



The following recommendations for measurement of pollen or microspores are best practice suggestions. They are most likely to produce good results for viability, development stages and ploidy measurements. It is recommended to use fresh samples, if possible and to filter the samples before use and measure immediately. Dried pollen samples should be rehydrated before measurement. Pollen and microspores are complex particles influenced by many factors that can have an effect on the outcome of the measurements (stability at the flowers/anthers, in AF buffer, pollen/flower storage etc.). Please refer to our QuickGuides for more details.

Overview General information

Measurement templates:	Templates for various species can be find at the Amphasys webpage, for other pollen or special applications please contact Amphasys support team.
Pollen size:	Pollen size can vary about 20% or even more! Polyploidy influences pollen size. Please contact Amphasys support for special applications.
AmphaFluid (AF) buffer recommendations:	Pollen viability: column "AF buffer pollen" Microspores: column "AF buffer microspore"
	Further purposes: also try "alternative AF buffers"
Sample preparation:	Please refer to the Quickguides.
Dried, stored pollen:	Rehydration of pollen
Sticky or oily pollen:	Add 0.05% Tween 20 or 80
Contact:	For any questions, assistance and templates: support@amphasys.com

Species	English	Family	Class Group	Pollen-Size (µm)	Form	Ampha-Chip	Filter size (µm)	AF buffer pollen	Additional infos	AF buffer microspores	alternative AF buffers
Acer campestre	field maple	Sapindaceae	Dicots	40	triangular	D	100			6	5
Acer platanoides	sycamore maple	Sapindaceae	Dicots	35	triangular	D	100			6	5
Acer pseudoplatanus	norway maple	Sapindaceae	Dicots	40	triangular	D	100			6	5
Actinidia deliciosa	kiwi fruit	Actinidiaceae	Dicots	25 - 50	triangular	D	100			5	6
Adonis vernalis	adonis	Ranunculaceae	Dicots	29	round	D	50			6	
Aesculus hippocastanum	buckeye	Sapindaceae	Dicots	26	round	D	50			6	5
Aesculus pavia	red buckeye	Sapindaceae	Dicots	30	round	D	50			6	5
Agapanthus	lily of the Nile	Amaryllidaceae	Dicots	55	prolate	E	100			6	5
Althaea rosea	hollyhock	Astereaceae	Dicots	140	round spiny	E/G	200			9	
Allium cepa	onion	Amaryllidaceae	Monocots	30	prolate	D	100			6	4
Allium giganteum	giant onion	Amaryllidaceae	Monocots	35	prolate	D	100			6	4
Allium porrum	leek	Amaryllidaceae	Monocots	30	prolate	D	50			6	4
Allium schoenoprasum	chive	Amaryllidaceae	Monocots	26	prolate	D	50			6	4
Allium ursinum	wild garlic	Amaryllidaceae	Monocots	30	prolate	D	100			6	4
Alnus glutinosa	alder	Betulaceae	Dicots	25	round	D	50			6	5
Aloe vera	aloe	Aloaceae	Monocots	38	prolate	D	100			6	
Alstroemeria	Peruvian lily	Liliaceae	Monocots	50x120	prolate	E	50			6	
Amaryllis	amaryllis	Amaryllidaceae	Monocots	90	prolate	E	150			9	6
