Supplementary Information for:

The evolutionary ecology of clonally propagated domesticated plants

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Supplementary Table S1. A (non-exhaustive) list of clonally propagated crops, indicating their wild ancestor(s), site of domestication, ploidy level, the parts used for consumption and for propagation, what is known about their mating system and its evolution during domestication, whether sexual seedlings are known to be used, the major features of their domestication syndrome, and a hypothesis as to why clonal propagation is advantageous. This table also gives research guidelines, since all this information is not yet available for a number of crops.
In this table, as in the rest of the paper, we are not concerned with modern breeding. Thus the origin of recent cultivars is not indicated under 'origin of domestication', nor are recently derived traits (*e.g.*, through plant breeding programs) mentioned under 'domestication syndrome'.

Note added in proof:
Since preparing Table S1, we have become aware of a few other vegetatively propagated domesticated plants. These include :

- pepino (*Solanum muricatum* Aiton [Solanaceae]), from the temperate Andes,
- highland papayas (*Carica* [syn. *Vasconcellea*] *stipulata* Badillo, other species, and their hybrids), also from the Andes,
- and achira (*Canna edulis* Kerr |Cannaceae]), from South America and the West Indies (NRC, 1989, for all species).

We thank Charles Clement (INPA, Manaus, Brazil) for bringing this book and these crops to our attention.
Another book (Hernández Bermejo & León, 1994) lists four additional clonally propated crops:

- ulluque (*Ullucus tuberosus* [Basellaceae]; see also Malice *et al.*, 2009),
- arracacha (*Arracacia xanthorrhiza* Banc. [Apiaceae]; see also Morillo *et al.*, 2004),
- mauka (*Mirabilis expansa* Ruiz & Pavon [Nyctaginaceae])
- and yacón (*Polymnia sonchifolia* [syn. *Smallanthus sonchifolia*] [Asteraceae]; for this last plant see also Zardini (1991); Valentová & Ulrichová (2003).

King (1987), Hermann and Heller (1997), Flores et al. (2003) and Malice and Baudoin (2009) provide substantial information on a number of Andean root and tuber crops.
Finally, we add chestnut (*Castanea sativa* [Fagaceae]; see Mattioni *et al.*, 2008) from western Asia and Europe.
These additions add six families to the list of those including clonally propagated crops, bringing the total to 33.

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Species					Geography		Agronomy		Ploidy	Mating system			Domestication syndrome	Why clonal propagation?
Family	**Genus**	**Scientific name**	**Common name**	**Wild ancestor(s)**	**Place of domestication**	**Current geographical range of cultivation**	**Consumed part**	**Part used for propagation**		**Wild relative**	**Evolutionary fate of sex**	**Local farmers' attitude towards spontaneous seedlings**		
Alliaceae	*Allium*	*Allium cepa* Aggregatum group (most shallots) And *A. oschaninii* (French grey shallot)	Shallot	Same species (Havey, 1995; Brewster, 2008).	Central Asia (Havey, 1995).	worldwide; China by far biggest producer (Havey, 1995).	Bulb.	Parts of bulb, cloves.	Diploid (Havey, 1995).	?	Shallot is cross-pollinated. Fertility was not lost (Rabinowitch & Kamenetsky, 2002).	? Probably welcome.		
		Allium sativum	Garlic	*A. longicuspis* (Etoh & Simon, 2002).	Central Asia (Havey, 1995; Etoh & Simon, 2002).	worldwide; China by far biggest producer (Havey, 1995).	Bulb.	Parts of bulb, cloves.	Diploid (Havey, 1995).	Outcrossing (Boyhan *et al.*, 2009).	Most cultivars are sterile. The fertile ones are outcrossing. Some of them show high fertility (most do not) (Havey, 1995; Etoh & Simon, 2002; Boyhan *et al.*, 2009).	?		
		Allium chinense	Rakkyo	Same species (Havey, 1995).	Eastern Asia (Havey, 1995).	Eastern Asia (Havey, 1995).	Bulb.	Parts of bulb, cloves.	Autotetraploid (Mann & Stearn, 1960; Havey, 1995).	?	The number of flowers strongly depends on the size of the propagule (Brewster, 2008). No seed set has ever been observed (Mann & Stearn, 1960).	N/A		Sterile (or almost).
Anacardiaceae	*Mangifera*	*Mangifera indica* (mostly)	Mango	Same species (Singh, 1976).	East India (Singh, 1976).	Pantropical.	Fruit.	Grafting.	Allotetraploid (Singh, 1976; Vasanthaiah *et al.*, 2007).	Usually outcrossing (Engels & Rao, 1995).	Usually outcrossing; sometimes self-compatible (Engels & Rao, 1995).	Often used, though yield is uncertain (Singh, 1976). Recently, nucellar polyembryonic cultivars have appeared; these can be propagated by seed (Vasanthaiah *et al.*, 2007).		
	Pistacia	*Pistacia vera*	Pistachio	Same species (Shresta, 1995).	South central Asia (Shresta, 1995; Hormaza & Wünsch, 2007).	regions with dry summers, cold winters (Shresta, 1995).	Seed.	Grafted onto the same or other *Pistacia* species.	Diploid (Shresta, 1995).	Dioecious, wind-pollinated (Engels & Rao, 1995; Hormaza & Wünsch, 2007).	No change (Engels & Rao, 1995).	?	Dehiscent fruits, less woody (Shresta, 1995); although the domestication syndrome is not conspicuous (Zohary & Hopf, 2000).	Dioecious, only females are of interest (but a few males are needed for pollination). In addition, males and females are not distinguishable at the seedling stage (Hormaza & Wünsch, 2007).
