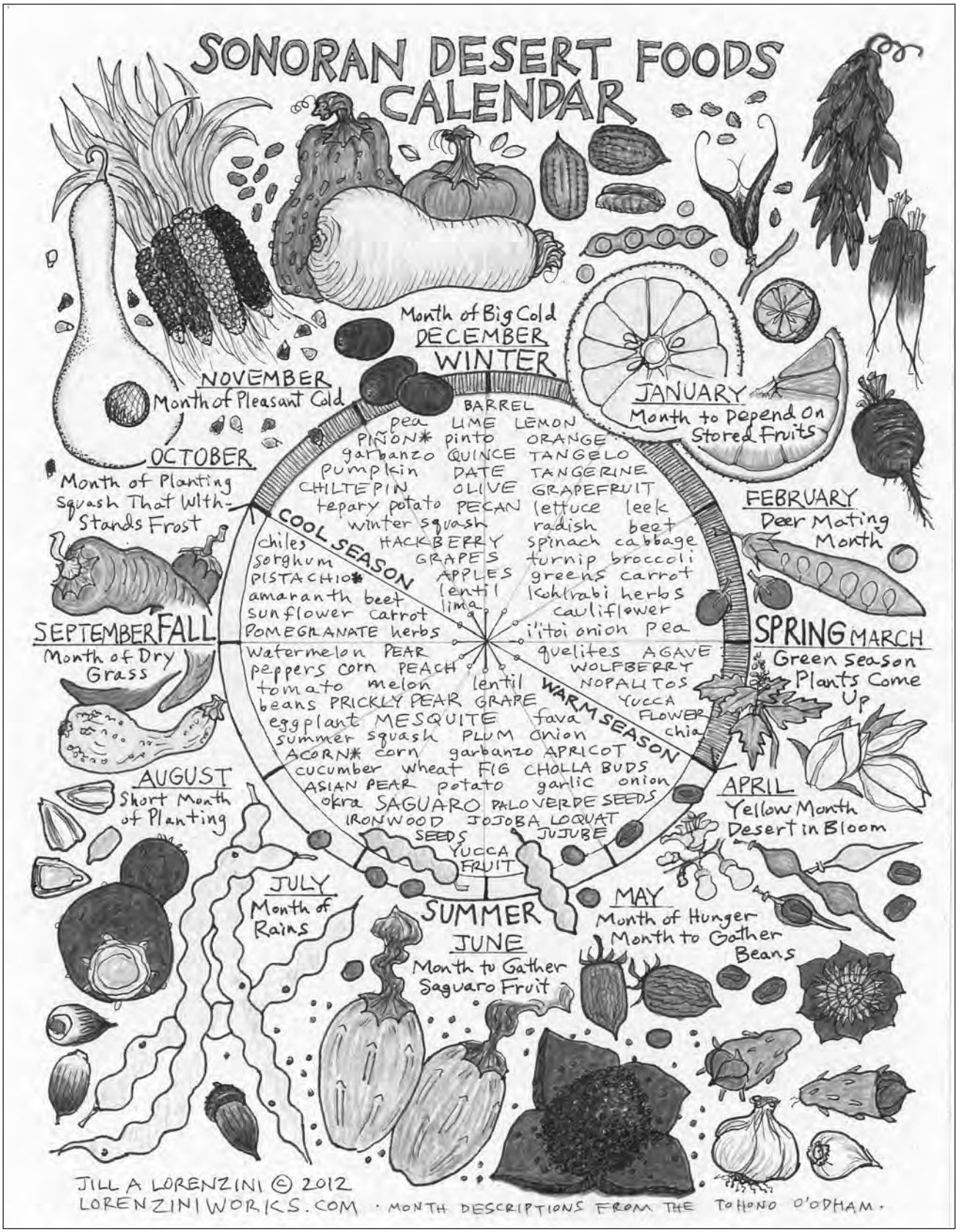

Figure A4.2. Harvest calendar of food plants that grow in the Sonoran Desert