Amelanchier ovalis	snowy mespilus	Rosaceae	Dicots	32	triangular	D	100			6	
Anemone hupehensis	Japanese anemone	Ranunculaceae	Dicots	22	round	F	50			6	
Anemone nemorosa	anemone	Ranunculaceae	Dicots	30	round	D	50			6	
Anthemis tinctoria	mayweed	Asteraceae	Dicots	30	round spiny	D	50			6	
Anthurium	flamingo flower	Araceae	Monocots	15-20	round	F	50			6	
Aquilegia vulgaris	columbine	Ranunculaceae	Dicots	25	triangular	D	100			6	

Species	English	Family	Class Group	Pollen-Size (µm)	Form	Ampha-Chip	Filter size (µm)	AF buffer pollen	Additional infos	AF buffer microspores	alternative AF buffers
Arabidopsis thaliana	mouse-ear cress	Brassicaceae	Dicots	15x30	prolate	D	50			6	3 / 5 / 7
Asparagus	asparagus	Asparagaceae	Monocots	20 - 25	prolate	D	50			4	6
Aster amelius	aster	Asteraceae	Dicots	32	round spiny	D	100			6	
Aubrieta	aubrieta	Brassicaceae	Dicots	30	prolate	D	50			7	6
Avena sativa	oat	Poaceae	Monocots	40-50	round	E	100			6	3 / 5
Averrhoa carambola	carambola	Oxalidaceae	Dicots	28	round	D	50			6	
Bellis perennis	daisy	Compositae	Dicots	20	round spiny	F	50			6	4
Begonia spec	begonia	Begoniaceae	Dicots	10-25	prolate	F	50			6	5
Berberis thunbergii	red barberry	Berberidaceae	Dicots	35	round	D	50			6	
Beta vulgaris	sugar beet and other	Amaranthaceae	Dicots	25	round	D	100			4	6
Betula spec	birch	Betulaceae	Dicots	18 - 30	round	F/D	50			6	5
Betula pendula	birch	Betulaceae	Dicots	22	round	F/D	50			6	5
Brassica napus	rape seed / canola	Brassicaceae	Dicots	20-25	prolate	D	50			7	6
Brassica napus rapifera	swede	Brassicaceae	Dicots	20-26	prolate	D	50			7	3 / 5
Brassica oleracea var. botrytis	cauliflower	Brassicaceae	Dicots	20-25	prolate	D	50			7	6
Brassica oleracea var. gongylodes	kohlrabi	Brassicaceae	Dicots	20-25	prolate	D	50			7	3 / 5
Brassica oleracea var. gemmifera	Brussels sprouts	Brassicaceae	Dicots	20-26	prolate	D	50			7	6
Brassica oleracea var. italica	broccoli	Brassicaceae	Dicots	20-25	prolate	D	50			5	3 / 7
Brassica oleracea cultivar	other cultivars	Brassicaceae	Dicots	20-25	prolate	D	50			7	6
Brassica rapa chinensis	Chinese cabbage	Brassicaceae	Dicots	20-25	prolate	D	50			7	3 / 5
Bougainvillea glabra	bougainvillea	Nyctaginaceae	Dicots	35	round	D	50			6	5
Calendula officinalis	marigold	Asteraceae	Dicots	30	round spiny	D	50			6	5
Calluna vulgaris	common heather	Ericaceae	Dicots	20 - 30	tetrad	D	50			5	
Camellia japonica	camellia	Theaceae	Dicots	45	triangular	D	100			5	
Camellia oleifera	tea oil camellia	Theaceae	Dicots	48	triangular	D/E	100			5	
Campanula spec.	bell flower	Campanulaceae	Dicots	20 - 35	round	D	50			5	6
Cannabis sativa	hemp	Cannabaceae	Dicots	26	round	D	50			6	
Capsicum annum	sweet pepper	Solanaceae	Dicots	25 - 30	triangular	D	50			6	4
Capsicum frutescense	chilli	Solanaceae	Dicots	30 - 35	triangular	D	50			6	4
Capsicum spec.	pepper	Solanaceae	Dicots	20 - 35	triangular	D	50			6	4
Cardamine pratense	lady's smock	Brassicaceae	Dicots	32	round	D	50			7	5 / 6