Araceae	*Alocasia*	*Alocasia indica* (syn [?] *A. macrorrhizos*)	Giant taro/ elephant ear taro	?	Southern India (Sri Lanka?) (Plucknett, 1976) and/or PNG (Lebot, 1999).	PNG and Pacific (Plucknett, 1976).	Underground corms (sometimes leaves and petioles); stems (corms) (Plucknett, 1976).	Corms, cormels.	Diploid (Plucknett, 1976).	Monoecious, usually outcrossing (Lebot, 2009); self-pollinates under the rain (Ivančič & Lebot, 2000, p. 22).	Still monoecious, some cultivars are more or less sterile (Ivančič & Lebot, 2000, p. 22). Self-pollinates in the rain (Lebot, 2009).	?	Reduction of calcium oxalate content (Ivančič & Lebot, 2000, p. 23); strongly reduced sexual reproduction.	
	Colocasia	Dasheen: *Colocasia esculenta var. esculenta* Eddoe: *Colocasia esculenta* var. *antiquorum*	Taro/Dasheen/ Eddoe	Same species (Hancock, 2004).	At least in South-eastern Asia / Indonesia (Plucknett, 1976); maybe independently in PNG (Lebot, 1999; Denham *et al.*, 2003; Kreike *et al.*, 2004).	Pantropical (Hancock, 2004) (mostly S and SE Asia and Pacific).	Underground corms (sometimes leaves and petioles); inflorescence (Plucknett, 1976)	Corms, cormels.	Diploid and (auto)triploid (Hancock, 2004) (so are the wild populations).	Monoecious, more or less outcrossing (Ivančič & Lebot, 2000).	Still monoecious. Depending on clones, self-compatible or not (Ivančič & Lebot, 2000, p. 94). Reduced flowering in most landraces (notably those that are not diploid). However, some clones are cultivated for their edible inflorescence in China (Jianchu *et al.*, 2001).	Welcome (Lebot, 1999; Caillon *et al.*, 2006; Caillon & Degeorges, 2007).	Flowering and production of stolons (highly correlated) are reduced in cultivated taro, leading to increased corm production (in Lebot & Aradhya, 1991). Reduction of calcium oxalate crystals content (Caillon *et al.*, 2006).	Higher yield achieved through lessened flowering?
	Cyrtosperma	*Cyrtosperma merkusii*	Giant swamp taro	Same species (Plucknett, 1976)?	Indonesia (Plucknett, 1976); and/or PNG (Lebot, 1999; Lebot, 2009).	PNG and Pacific (Plucknett, 1976).	Underground corms (sometimes leaves and petioles) (Plucknett, 1976).	Corms, cormels.	?	Usually cross-pollinated (Lebot, 2009) by beetles (Gibernau, 2003)	Hermaphrodite flowers (pollination biology not documented) (Ivančič & Lebot, 2000). Seed set is rare (Lebot, 2009).	Probably welcome, since some cultivars are known as former seedlings (Englberger *et al.*, 2008).	Some cultivars can be found in harsher (drier, more saline) environments than those favoured by the wild plant (Ivančič & Lebot, 2000).	?
	Xanthosoma	*Xanthosoma sagittifolium*	Tannia / Cocoyam	?	Mesoamerica (or South America?) (Plucknett, 1976).	Central America, northern South America, Caribbean, West Africa.	Underground corms.	Tuber fragments.	Diploid (Plucknett, 1976).	Mostly outcrossing (García-Robledo *et al.*, 2004).	Probably reduced: the cultivated plant rarely sets flowers; when it does, it rarely sets seeds, most of which do not germinate (Pandey, 2007). The plant is still outcrossing (Pandey, 2007).	?	?	?
Arecaceae	*Phoenix*	*Phoenix dactylifera*	Date	Same species (?) (Wrigley, 1995). Unclear: *Phoenix reclinata* from tropical Africa, or *Phoenix sylvestris* from India, or a hybrid between these two (Zaid, 2002, chapter 8).	West India / Arabian peninsula (Wrigley, 1995), or Near East (El Hadrami & El Hadrami, 2009).	Dry tropics (above all, the tree needs warm temperatures and underground water) (Wrigley, 1995).	Fruit (also used for fuel, fiber and as a shelter for other crops, (El Hadrami & El Hadrami, 2009)).	Suckers.	Diploid (Wrigley, 1995).	Dioecious (Wrigley, 1995).	Still dioecious, but parthenocarpic. Parthenocarpic fruits are small and grow slower, so the plant is artificially pollinated (Wrigley, 1995).	In some regions, date palm is grown from seedlings only (e.g. in some parts of Morocco, Spain or Mexico) (Zaid, 2002, chapter 8). We found no information concerning farmers' attitudes towards seedlings in other regions.	Suckering.	Dioecious, only females are of interest (but a few males are needed for artificial pollination). Faster yield (Zaid, 2002, chapter 8). Besides, males and females are not easily distinguished at early stages (Zaid, 2002, chapter 8).
Asparagaceae	*Agave*	*Agave* spp.: sisal (*A. sisalana*)*, long-fibre agave (*A. fourcroydes*)* maguey (*A. cantala*) Salvador henequen (*A. fourcroydes*) lechuguilla (*A. lecheguilla*, *A. funkiana*) and others (Wienk, 1995; Parker *et al.*, 2007).	Sisal	*A. fourcroydes*: *A. angustifolia*? (Colunga-Garcíamarín & May-Pat, 1993). Other species?	Mesoamerica (Colunga-Garcíamarín & May-Pat, 1993).	Tropics (mostly Africa and America) (Wienk, 1995).	Fibers (leaves).	Rhizomatous suckers, bulbils.	di- to pentaploid (the two most cultivated species are pentaploid) (Wienk, 1995).	Seldom sets fruits.	Lost in two species (Wienk, 1995).	?		Sex lost, long generation time.
		Agave angustifolia ssp. *tequilana*	Tequila/blue agave	Same species (Vargas-Ponce *et al.*, 2009).	Mesoamerica (Vargas-Ponce *et al.*, 2009).	Mesoamerica.	Core.	Rhizomatous suckers, bulbils (Vargas-Ponce *et al.*, 2009).	Diploid to hexaploid (Vargas-Ponce *et al.*, 2009).	Mostly outcrossing (Vargas-Ponce *et al.*, 2009).	No change (Vargas-Ponce *et al.*, 2009).	Welcome (even if they show a "wild" phenotype) (Vargas-Ponce *et al.*, 2009).		Long generation time.
