

AmphaFluid Buffer List

December 2018



The following AmphaFluid (AF) buffers for measurement of pollen (po) or microspores (msp) are best practise suggestions. They are most likely to produce good results for viability, development stages and ploidy measurements. It is recommended to use fresh samples 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. Therefore, the use of AF buffers is no guarantee for results.

Overview	Typical buffer recommendation and other information
Monocotyledonae	AF6
cereals (e.g. wheat, rye, barley)	E-chip 250 µm, attention: short pollen life time, pollen may burst
AF buffer recommendations	for pollen viability: column "AF buffer pollen" for microspores: column "AF buffer microspore" for further purposes: try "alternative AF buffers", too
sticky or oily pollen	add 0.05 to 0.1% Tween 20 or 80

Recommendations for chips, filters and settings for Ampha Z30 or Z32

Use a filter size not too narrow to the pollen size! Pollen size can vary about 20% or even more!

Pollen size	AmphaChip	Filter	Trigger	Frequency	Modulat.	Amplificat.	Demodulat.	
10-20 µm	F 80 µm	30/50 µm	0.05 x+	2 MHz	4	6	1 or 2	(or: 5-5-0)
20-30 µm	F 80 µm	50 µm	0.05 or 0.1 x+	2 MHz (0.5 MHz y-)	3	6	2	
20-30 µm	D 120 µm	50 µm	0.05 or 0.1 x+	2 MHz (0.5 MHz y-)	4	6	1 or 2	
30-40 µm	D 120 µm	50 µm	0.1 x+	2 MHz (0.5 MHz y-)	3	6	1 or 2	
40-50 µm	D 120 µm	70 µm * (100 µm low conc)	0.1 x+	2 MHz (0.5 MHz y-)	3	6	1	
40-70 µm	E 250 µm	100 µm	0.1 x+	2 MHz (0.5 MHz y-)	3	6	2	
70-90 µm	E 250 µm	100 µm	0.1 x+	2 MHz (0.5 MHz y-)	3	6	1	
90-130 µm	E 250 µm	150 µm	0.2 x+	2 MHz (0.5 MHz y-)	3	6	0	
130-160 µm	E 250 µm	200 µm (low conc!) *	0.2 x+	2 MHz (0.5 MHz y-)	2	6	0	

Species	English	German	Family	Class	Size (µm)	Form	AF buffer pollen	AF buffer microspore	alternative AF buffers
Acer campestre	field maple	Feld-Ahorn	Sapindaceae	Dicotyledonae	26	triangular	6		5
Acer platanoides	sycamore maple	Berg-Ahorn	Sapindaceae	Dicotyledonae	32	triangular	6		5
Acer pseudoplatanus	norway maple	Spitz-Ahorn	Sapindaceae	Dicotyledonae	38	triangular	6		5
Actinidia deliciosa	kiwi fruit	Kiwi	Actinidiaceae	Dicotyledonae	20-25	triangular	5		6
Aesculus hippocastanum	buckeye	Rosskastanie	Sapindaceae	Dicotyledonae	24	round	6		5
Aesculus pavia	red buckeye	Rosskastanie	Sapindaceae	Dicotyledonae	26	round	6		5
Agapanthus	lily of the Nile	Schmucklilie	Amarylidaceae	Dicotyledonae	55	prolate	6		5
Alcea rosea	hollyhock	Stockrose	Astereaceae	Dicotyledonae	110	round spiny	6		4
Allium cepa	onion	Zwiebel	Liliaceae	Monocotyledonae	30	prolate	6		4
Allium giganteum	giant onion	Zierlauch	Liliaceae	Monocotyledonae	35	prolate	6		4