Carica papaya	papaya	Caricaceae	Dicots	36	round	D	100			6	5 / 3
Carpinus betulus	common hornbeam	Betulaceae	Dicots	30 - 40	round	D	100			6	5
Carya illinoensis	pecan	Juglandaceae	Dicots	30x60	prolate	E	50			6	
Castanea sativa	chestnut	Fagaceae	Dicots	16	triangular	F	50			6	
Genchrus ciliaris	buffel-grass	Poaceae	Monocots	60	round	E	100			6	
Centaurea montana	mountain bluet	Asteraceae	Dicots	36	round spiny	D	100			6	
Cercis canadensis	eastern redbud	Fabaceae	Dicots	25	triangular	D	50			5	6
Chelidonium majus	greater celandine	Papaveraceae	Dicots	27	triangular	D	50			6	5
Chionodoxa luciliae	glory of th snow	Asparagaceae	Monocots	33	prolate	D	50			6	
Chrysanthemum frutescens	Paris daisy	Asteraceae	Dicots	42	round spiny	E	100			6	5
Chrysanthemum grandiflorum	chrysants	Asteraceae	Dicots	35	round spiny	D	100			6	5
Chrysanthemum spec.	chrysants	Asteraceae	Dicots	30 - 45	round spiny	D/E	100			6	5
Cicer arietinum	chickpea	Fabaceae	Dicots	28	prolate	D	50			6	
Cichorium endivia	endive	Asteraceae	Dicots	80-100	round spiny	E	150			6	4
Cichorium intybus	chicory	Asteraceae	Dicots	40	round spiny	D/E	100			6	5 / 3
Cirsium vulgare	spear thistle	Asteraceae	Dicots	40	round spiny	D/E	100			6	5
Citrullus lanatus	water melon	Cucurbitaceae	Dicots	40x60 - 60x90	prolate	E	150		5 + Tween	5	9

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Citrus x limonia	rangpur	Rutaceae	Dicots	35	round	D	50			6	5
Citrus x sinensis	orange	Rutaceae	Dicots	32	round	D	50			6	5
Clematis cultivars	clematis	Ranunculaceae	Dicots	28	round	D	50				
Clematis vitalba	old man's beard	Ranunculaceae	Dicots	22	round	F/D	50				
Coffea arabica	coffee	Rubiaceae	Dicots	36	round	D	50			6	
Colutea arborescens	bladder-senna	Fabaceae	Dicots	38	triangular	D	100				6
Coriandrum sativum	coriander	Apiaceae	Dicots	15x30	prolate	F/D	50				
Cornus sanguinea	common dogwood	Cornaceae	Dicots	58	round	E	100				
Cortaderia selloana	pampas grass	Poaceae	Monocots	50	round	E	100				
Corydalis solida	fumewort	Fumariaceae	Dicots	31	round	D	50				
Corylus avellana	hazelnut	Corylaceae	Dicots	20 - 30	round	F	50				5
Couropita guianensis	cannonball tree	Lecythidaceae	Dicots	20x50	triangular	D	100				
Cucumis melo	melon	Cucurbitaceae	Dicots	50	round	E	100			5	8
Cucumis sativus	cucumber	Cucurbitaceae	Dicots	60	round	E	100	5 + Tween		5 + Tween	9
Cucurbita maxima	squash, pumpkin	Cucurbitaceae	Dicots	150-200	round spiny	G	300		frequency 2 at 12MHz		
Cucurbita moschata	butternut squash	Cucurbitaceae	Dicots	150-200	round spiny	G	300		frequency 2 at 12MHz		
Cucurbita pepo	courgette, marrow, zucchini	Cucurbitaceae	Dicots	150-200	round spiny	G	300		frequency 2 at 12MHz		
Cuphea hyssopifolia	false heather	Lythraceae	Dicots	22	round	F	50				
Cyclamen persicum	cyclame	Primulaceae	Dicots	15-20	round	F	100				4
Cynara cardunculus	artichoke	Asteraceae	Dicots	65	round spiny	E	100				6 / 9