Asteraceae	*Helianthus*	*Helianthus tuberosus*	Jerusalem Artichoke (Topinambour)	Same species (Heiser Jr, 1995).	North America (Heiser Jr, 1995).	temperate northern hemisphere (Heiser Jr, 1995).	Tuber.	Tuber.	Hexaploid (Heiser Jr, 1995) [probably allohexaploid (Kays & Nottingham, 2008, p. 269)].	Self-incompatible (Kays & Nottingham, 2008, p. 269).	In practice, sexual reproduction is rare because a small number of clones are cultivated (Heiser Jr, 1995).	?	Higher number of leaves, larger size of tuber, reduced rhizome and flowering (Kays & Nottingham, 2008, p. 269).	Yield/flower set trade-off (Kays & Nottingham, 2008, p. 269).
Bromeliaceae	*Ananas*	Fruit: *Ananas comosus* var. *comosus** For fiber (minor crop): *Ananas comosus* var. *erectifolius* For diverse uses (minor crop): *Ananas comosus* var. *bracteatus*	Pineapple	Other varieties of *A. comosus* (notably var. *ananassoides*), and the species formerly named *Pseudananas sagenarius*, now *Ananas macrodontes* (Aradhya *et al.*, 1994; Leal, 1995; de Fátima Ruas *et al.*, 2001; Duval *et al.*, 2001; Coppens d'Eeckenbrugge & Leal, 2003; Duval *et al.*, 2003; Coppens d'Eeckebrugge & Duval, 2009).	Amazon (Coppens d'Eeckenbrugge & Leal, 2003), with three distinct origins: - NE Amazon basin for *A. comosus* var *comosus*, from var. *ananassoides*, with a secondary diversification in the western Amazon basin. - NE Amazon basin for var. *erectifolius* - southern South America for var. *bracteatus*	Pantropical (Pickersgill, 1976).	Infructescence.	Slips, suckers, crowns ...	Uusally diploid ; triploids and tetraploids also exist. (*Pseudananas* is tetraploid.) (Pickersgill, 1976; Coppens d'Eeckenbrugge & Leal, 2003).	Mixed (self-compatible) for *A. comosus* var. *bracteatus* and var. *ananassoides* (Pickersgill, 1976). Clonal propagation is frequent among wild pineapples (distinct populations have distinct genotypes, but only a few clones per population) (Coppens d'Eeckebrugge & Duval, 2009).	Self-incompatible, and often monoclonal plantations: almost no sex) + parthenocarpy (Coppens d'Eeckenbrugge & Leal, 2003).	Seedlings do not usually occur in plantations (cf. biology of the plant; G. Coppens d'Eeckenbrugge, *pers. comm.*).	Reinforcement of self-incompatibility, parthenocarpy. Increase in number and size of fruitlets, reduced acidity. Reduced fruit fibrousness. Reduced susceptibility to natural flowering induction (Coppens d'Eeckebrugge & Duval, 2009).	Strong counter-selection of seeds, which are very hard and make the fruit inedible. Planting a field with one clone ensures no seeds will be present in fruits.
Cannabaceae	*Humulus*	*Humulus lupulus*	Hops	Same species (Jakše *et al.*, 2004; Stajner *et al.*, 2008).	Two distinct groups: North American accessions and European accessions. Probably at least one domestication in central/Eastern Europe (Jakše *et al.*, 2004; Stajner *et al.*, 2008).	Temperate zones with variable day lengths: 35 to 70°N (Neve, 1995).	Female inflorescence.	Rhizome.	Diploid (some recent cultivars may be triploid) (Jakše *et al.*, 2001).	Dioecious, wind-pollinated (Neve, 1995).	No change (Neve, 1995).	Not welcome, in North America (Davis, 1957).	?	Dioecious, only females are of interest (but males are needed for pollination).
Convolvulaceae	*Ipomoea*	*Ipomoea batatas*	Sweet potato	*I. trifida* at least (Huang & Sun, 2000; Huang *et al.*, 2002; Srisuwan *et al.*, 2006).	Mesoamerica (Zhang *et al.*, 2000; Lebot, 2009); early secondary diversification in the slopes of the Andes (Hancock, 1995; Lebot, 2009).	Pantropical.	Tuberous root.	Apical portion of stem.	Autotetraploid and auto or allohexaploid (ancestor is di-, tetra- and hexaploid) (Nishiyama *et al.*, 1975; Jarret & Austin, 1994; Huang & Sun, 2000; Huang *et al.*, 2002; Srisuwan *et al.*, 2006; Lebot, 2009).	Self-incompatible (Nishiyama *et al.*, 1975).	No change (Nishiyama *et al.*, 1975).	Farmers of New Guinea and Melanesia readily incorporate seedlings after a selection process (Yen, 1960; Bulmer, 1965; Lebot, 2009); while this is uncommon in Africa (Gibson *et al.*, 2000). Little studied in America. Use of seedlings is reported in areas severely affected by Sweet potato little leaf disease (mostly in the Pacific) (Lebot, 2009).	Growth habit changed; became more or less annual; size; vitamin content.	Outcrossed. The wild ancestor is prone to clonal propagation (Lebot, 2009).
Dioscoreaceae	*Dioscorea*	*Dioscorea dumetorum*	Trifoliate yam	Probably the same species (Hancock, 2004; Chaïr *et al.*, 2005).	Western Africa (Hahn, 1995).	Western Africa, mostly (Hahn, 1995).	Tuber.	Tuber, tuber setts.	Polyploid (variable) (Hahn, 1995).	Dioecious (Engels & Rao, 1995).	No change (Engels & Rao, 1995).	Usually welcome (Lebot, 1992; Hahn, 1995; Lebot, 1999; Scarcelli *et al.*, 2006a; Scarcelli *et al.*, 2006b; Lebot, 2009).	Reduced fertility (Lebot, 1992; Hahn, 1995). Biased sex ratio. Annual habit (ancestors are perennial) (Lebot, 2009). Reduced chemical defenses (Lebot, 2009). Tubers buried shallower than in the wild individuals.	Dioecious (so: seeds are not true to type). Strong plasticity (plants found as wild (truly wild or long abandoned)
		Dioscorea esculenta	Chinese yam	Same species (?) (Hancock, 1995).	Southeastern Asia (Hahn, 1995).	Eastern Asia.			Tri- to decaploid (Hahn, 1995; Hancock, 1995).					