Species	English	German	Family	Class	Size (µm)	Form	AF buffer pollen	AF buffer microspore	alternative AF buffers
Allium porrum	leek	Lauch	Liliaceae	Monocotyledonae	30	prolate	6		4
Allium schoenoprasum	chive	Schnittlauch	Liliaceae	Monocotyledonae	26	prolate	6		4
Allium ursinum	wild garlic	Bärlauch	Liliaceae	Monocotyledonae	30	prolate	6		4
Alnus glutinosa	alder	Schwarz-Erle	Betulaceae	Dicotyledonae	25	round	6		5
Aloe vera	aloe	Aloe	Aloaceae	Monocotyledonae	38	prolate	6		
Alstroemeria	Peruvian lily	Inkalilie	Liliaceae	Monocotyledonae	80	prolate	6		
Amaryllis	amaryllis	Amaryllis	Amaryllidaceae	Monocotyledonae	90	prolate	6		4
Amelanchier ovalis	snowy mespilus	Felsenbirne	Rosaceae	Dicotyledonae	32	triangular	6		
Anemone hupehensis	Japanese anemone	Herbstanamone	Ranunculaceae	Dicotyledonae	20	round	6		
Anemone nemorosa	anemone	Anemone	Ranunculaceae	Dicotyledonae	27	rund	6		
Anthemis tinctoria	mayweed	Färberkamille	Asteraceae	Dicotyledonae	30	round spiny	6		
Anthurium	flamingo flower	Flamingoblume	Araceae	Monocotyledonae	15-20	round	6		
Aquilegia vulgaris	columbine	Akelei	Ranunculaceae	Dicotyledonae	20	triangular	6		
Arabidopsis thaliana	mouse-ear cress	Ackerschmalwand	Brassicaceae	Dicotyledonae	15x30	prolate	7	3	3 / 5
Asparagus	asparagus	Spargel	Asparagaceae	Monocotyledonae	20	prolate	4		6
Aster amelius	aster	Aster	Asteraceae	Dicotyledonae	30	round spiny	6		
Aubrieta	aubrieta	Blaukissen	Brassicaceae	Dicotyledonae	30	prolate	7	3	3 / 5
Avena sativa	oat	Hafer	Poaceae	Monocotyledonae	40-50	round	6	6	
Averrhoa carambola	carambola	Sternfrucht	Oxalidaceae	Dicotyledonae	28	round	6		
Bellis perennis	daisy	Gänseblümchen	Compositae	Dicotyledonae	20	round spiny	6		4
Begonia spec	begonia	Begonie	Begoniaceae	Dicotyledonae	10-25	prolate	6		5
Berberis thunbergii	red barberry	Thunberg-Berberitze	Berberidaceae	Dicotyledonae	35	round	6		
Beta vulgaris	sugar beet and other	Zuckerrübe und weitere	Amaranthaceae	Dicotyledonae	25	round	4	4	6
Betula spec	birch	Birke	Betulaceae	Dicotyledonae	19-27	round	6		5
Betula pendula	birch	Birke	Betulaceae	Dicotyledonae	22	round	6		5
Brassica napus	rape seed / canola	Raps	Brassicaceae	Dicotyledonae	20-25	prolate	7	3	3 / 5
Brassica napus rapifera	swede	Steckrübe	Brassicaceae	Dicotyledonae	20-26	prolate	7	3	3 / 5
Brassica oleracea var. botrytis	cauliflower	Blumenkohl	Brassicaceae	Dicotyledonae	20-25	prolate	7	3	3 / 5
Brassica oleracea var. gongylodes	kohlrabi	Kohlrabi	Brassicaceae	Dicotyledonae	20-25	prolate	7	3	3 / 5
Brassica oleracea var. gemmifera	Brussels sprouts	Rosenkohl	Brassicaceae	Dicotyledonae	20-26	prolate	7	3	3 / 5
Brassica oleracea var. italica	broccoli	Broccoli	Brassicaceae	Dicotyledonae	20-25	prolate	7	3	3 / 5
Brassica oleracea cultivar	other cultivars	andere Zuchtformen	Brassicaceae	Dicotyledonae	20-25	prolate	7	3	3 / 5
Brassica rapa chinensis	Chinese cabbage	Senfkohl	Brassicaceae	Dicotyledonae	20-25	prolate	7	3	3 / 5
Bougainvillea glabra	bougainvillea	Drillingsblume	Nyctaginaceae	Dicotyledonae	31	round	6		5
Calendula officinalis	marigold	Ringelblume	Astereaceae	Dicotyledonae	30-40	round spiny	6		5
Calluna vulgaris	common heather	Erika/Besenheide	Ericaceae	Dicotyledonae	30-40	tetrad	5		
Camellia japonica	camellia	Kamellie	Theaceae	Dicotyledonae	45	triangular	5		
Campanula	bell flower	Glockenblume	Campanulaceae	Dicotyledonae	20	round	5		6
Capsicum annuum	sweet pepper	Paprika	Solanaceae	Dicotyledonae	25	triangular	6	4	4
Capsicum spec.	pepper	Paprika	Solanaceae	Dicotyledonae	20-30	triangular	6	4	6 / 4
Carica papaya	papaya	Papaja	Caricaceae	Dicotyledonae	36	round	6		5 / 3
Cardamine pratense	lady's smock	Wiesenschaumkraut	Cruciferae	Dicotyledonae	30	round	6		5