Dahlia cultivars	dahlia	Asteraceae	Dicots	45	round spiny	E	100			5	5 / 3
Daucus carota	carrot	Umbelliferaceae	Dicots	15x30	prolate	F/D	50			4	4 / 5 / 6
Delosperma	ice plant	Aizoaceae	Dicots	20	round	F	50				6
Dianthus cultivars	pink	Caryophyllaceae	Dicots	30 - 50	round	D	100				5
Echium vulgare	blueweed	Boraginaceae	Dicots	17	round	F	50				
Elaeis guineensis	oil palm	Arecaceae	Monocots	30	triangular	D	50				
Erica gracilis	heath	Ericaceae	Dicots	30-40	tetrad	D	100				
Erigeron karvinskianus	Mexican fleaban	Asteraceae	Dicots	25	round spiny	D	50				
Eucalyptus spec	Eucalyptus	Myrtaceae	Dicots	26	triangular	F/D	50				
Euphorbia verrucosa	spurge	Euphorbiaceae	Dicots	50	round	E	100				
Eruca sativa	rucola	Brassicaceae	Dicots	20	triangular	F	50			6	3 / 5
Fagopyrum esculentum	buckwheat	Polygonaceae	Dicots	50	round	D/E	100				
Fagus sylvatica	common beech	Fagaceae	Dicots	50	round	D/E	100				
Festuca arundinacea	tall fescue	Poaceae	Monocots	40	round	D/E	100				4
Foeniculum vulgare	florence fennel	Umbelliferaceae	Dicots	30	prolate	D	50			3	6
Forsythia intermedia	Forsythia	Oleaceae	Dicots	25-30	round	D	100				5
Fragaria magna	strawberry	Rosaceae	Dicots	25	triangular	D	50			6	
Fragaria vesca	strawberry	Rosaceae	Dicots	23	triangular	F/D	50			6	
Fraxinus excelsior	ash	Oleaceae	Dicots	22	triangular	F/D	50				
Fraxinus ornus	flower ash	Oleaceae	Dicots	22	triangular	F/D	50				
Gaillardia	blanket flower	Asteraceae	Dicots	30	round spiny	D	50				
Gaura lindheimeri	gaura	Onagraceae	Dicots	150	triangular	E/G	200				
Gazania spec	ganzania	Asteraceae	Dicots	30 - 40	round texturec	D	100				5
Geranium spec	cranesbill	Geraniaceae	Dicots	70-120	round	E	150			5	8
Gerbera spec	gerbera	Asteraceae	Dicots	50	round spiny	E	100			5	6
Gladiolus x hortulanus	gladiolus	Iridaceae	Monocots	80	round	E	150			6	9
Gloriosa superba	flame lily	Colchicaceae	Dicots	40	prolate	D	100			6	
Glycine max	soy bean	Fabaceae	Dicots	20	round	F	50			6	5

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Gossypium hirsutum	cotton	Malvaceae	Dicots	150+	round spiny	G	300				
Guizotia abyssinica	noog, ramtilla	Asteraceae	Dicots	30	round spiny	D	50				
Helianthus annuus	sunflower	Asteraceae	Dicots	45	round spiny	D/E	100				4 / 6
Helleborus spec	christmas rose	Ranunculaceae	Dicots	25 - 40	triangular	D	50				4
Hemerocallis	spider lily	Amaryllidaceae	Monocots	80	round	E	150				9
Hibiscus syriacus	hibiscus	Malvaceae	Dicots	150-200	round spiny	G	300				5
Hippeastrum gracilis	amaryllis	Amaryllidaceae	Monocots	90	round	E	150				
Hordeum vulgare	barley	Poaceae	Monocots	45	round	E	100		mature pollen short viability <0.5h	6	6
Hyacinthus orientalis	hyacinths	Asparagaceae	Monocots	40-60	prolate	E	100				4
Hydrangea macrophylla	hydrangea	Hydrangeaceae	Dicots	20	round	F	50				6
Hydrangea paniculata	hydrangea	Hydrangeaceae	Dicots	20	round	F	50				6