		Dioscorea rotundata	White yam	Hybrid origin (Hahn, 1995) *D. abyssinica*, *D. praehensilis* and *D. rotundata-cayenensis* all belong to the same species (Chaïr *et al.*, 2005).	Africa (Hahn, 1995).	Western Africa, mostly (Hahn, 1995).			Polyploid (variable) (Hahn, 1995).					
		Dioscorea alata	Water yam	Hybrid origin (Hancock, 1995) – unknown as a wild plant (Hahn, 1995).	Southeastern Asia (Hahn, 1995) and/or PNG (Lebot, 1999; Lebot, 2009).	Eastern Asia.			Di- to octoploid (Hancock, 1995).					
		Dioscorea pilosiuscula	Aerial yam	Probably the same species (Hancock, 2004; Chaïr *et al.*, 2005).	Southeastern Asia; maybe also in Africa (Hahn, 1995).	Tropics (mostly Africa and Asia).			Tri- to decaploid (Hahn, 1995; Hancock, 1995).					
		Dioscorea trifida	Cush-cush yam	Probably the same species (Hancock, 2004; Chaïr *et al.*, 2005).	South America (Hahn, 1995).	South America (tropical).			Polyploid (variable) (Hahn, 1995).					

		Dioscorea cayenensis	Yellow yam	Hybrid origin (Hahn, 1995) cf. *D. rotundata.*	Western Africa (Hahn, 1995).	Western Africa, mostly (Hahn, 1995).			Polyploid (variable: 4 to 14x) (Hahn, 1995).		No change, but the female clones were apparently lost (Hahn, 1995).			
Ericaceae	*Vaccinium*	*Vaccinium corymbosum*, *V. ashei*, *V. angustifolium*	Blueberries	Hybrid origin (Hancock, 1995).	Northeastern North America (Hancock, 1995).	Cold temperate regions.	Fruit.	Cuttings.	Tetra- and hexaploid (Hancock, 1995).	Self incompatible (strong inbreeding depression) (Engels & Rao, 1995; Hancock, 1995).	No change (Hancock, 1995).	Probably incorporated.	Improved fruit quality and hardiness.	Faster.
		Vaccinium macrocarpon	Cranberries	*V. oxyococcos* (Hancock, 1995).		Northeastern North America.			Diploid (Hancock, 1995).					
Euphorbiaceae	*Cnidoscolus*	*Cnidoscolus aconitifolius* ssp. *aconitifolius*	Chaya	Same species (Ross-Ibarra & Molina-Cruz, 2002).	Mesoamerica (Ross-Ibarra & Molina-Cruz, 2002).	Mesoamerica to Northwestern South America (mostly among Maya people) (Ross-Ibarra & Molina-Cruz, 2002).	Leaves.	Stem cuttings.	Diploid (Miller & Webster, 1966).	Probably at least partly outcrossing.	Fertility dramatically decreased in three of four studied varieties (rare fruits, no seeds, rare or non-viable pollen) (Ross-Ibarra & Molina-Cruz, 2002).	Only one variety (Picuoda) is occasionally reproduced by seed (Ross-Ibarra & Molina-Cruz, 2002).	Less stinging hairs. Some varieties resemble wild forms (Ross-Ibarra & Molina-Cruz, 2002).	
	Manihot	*Manihot esculenta* ssp. *esculenta*	Cassava	*M. esculenta* ssp. *flabellifolia* (Allem, 1994; Olsen & Schaal, 1999; Olsen, 2004; Léotard *et al.*, 2009).	Southwestern Amazon (Olsen & Schaal, 1999; Olsen, 2004; Léotard *et al.*, 2009).	Pantropical.	Tuberous root (sometimes leaves).	Stem cuttings.	Allotetraploid (like the rest of the genus) (Jennings, 1995a).	Mostly outcrossing (but self-compatible) (Duputié *et al.*, 2009a).	No change in mating system(David *et al.*, 2007), but reduced flowering (flowering associated with branching and branching reduced in the domesticate)(Médard, 1973).	Seedlings are frequently incorporated by Amerindian cultivators (Elias & McKey, 2000; Elias *et al.*, 2001a; Elias *et al.*, 2001b), after selection (Pujol *et al.*, 2005a; Duputié *et al.*, 2009b). Sometimes also incorporated in Africa (Manu-Aduening *et al.*, 2005).	Lower degree of branching, favouring propagation by cuttings and lowering flowering (Médard, 1973). Partial loss of defences (Pujol *et al.*, 2008). Faster growth through change in seedling morphology (Pujol *et al.*, 2005b).	Yield/flower production trade-off. Outcrossing species.
Grossulariaceae	*Ribes*	Black currants: *Ribes nigrum* Red currants: *Ribes sativum*, *R. carpaticum*, *R. rubrum*	Currants	Same species (Keep, 1995).	Northern and Eastern Europe, mostly (Keep, 1995).	Temperate regions.	Fruit.	Stem cuttings.	Diploid (Keep, 1995).	Self-incompatible (Keep, 1995).	Some cultivars are self-compatible (Keep, 1995).	Probably don't mind.	Selection for self-fertility.	Faster.
Malvaceae	*Abelmoschus*	*Abelmoschus manihot*	Aibika	Same species (Hamon & van Sloten, 1995)?	Oceania (PNG) (Lebot, 1999).	Mostly Oceania (Lebot, 1999).	Leaves, flowers.	Stem cuttings.	Polyploid (Hamon & van Sloten, 1995).	Mostly outcrossing (but self-compatible) (Hamon & van Sloten, 1995).	Sometimes sterile (Lebot, 1999).	Seedlings are occasionally selected (Lebot, 1999).		
Moraceae	*Artocarpus*	*Artocarpus altilis*	Breadfruit	*A. camansi* (Lebot, 1999; Ragone, 2008) introgressed by *A. mariannensis* (Zerega *et al.*, 2006; Akinnifesi *et al.*, 2008, p. 127).	Oceania (PNG) (Lebot, 1992; Lebot, 1999).	Equatorial regions.	Fruit (seeds can be consumed in seeded varieties).	Root shoots or root cuttings.	Seedless varieties are triploid. So are some seeded varieties. Seeded varieties from Oceania are diploid (Lebot, 1992; Lebot, 1999).	Outcrossing (Ragone, 2008).	Seedless landraces are parthenocarpic. Seeded landraces are more or less fertile (Ragone, 2008), and outcrossing.	Seedlings are preserved (Lebot, 1999) at least in Melanesia.	Parthenocarpy. Seedlessness (taste).	Faster growth. Seedlessness (for most landraces)
	Ficus	*Ficus carica*	Fig	Same species (Zohary, 1995a).	Eastern Mediterranean basin (Zohary & Spiegel-Roy, 1975; Zohary, 1995a; Zohary & Hopf, 2000).	Mediterranean climates (Zohary, 1995a).	Infructescence.	Cuttings.	Diploid (Zohary, 1995a).	Gynodioecious (Zohary, 1995a).	Still gynodioecious, most common figs are parthenocarpic (Zohary, 1995a).	?	Parthenocarpy in some common figs.	Gynodioecious tree; trees producing pollen have non edible figs. Faster growth.
Musaceae	*Ensete*	*Ensete ventricosum*	Enset	Same species (Simmonds, 1995a).	Ethiopian highlands (Hancock, 2004).	East Africa.	Root, pseudostem, rhizome.	Suckers.	Diploid (Simmonds, 1995a).	Outcrossing (Brandt *et al.*, 1997).	No change.	?	?	Counter-selection of seeds, loss of sex in a hybrid species.
	Musa	*Musa sp.* (section *Callimusa*)	Fe'i Banana	*M. lolodensis*, *maclayi*, *peekelii* (genome 'T') and hybrids (Kennedy, 2008; Kennedy, in press).	PNG (Kennedy, 2008; Kennedy, in press).	Pantropical (Kennedy, 2008; Kennedy, in press).	Fruit.	Suckers (Simmonds, 1959).	Diploid (Simmonds, 1959 ; Kennedy, 2008).	Outcrossing.	Reduced/lost fertility (Pillay & Tripathi, 2007; Kennedy, 2008).	?	Parthenocarpy, very often absence of seeds (Kennedy, 2008).	Counter-selection of seeds, loss of sex in hybrid species.
		Musa spp. (section *Musa*)	Banana	*Musa acuminata* (genome 'A'), interspecific hybrids with *M. balbisiana* (genome 'B') and perhaps other species (Kennedy, 2008; Kennedy, in press).					Diploid and triploid (Simmonds, 1959 ; Kennedy, 2008).		Lost fertility in most cases (parthenocarpy, absence of seeds), but diploids can produce seeds when pollinated (Pillay & Tripathi, 2007; Kennedy, 2008; Kennedy, in press). Species cultivated for fibre – such as *M. textilis* - have not lost sex (Hancock, 2004).			
Oleaceae	*Olea*	*Olea europaea* ssp. *europaea* var. *europaea*	Olive	Same species, var. *sylvestris* (Doveri & Baldoni, 2007).	Eastern Mediterranean basin (Zohary, 1995b).	Mediterranean climates (Zohary, 1995b)	Fruit.	Basal knobs or truncheons, grafting.	Diploid (Zohary, 1995b). Tetraploids exist (Doveri & Baldoni, 2007).	Outcrossing (self-incompatible) (Zohary, 1995b).	Some cultivars are self-compatible (Zohary, 1995b; Doveri & Baldoni, 2007).	?	Increased oil content; larger fruits; a few cultivars are self-compatible (Zohary & Spiegel-Roy, 1975; Zohary, 1995b).	Faster growth (tree with an extremely slow growth). True to type (outcrossing species).
Orchidaceae	*Vanilla*	*V. planifolia** *V. tahitensis*	Vanilla	*V. planifolia*: same species; *V. tahitensis*: unknown (Bory *et al.*, 2008b).	*V. planifolia*: Mesoamerica; *V. tahitensis*: Pacific? (Bory *et al.*, 2008b).	Tropics.	Pods.	Stem cuttings.	Diploid; some autopolyploids (Bory *et al.*, 2008a).	Probably outcrossing (pollinated by hummingbirds and bees).	Self pollinated by hand (Bory *et al.*, 2008b).	Very occasionally incorporate seedlings (unconsciously) (Bory *et al.*, 2008b).	Obligate self-pollination (pollinators are absent in most of the range) (Klein *et al.*, 2007).	Inbreeding depression in an outcrossing species?
Oxalidaceae	*Oxalis*	*Oxalis tuberosa*	Oca	hybrid of *O. picchensis* and a yet unnamed species? (Emshwiller & Doyle, 1998; Emshwiller & Doyle, 1999; Emshwiller & Doyle, 2002). Maybe also a contribution from *O. chicligastensis* (Emshwiller, 2006).	Andes (Pissard *et al.*, 2006).	Andes.	Tuber.	Tuber.	Octoploid (autoallo-?). Ancestors have lower ploidy levels (Emshwiller, 2002; Emshwiller, 2006).	Outcrosser (self-incompatible) (Trognitz *et al.*, 2000).	Rarely sets flowers and fruits (Pissard *et al.*, 2008b).	Never been observed but intra-landrace genetic variability suggest they readily incorporate these (Malice *et al.*, 2007; Pissard *et al.*, 2008b).	?	Strongly outcrossing species.
Piperaceae	*Piper*	*Piper nigrum** (and at least 8 other *Piper* species) (Zeven, 1976)	Pepper	Same species (Zeven, 1976).	Southwestern India (Zeven, 1976).	Tropics (mostly Southeast Asia) (Zeven, 1976)	Fruit (white pepper: seed).	Cuttings.	Polyploid (variable) (Zeven, 1976).	Dioecious (Zeven, 1976).	Some cultivated clones are hermaphrodite (Zeven, 1976).	?	?	Seed is short lived (7 days).