Hypericum	St John's wort	Guttiferaeae	Dicots	20 - 25	round	F/D	50				3
Ilex aquifolium	holly	Aquifoliaceae	Dicots	35	round	D	50				
Impatiens x neuguninea	Impatiens	Balsaminaceae	Dicots	20x60	prolate	E	100				5
Juglans regia	walnut	Juglandaceae	Dicots	40	round	D	100				
Justicia adhatoda	Malabar nut	Acanthaceae	Dicots	20x50	prolate	D	100			6	
Kalanchoe blossfeldiana	flaming Katy	Crassulaceae	Dicots	33	triangular	D	50				
Lactuca sativa	lettuce	Asteraceae	Dicots	30	round spiny	D	50		short flower time	3	6
Lampranthus spec		Aizoaceae	Dicots	20	round	F	50				
Larix	larch	Pinacea	Pinopsida	40-60	spherical	E	100				
Lavandula officinalis	lavender	Lamiaceae	Dicots	40	prolate	D	100				5
Leucanthemum vulgare	oxeye daisy	Asteraceae	Dicots	30	round spiny	D	50				5
Lilium spec	lily	Liliaceae	Monocots	100	prolate	E	150				6
Lolium multiflorum	Italian rye-grass	Poaceae	Monocots	40	round	D/E	100				4
Lolium perenne	German rye-grass	Poaceae	Monocots	40	round	D/E	100				4
Magnolia x soulangiana	magnolia	Magnoliaceae	Magnoliids	65	prolate	E	100				6
Malus domestica	apple	Rosaceae	Dicots	38	round	D	50				5
Malva sylvestris	mallow	Malvaceae	Dicots	130	round, spiny	E/G	200				
Mandevilla	rocktrumpet	Apocynaceae	Dicots	55	round	E	100				
Matricaria chamomille	chamomilli	Asteraceae	Dicots	25	round, spiny	D	50				5
Mentha x piperita	mint	Lamiaceae	Dicots	30-40	prolate	D	100				6
Mentha suaveolens x piperita	mint grapefruit	Lamiaceae	Dicots	30-40	prolate	D	100				6
Momordica spec	bittergourd	Cucurbitaceae	Dicots	80	round	E	150	5 + Tween		5 + Tween	8
Muscari armeniacum	grape hyacinth	Asparagaceae	Monocots	30	prolate	D	50				
Narcissus minor	daffodil	Amaryllidaceae	Monocots	37	prolate	D	50				
Nicotiana spec	tobacco	Solanaceae	Dicots	35	round	D	50			4	4
Ocimum basilicum	basil	Lamiaceae	Dicots	60	round	E	100				5
Oenothera biennis	evening primrose	Onagraceaea	Dicots	160	triangular	G	200				
Olea europaea	olive tree	Oleaceae	Dicots	25	triangular	D	50				5
Ononis arvensis	field restharrow	Fabaceae	Dicots	20	prolate	F	50				6
Oryza sativa	rice	Poaceae	Monocots	30-45	round	D/E	100		pollen short viability	4	9
Papaver nudicaule	Island poppy	Papaveraceae	Dicots	35	round	D	50				5
Passiflora edulis	passion flower	Passifloraceae	Dicots	40 - 70	polygonal	E	100				
Pentas lanceolata	spruce	Rubiaceae	Dicots	24	tetracolpate	D	50				
Petroselinum crispum	parsley	Apiaceae	Dicots	23	prolate	D	50				
Petunia spec	petunia	Solanaceae	Dicots	30	triangular	D	50				4
Phacelia tanacetifolia	blue tansy	Boraginaceae	Dicots	24	round	D	50				
Phalaenopsis	orchids	Orchidaceae	Dicots	15	round	F	50				

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Phaseolus spec.	bean	Fabaceae	Dicots	30 - 45	triangular	D	100				4 / 6
Phoenix dactylifera	date palm	Arecaceae	Monocots	10x15	prolate	F	50				
Phlox paniculata	phlox	Polemoniaceae	Dicots	50	round	E	100				