		Piper methysticum	Kava	*Piper wichmannii* (Lebot, 1999).	Oceania (Lebot, 1999).	Mostly Pacific.	Roots.	Cuttings.	Decaploid (Lebot, 1999).	Self-incompatible (de Figueiredo & Sazima, 2000).	Sterile (Lebot, 1992).	N/A	Loss of sexual reproduction.	Sexual reproduction was lost.
Poaceae	*Saccharum*	*Saccharum officinarum** *S. sinense* *S. edule*	Sugarcane *S. edule*: naviso/pitpit	*S. officinarum*: *S. robustum* and *S. sinense* might be hybrids between *S. officinarum* and *S. spontaneum*; *S. edule*: *S. robustum* or hybrid origin? (Roach, 1995; Lebot, 1999; Grivet *et al.*, 2004; Hancock, 2004).	Oceania for *S. officinarum* and *S. edule*; then hybridization in southeast Asia and India formed the three other cultivated species (Roach, 1995; Grivet *et al.*, 2004).	*S. officinarum*: pantropical. *S. barberi*: Northern India. *S. sinense*: China. *S. edule*: Oceania.	Stem. *S. edule*: aborted inflorescence.	Stem cuttings.	Polyploid (variable) – as are the wild species (Roach, 1995; Hancock, 2004).	Outcrossing (high inbreeding depression) (Hancock, 2004).	Outcrossing (James, 2004). Fertility is reduced(James, 2004) (p. 28).	?	Increased sugar content in the stem (except for *S. edule*).	Flowering decreases sugar content (James, 2004, p. 15).
Rosaceae	*Fragaria*	*Fragaria* x *ananassa** and others.	Strawberry	Hybrid of *F. chiloensis* and *F. virginiana*, which are of unclear origin (probably involves *F. vesca* and other species) (Jones, 1995; Hancock, 2004; Davis *et al.*, 2007).	*F. vesca*, *F. viridis*, *F. moschata*: Europe. *F. chiloensis*: Chile. (all these are no longer cultivated at a large scale) (Davis *et al.*, 2007). *F.* x *ananassa* originated in European horticultural gardens in the 1760s (Jones, 1995; Hancock, 2004; Davis *et al.*, 2007).	Temperate regions.	Receptacle.	Stolon (runners).	Octoploid (Jones, 1995). Ancestors are diploid (*F. vesca*), or octoploid (*F. chiloensis* and *F. virginiana*) (Davis *et al.*, 2007).	Diploid species: monoecious; *F. vesca*: self-compatible. *F. chiloensis* and *F. virginiana*: trioecious (Jones, 1995; Hancock *et al.*, 2008c).	Trioecious. Hermaphrodite plants range from self-compatible to self-incompatible (Jones, 1995; Hancock, 2004; Hancock *et al.*, 2008c).	All *Fragaria* species produce edible fruits (Jones, 1995); so this is likely.	Fruit size, taste and sugar content. Hardiness. Most commercially grown cultivars were selected to be hermaphrodite (Hancock *et al.*, 2008c).	Complex mating system: easier way to obtain hermaphrodites.
	Malus	*Malus x domestica* (syn. *M. pumila*)* (and others?).	Apple	Hybrid origin (*M. sieversii* – may be a synonym of *M. pumila* -, introgression by *M. sylvestris* (now *M. pumila*) and *M. orientalis*, and others) (Watkins, 1995a; Hancock, 2004; Gardiner *et al.*, 2007).	Central Asia (Watkins, 1995a).	Worldwide (temperate and subtropical regions) (Watkins, 1995a).	Fruit.	Grafting.	The whole genus is tetraploid; apples have the regular ploidy or are triploid (Watkins, 1995a; Hancock, 2004; Gardiner *et al.*, 2007; Hancock *et al.*, 2008a).	Self-incompatible (Watkins, 1995a; Hancock, 2004).	Self-incompatible, sometimes apomictic (Hancock, 2004; Gardiner *et al.*, 2007).	Probably used. Wild plants are still grafted in gardens in Central Asia (Hancock *et al.*, 2008a).	Fruit size and taste. Hardiness. Some cultivars are self-compatible (Pereira-Lorenzo *et al.*, 2009).	Faster growth (tree species). True to type (outcrossing).
	Prunus	European plum: *Prunus domestica;* Damson plum: *Prunus insititia;* Cherry plum: *Prunus cerasifera;* Japanese plum: *Prunus salicina;* American plum: *Prunus americana*	Plum	European plum: hybrid origin (damson and cherry plum). Other plums: same species (?) (Watkins, 1995b).	European plum: Europe; Damson plum: Western Asia; Cherry plum: Western/central Asia; Japanese plum: China; American plum: North America (Watkins, 1995b).	Cool temperate climates.	Fruit.	Grafting (mostly).	European and damson plum: hexaploid; Cherry and Japanese plums: polyploid (variable) or diploid; American plum: diploid (Watkins, 1995b; Esmenjaud & Dirlewanger, 2007).	Outcrossing (largely self-incompatible) (Watkins, 1995b). European plums often are self-fertile (Okie & Hancock, 2008).	No change (Watkins, 1995b).	Probably used. In addition, seedlings may have been mistaken for rootsuckers and inadvertently used (Hartmann & Neumüller, 2009).	Fruit size and taste. Reduced thorniness (Okie & Hancock, 2008).	Faster growth (tree species). True to type (outcrossing).
		*Prunus persica** and others (Hancock, 2004).	Peach	Same species (Hancock, 2004).	Western China (Hancock, 2004; Hancock *et al.*, 2008b).	Warm temperate and subtropical climates.			Diploid (Watkins, 1995b).	Self-compatible (Engels & Rao, 1995; Hegedüs *et al.*, 2006).	Self-compatible (Engels & Rao, 1995; Watkins, 1995b).	Probably used (Hancock *et al.*, 2008b).	Fruit size and taste.	Faster growth (tree species).
		Sweet cherry: *Prunus avium;* Sour cherry: *Prunus cerasus;* Ground cherry: *Prunus fruticosa* And others (minor)	Cherry	Sweet cherry and ground cherry: same species; sour cherry: hybrid of the former two species (Iezzoni, 2008).	Western/Central Asia for sweet and sour cherry, Northern Europe/Northern Asia for ground cherry (Watkins, 1995b; Dirlewanger *et al.*, 2007; Iezzoni, 2008).	Temperate climates.			Sweet cherry: diploid; Sour cherry: (auto-?) tetraploid (Watkins, 1995b). Ground cherry: tetraploid (Iezzoni, 2008).	Outcrossing (self-incompatible) (Watkins, 1995b).	Sweet cherry: self-incompatible (some [recent] self-compatible cultivars exist) (Watkins, 1995b). Sour cherry: self-compatible and self-incompatible individuals, with reduced fertility (Iezzoni, 2008).	Probably used.	Fruit size and taste. Self-compatibility, achieved through polyploidization in sour cherry.	Faster growth (tree species). True to type (outcrossing).
		*Prunus armeniaca** And other species	Apricot	Same species (Watkins, 1995b).	Western Asia and/or central Asia and/or China (Watkins, 1995b; Hormaza *et al.*, 2007).	Temperate and Mediterranean climates.	Fruit, and seed in some areas (Asia) (Hormaza *et al.*, 2007).	Grafting; by seeds in some areas.	Diploid (Watkins, 1995b).	Self-compatible and self-incompatible types (self-compatible plants are mostly found in Europe) (Hormaza *et al.*, 2007).	Mostly self-compatible in commercial plantations (Watkins, 1995b; Hegedüs *et al.*, 2006; Hormaza *et al.*, 2007).	The plant was commonly grown from seed for very long. In some areas (Turkey, Iran, Iraq, Northern Africa) orchards are still based on seed propagation (Hormaza *et al.*, 2007; Ledbetter, 2008).	Fruit size and taste.	Faster growth (tree species).

		Prunus dulcis (= Amygdalus communis)	Almond	Somehow related to *P. fenzliana* (Ladizinsky, 1999), *P. bucharica, P. kuramica, P. webbii* (Martínez-Gómez *et al.*, 2007), and *P. triloba* (Gradziel, 2009).	Western/Central Asia (Browicz & Zohary, 1996; Martínez-Gómez *et al.*, 2007).	Temperate and Mediterranean climates.	Seed.	Grafting (mostly).	Diploid (Watkins, 1995b).	Self-incompatible (Watkins, 1995b).	Some self-compatible cultivars exist (Hegedüs *et al.*, 2006; Lopez *et al.*, 2006; Martínez-Gómez *et al.*, 2007).	In some regions, wild almonds are harvested. Seed propagation seems likely in these areas (Gradziel, 2009).	Fruit size and taste. Self-compatibility.	Faster growth (tree species). True to type (outcrossing).
	Pyrus	European pear: *Pyrus communis** Chinese pear: *Pyrus bretschneideri/ P. ussuriensis* Japanese pear: *P. pyrifolia* (and others).	Pear	Hybrid origin (major contributors: *P. communis*, *P. nivalis*, *P. pyrifolia*) (Watkins, 1995a).	Europe, Eastern Asia, and Japan/southern China (Itai, 2007).	Temperate regions.	Fruit.	Grafting.	The whole genus is tetraploid but functionally diploid. Most pears are diploid; some triploid and tetraploid cultivars exist (Itai, 2007).	Self-incompatible (Watkins, 1995a).	Mostly self-incompatible; some self-compatible cultivars (Hegedüs *et al.*, 2006).	Probably used; at least for the rootstocks (Itai, 2007).	Fruit size and taste. Cold hardiness.	Faster growth (tree species). True to type (outcrossing).
	Rubus	various *Rubus* species.	Blackberries	Same species (Jennings, 1995b)	Several domestications: Europe; Eastern North America; Western North America (Jennings, 1995b) (different species).	Temperate regions; mostly North America.	Fruit.	Cuttings.	European species: mostly tetraploid; eastern American species: diploid and tetraploid; western American species: polyploid (all allo-) (Jennings, 1995b).	European polyploids are often apomicts. European diploids are dioecious (Jennings, 1995b). Eastern American species mostly are self-incompatible. Western North American species are mostly dioecious (Finn, 2008).	No change.	Fruits are harvested in the wild; seedlings are probably used.	Thornlessness. Small seeds.	Faster growth.
		Red raspberry: *Rubus idaeus* ssp. *idaeus* and *strigosus.* Black raspberry: *R. occidentalis* And others	Raspberries	Same species (Jennings, 1995b). Some hybrids (purple raspberries) (Finn & Hancock, 2008).	*R. idaeus*: Europe (or Turkey) and North America. *R. occidentalis*: North America (Jennings, 1995b; Graham *et al.*, 2007).	Temperate climates.			Diploid. Triploid and tetraploid red raspberries were selected in cultivation (Jennings, 1995b).	Red raspberries: self-incompatible; Black raspberry: self-compatible (Jennings, 1995b).	Self-compatible (Jennings, 1995b; Graham *et al.*, 2007).	Probably used.	Stronger branches. Self-compatibility in red raspberry. Autotetraploidy (Jennings, 1995b).	Faster growth.
Rutaceae	*Citrus*	Citron: *Citrus medica;* Shaddock/pummelo: *C. grandis* (now *C. maxima*); Mandarin: *C. reticulata* and their hybrids: orange, etc.	Citrus	Same species (Roose *et al.*, 1995; Hancock, 2004).	Tropical Southeastern Asia and India (Roose *et al.*, 1995; Gmitter *et al.*, 2009).	Subtropical and Mediterranean climates.	Fruit.	Grafting.	Diploid (Roose *et al.*, 1995) mostly; cultivars with higher ploidy also exist (Gmitter *et al.*, 2009).	Predominantly outcrossing, sometimes parthenocarpic (Roose *et al.*, 1995).	No change. Some cultivars have developed nucellar polyembryony (Roose *et al.*, 1995; Gmitter *et al.*, 2009).	Probably used.	Reduced number of seeds. Fruit acidity reduced. Easier peeling.	Faster growth (tree species). True to type (outcrossing). Grafted plants show reduced thorniness, are shorter, and bear fruits each year (as opposed to a biennial bearing for seedlings) (Gmitter *et al.*, 2009).