Picea abies	pine	Pinacea	Pinopsida	60-100	bisaccate	E	150		6 (floating!)		9
Pinus sylvestris	pine	Pinacea	Pinopsida	60-100	bisaccate	E	150		6 (floating!)		9
Pistacia vera	pistachio	Anacardiaceae	Dicots	30	round	D	50				
Pisum sativum	pea	Fabaceae	Dicots	40 - 50	prolate	D	100			4	5 / 6
Portulaca grandiflora	rose moss	Portulacaceae	Dicots	80	round	E	150				
Primula vulgaris (syn. acaulis)	primrose	Primulaceae	Dicots	15-20	round	F	50				5
Prunus avium	cherry	Rosaceae	Dicots	40	triangular	D/E	100				
Prunus domestica	plum	Rosaceae	Dicots	44	triangular	D/E	100				
Prunus dulcis	almond	Rosaceae	Dicots	32x55	prolate/tri	D/E	100				
Prunus spinosa	blackthorn	Rosaceae	Dicots	44	triangular	D/E	100				
Prunus serrulata	Japanese cherry	Rosaceae	Dicots	40	triangular	D/E	100				
Pulmonaria obscura	suffolk lungwort	Boraginaceae	Dicots	36	round	D	50				
Pulmonaria officinales	lungwort	Boraginaceae	Dicots	36	round	D	50				
Punica granatum	pomegranate	Lythraceae	Dicots	26	triangular	D	50				
Pyrus communis	pear	Rosaceae	Dicots	32	triangular	D	50				
Quercus robur	common oak	Fagaceae	Dicots	38	triangular	D	50				
Ranunculus asiaticus	persian buttercup	Ranunculaceae	Dicots	20 - 30	round	F/D	50				5
Ranunculus arvensis	corn buttercup	Ranunculaceae	Dicots	25	prolate	D	50				5
Ranunculus ficaria	lesser celandine	Ranunculaceae	Dicots	33	prolate	D	50				
Raphanus sativus sativus	radish	Brassicaceae	Dicots	25	prolate	D	50			6	3 / 5
Raphanus sativus oleiferus	radish	Brassicaceae	Dicots	25	prolate	D	50			6	3 / 5
Rheum rhabarbarum	rhubarb	Polygonaceae	Dicots	35	round	D	50				5
Rhododendron	rhododendron	Ericaceae	Dicots	40 - 70	tetradæ	E	100				5
Ribes nigrum	blackcurrant	Grossulariaceae	Dicots	38	round	D	50				
Ribes rubrum	redcurrant	Grossulariaceae	Dicots	33	round	D	50				
Rosa canina	dogrose	Rosaceae	Dicots	40	round	D	100				
Rosa indica	tearose	Rosaceae	Dicots	35	round	D	50				
Rosa multiflora	multiflora rose	Rosaceae	Dicots	35	round	D	50				
Rosmarinus officinalis	rosmarine	Lamiaceae	Dicots	45	prolate	D/E	100				6
Rubus fruticosus	blackberry	Rosaceae	Dicots	35	triangular	D	50				
Rubus idaeus	raspberry	Rosaceae	Dicots	30	triangular	D	50				
Rubus fruticosus x idaeus	tayberry	Rosaceae	Dicots	30	triangular	D	50				
Rudbeckia hirta	rudbeckia	Asteraceae	Dicots	35	round spiny	D	50				
Saccharum officinarum	sugarcane	Poaceae	Monocots	40-120	round	E	150				9
Salix viminalis	basket willow, osier	Saliceae	Dicots	20	round	F	50				5
Salvia farinaceae	sage	Lamiaceae	Dicots	30	prolate	D	50				5
Salvia officinalis	sage	Lamiaceae	Dicots	45	prolate	D	100				5
Salvia pratensis	meadow sage	Lamiaceae	Dicots	40 - 50	prolate	D/E	100				5
Sambucus nigra	elder	Caprifoliaceae	Dicots	22	round	D	50				
Saxifraga rosacea	rockfoil	Saxifragaceae	Dicots	30	triangular	D	50			6	5
Scilla siberica	squill	Asparagaceae	Monocots	50	prolat	E	100				
Secale cereale	rye	Poaceae	Monocots	50-60	prolate	E	100			6	6