Solanaceae	*Solanum*	*Solanum tuberosum** and others (Hancock, 2004) (some authirs consider all cultivated species as *S. tuberosum*) (Spooner & Hetterscheid, 2006).	Potato	*Solanum brevicaule* complex (Spooner *et al.*, 2005; Spooner & Hetterscheid, 2006).	Andes (Peru) (Spooner *et al.*, 2005). Secondarily, a distinct group emerged in lowland Chile and Chiloé island (hybrids of the cultivated Andean taxon and *S. tarijense*) (Spooner & Hetterscheid, 2006). Different varieties in the group Andigena appear to have been domesticated successively, in the Andes, from a single, or not very different, species (Sukhotu & Hosaka, 2006).	Worldwide (a number of other cultivated *Solanum* species are restricted to the Andes) (Hancock, 2004).	Tuber.	Tuberous stem cuttings/eyes.	Di-, tri-, tetra- and pentaploids. Wild species in the *brevicaule* complex are di-, tri-, penta- or hexaploid (Simmonds, 1995b; Spooner & Hetterscheid, 2006).	Diploids are self-incompatible; polyploids are self-compatible but predominantly outcrossing (Simmonds, 1995b; Brandvain & Haig, 2005).	No change.	Peasants sometimes incorporate seedlings in the crop (Franquemont *et al.*, 1990, p 19; Zimmerer & Douches, 1991; Quiros *et al.*, 1992; Brush *et al.*, 1995).	Sprouting ability. Tuber shape.	Wild species occasionally propagate clonally (Simmonds, 1995b).
Tropaeolaceae	*Tropaeolum*	*Tropaeolum tuberosum* ssp. *tuberosum*	Mashua/Isaño	Hybrid of *Tropaeolum tuberosum* ssp. *silvestre* and another species, probably *T. cochabambae* (Pissard *et al.*, 2008a).	Andes (Pissard *et al.*, 2008a).	Andes.	Tuber.	Tuber.	Tetraploid (Pissard *et al.*, 2008a).	Mixed mating (Pissard *et al.*, 2008a).	No change (Pissard *et al.*, 2008a).	Unknown, but cultivators reportedly fond of diversity, so probably friendly (Pissard *et al.*, 2008a).	Tuber size.	
Vitaceae	*Vitis*	*Vitis vinifera*	Grape	*Vitis vinifera* ssp. *sylvestris* (Zohary & Spiegel-Roy, 1975; Grassi *et al.*, 2003; Arroyo-García *et al.*, 2006).	Near East and Western Mediterranean region (Grassi *et al.*, 2003; Arroyo-García *et al.*, 2006).	Mediterranean climates. Cultivation is possible in more temperate climates (with rainy winters and dry summers).	Fruit.	Stem cuttings.	Functionally diploid (Leal *et al.*, 2006). All plants in the genus are ancient allohexaploids (Olmo, 1995; Hancock, 2004). A few recent cultivars have higher ploidy (Owens, 2008).	Dioecious (Zohary & Spiegel-Roy, 1975; Zohary & Hopf, 2000).	Hermaphrodite. Sometimes self-pollinated (cleistogamous), but with severe inbreeding depression (Zohary & Spiegel-Roy, 1975; Zohary & Hopf, 2000; Owens, 2008). Other varieties are cross-pollinated (Burger *et al.*, 2009).	The parentage of several clones was recently unravelled (Bowers *et al.*, 1999; Vouillamoz & Grando, 2006), but nowadays grape evolution seems to be mostly by mutation (Moncada *et al.*, 2006; This *et al.*, 2006).	Dioecy to monoecy. Large and elongated berries. Large compact fruit cluster. More synchronous fruit maturation. Large entire leaves. Thick bark. Seedlessness in table grapes. (Grassi *et al.*, 2003; Riaz *et al.*, 2007; Owens, 2008; Burger *et al.*, 2009)	Faster growth. True to type (often outcrossing, very heterozygous).
Zingiberaceae	*Curcuma*	*Curcuma longa** and other *Curcuma* species.	Turmeric	The species is not found in the wild; its ancestor is not known (Nayar & Ravindran, 1995).	Southwestern India (Nayar & Ravindran, 1995).	Indian peninsula.	Rhizome.	Rhizome.	Triploid (Nayar & Ravindran, 1995). [The whole genus arose by polyploidization (Nayar & Ravindran, 1995)].	Probably outcrossing (2007).	No change (2007).	?	?	?
	Elettaria and other genera	*Elettaria cardamomum*	Cardamon	Same species (Kuriakose *et al.*, 2009).	Southern India (Kuriakose *et al.*, 2009).	Tropics (mostly India).	Seed pods.	Stem (rhizome) cutings & seeds.	Tetraploid (Nayar & Ravindran, 1995).	Outcrossing (inbreeding depression or partial self-incompatibility) (Ren *et al.*, 2007).	No change (Kuriakose *et al.*, 2009).	Seed pods are sometimes used.	Large increase in inflorescence number; self-compatibility (Kuriakose *et al.*, 2009).	?
	Zingiber	*Zingiber officinale*	Ginger	?	Southeastern Asia and/or Pacific islands? (Nayar & Ravindran, 1995).	Tropical areas; mostly Southeastern Asia.	Tuberous rhizome.	Stem (rhizome) cuttings.	Diploid (Nayar & Ravindran, 1995).	Outcrossing (incompatibility style stigma).	Some cultivars are sterile.	Sometimes horticultural.	?	?

Abbreviations: PNG: Papua New Guinea.

* When several species are cultivated (e.g. for sugarcane), but one of them strongly predominates, this predominating species is marked by * in the table.

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