Sedum multicolorum	stonecrop	Crassulaceae	Dicots	24	triangular	F	50				
Sedum sieboldii	October stonecrop	Crassulaceae	Dicots	18	triangular	F	50				
Silene vulgaris	bladder campion	Caryophyllaceae	Dicots	40 - 50	round	D/E	100				

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<i>Silybum marianum</i>	cardus marianus	Asteraceae	Dicots	70	round	E	100	6			5
<i>Sinapis arvensis</i>	charlock mustard	Brassicaceae	Dicots	25	prolate	D	50	7		6	3 / 5
<i>Solanum lycopersicon</i>	tomato	Solanaceae	Dicots	25	round	D	50	6		4	4
<i>Solanum melongena</i>	eggplant	Solanaceae	Dicots	25-30	round	D	50	6		4	4
<i>Solanum quitoense</i>	quito orange	Solanaceae	Dicots	25	round	D	50	6		6	4
<i>Solanum tuberosum</i>	potato	Solanaceae	Dicots	20	round	F/D	50	6		6	4
<i>Sonchus arvensis</i>	field milk thistle	Asteraceae	Dicots	40	round	D	100	6			5
<i>Sorghum bicolor</i>	sorghum, dari	Poaceae	Monocots	40-50	round	E	100	6		6	4
<i>Spinacia oleracea</i>	spinach	Amaranthaceae/C	Dicots	50	round	E	100	4		4	5
<i>Syringa vulgaris</i>	lilac	Oleaceae	Dicots	30	round	D	50	6			5
<i>Tagetes patula</i>	marigold	Asteraceae	Dicots	45	round spiny	D	100	6		5	5
<i>Taraxacum officinale</i>	dandelion	Asteraceae	Dicots	30	round spiny	D	50	6			5
<i>Theobroma cacao</i>	cacao	Malvaceae	Dicots	20	round	F	50	6		6	
<i>Thymus vulgaris</i>	thyme	Lamiaceae	Dicots	35 - 45	prolate	D	100	6			5
<i>Tilia platyphyllos</i>	largeleaf linden	Tiliaceae	Dicots	35	prolate	D	50	6			5
<i>Trifolium</i>	clover	Fabaceae	Dicots	30	round	D	50	5			6
<i>Triticum spp.</i>	wheat	Poaceae	Monocots	40 - 70	round	D/E	100	9	mature pollen short viability <0.5h	6	6
<i>Tulipa cultivars</i>	tulip	Liliaceae	Monocots	60	round	E	100	6		6	4
<i>Turnera diffusa</i>	damiana	Passifloraceae	Dicots	30	round	D	50	6			
<i>Tussilago farfara</i>	coltsfoot	Asteraceae	Dicots	36	round spiny	D	50	6			
<i>Ulmus glabra</i>	wych elm	Ulmaceae	Dicots	32	round	D	50	6			
<i>Viburnum bodnantense</i>	Bodnant viburnum	Adoxaceae	Dicots	22	round	D	50	6			
<i>Viburnum opulus</i>	guelder-rose	Adoxaceae	Dicots	25	round	D	50	6			5
<i>Vicia spec</i>	vetches	Fabaceae	Dicots	30-40	round	D	50	5		5	
<i>Vicia faba</i>	broad bean	Fabaceae	Dicots	50	prolate	D/E	100	5		5	
<i>Vicia villosa</i>	winter vetch	Fabaceae	Dicots	35	prolate	D	50	5			6
<i>Vinca spec.</i>	vinca	Apocynaceae	Dicots	60-80	round	E	100	5			6
<i>Viola cornuta</i>	violet	Violaceae	Dicots	40	round	D/E	100	6			
<i>Viola wittrockiana</i>	violet	Violaceae	Dicots	70	round	E	100	6			
<i>Vitis vinifera</i>	grape	Vitaceae	Dicots	30	round	F/D	50	6			
<i>Weigela florida</i>	weigela	Caprifoliaceae	Dicots	45	round	E	100	6			
<i>Wisteria sinensis</i>	glycine	Fabaceae	Dicots	30	triangular	D	50	6			5
<i>Zantedeschia aethiopica</i>	calla	Araceae	Monocots	50	round	E	100	6			
<i>Zea mays</i>	corn, maize	Poaceae	Monocots	80 - 120	round	E	150	9	mature pollen 2 - 4h viability	6	6