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Carpinus betulus	common hornbeam	Hain-Buche	Betulaceae	Dicotyledonae	36	round	6		5
Carya illinoensis	pecan	Pekannuss	Juglandaceae	Dicotyledonae	30x60	prolate	6		
Castanea sativa	chestnut	Esskastanie	Fagaceae	Dicotyledonae	16	triangular	6		
Cenchrus ciliaris	buffel-grass	Wimperstachelgras	Poaceae	Monocotyledonae	40	round	6		
Centaurea montana	mountain cornflower	Flockenblume	Asteraceae	Dicotyledonae	32	round spiny	6		
Cercis canadensis	eastern redbud	Kanadischer Judasbaum	Fabaceae	Dicotyledonae	25	triangular	5		6
Chelidonium majus	greater celandine	Schöllkraut	Papaveraceae	Dicotyledonae	27	triangular	6		5
Chrysanthemum spec	chrysants	Chrysantheme	Astereaceae	Dicotyledonae	30	round spiny	6		5
Cichorium endivia	endive	Endivie	Astereaceae	Dicotyledonae	80-100	round spiny	6		4
Cichorium intybus	chicory	Chicoree	Astereaceae	Dicotyledonae	30-40	round spiny	6	3	5 / 3
Cirsium vulgare	spear thistle	Kratzdistel	Astereaceae	Dicotyledonae	40	round spiny	6		5
Citrullus lanatus	water melone	Wassermelone	Cucurbitaceae	Dicotyledonae	50x80	prolate	5	5	5
Citrus x limonia	rangpur	Rangpur-Limette	Rutaceae	Dicotyledonae	30	round	6	6	5
Citrus x sinensis	orange	Apfelsine	Rutaceae	Dicotyledonae	32	round	6	6	5
Coffea arabica	coffee	Kaffee	Rubiaceae	Dicotyledonae	30	round	6	6	
Colutea arborescens	bladder-senna	Blasenstrauch	Fabaceae	Dicotyledonae	35	triangular	5		6
Coriandrum sativum	coriander	Koriander	Apiaceae	Dicotyledonae	15x30	prolate	6		
Cornus sanguinea	common dogwood	Roter Hartriegel	Cornaceae	Dicotyledonae	58	round	6		
Cortaderia selloana	pampas grass	Pampasgras	Poaceae	Monocotyledonae	50	round	6		
Corylus avellana	hazelnut	Haselnuss	Corylaceae	Dicotyledonae	25-30	round	6		5
Couroupita guianensis	cannonball tree	Kanonenkugelbaum	Lecythidaceae	Dicotyledonae	20x50	triangular	6		
Cucumis melo	melon	Melone	Cucurbitaceae	Dicotyledonae	50	round	5	5	
Cucumis sativus	cucumber	Gurke	Cucurbitaceae	Dicotyledonae	60	round	5 + Tween	5 + Tween	
Cucurbita spec	squash, gourds	Kürbis	Cucurbitaceae	Dicotyledonae	150-200	round spiny	5 + Tween	5	
Cucurbita pepo	squash, zucchini	Kürbis, Zucchini	Cucurbitaceae	Dicotyledonae	150-200	round spiny	5 + Tween	5 + Tween	
Cyclamen persicum	cyclame	Alpenveilchen	Primulaceae	Dicotyledonae	15-20	round	6		4
Cynara cardunculus	artichoke	Artischocke	Astereaceae	Dicotyledonae	60	round spiny	3		6
Dahlia	dahlia	Dahlie	Astereaceae	Dicotyledonae	40-50	round spiny	6	5	5 / 3
Daucus carot	carrot	Karotte / Möhre	Umbelliferaceae	Dicotyledonae	15x30	prolate	4	4	4 / 5 / 6
Delosperma		Mittagsblume	Aizoaceae	Dicotyledonae	20	round	5		6
Dianthus	pink	Nelke	Caryophyllaceae	Dicotyledonae	30-40	round	6		5
Echium vulgare	blueweed	Blauer Natternkopf	Boraginaceae	Dicotyledonae	17	round	6		
Elaeis guineensis	oil palm	Ölpalme	Arecaceae	Monocotyledonae	30	triangular	6		
Erica gracilis	heath	Glockenheide	Ericaceae	Dicotyledonae	30-40	tetrad	5		
Eucalyptus spec	Eucalyptus	Eukalyptus	Myrtaceae	Dicotyledonae	24	triangular	6		
Euphorbia verrucosa	spurge	Warzen-Wolfsmilch	Euphorbiaceae	Dicotyledonae	50	round	6		
Eruca sativa	rucola	Rucola	Brassicaceae	Dicotyledonae	20	triangular	7	3	3 / 5
Fagus sylvatica	common beech	Gemeine Buche	Fagaceae	Dicotyledonae	47	round	6		
Festuca arundinacea	tall fescue	Rohr-Schwingel	Poaceae	Monocotyledonae	40	round	6		4
Foeniculum vulgare	florence fennel	Knollenfenchel	Umbelliferaceae	Dicotyledonae	30	prolate	4	3	3 / 5 / 6
Forsythia intermedia	Forsythia	Forsythie	Oleaceae	Dicotyledonae	25-30	round	6		5
Fragaria	strawberry	Erdbeere	Rosaceae	Dicotyledonae	20	triangular	6	6	

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Fraxinus excelsior	ash	Esche	Oleaceae	Dicotyledonae	22	triangular	6		
Fraxinus ornus	flower ash	Blumenesche	Oleaceae	Dicotyledonae	22	triangular	6		
Gaillardia	blanket flower	Kokardenblume	Asteraceae	Dicotyledonae	40	round spiny	6		
Gaura lindheimeri	gaura	Pracht/Prärieckerze	Onagraceae	Dicotyledonae	140	triangular	6		
Gazania spec	ganzania	Mittagsgold	Asteraceae	Dicotyledonae	30-40	round textured	5		6
Geranium	cranesbill	Geranie	Geraniaceae	Dicotyledonae	70-120	round	5		3
Gerbera spec	gerbera	Gerbera	Astereaceae	Dicotyledonae	50	round spiny	5		6
Gladiolus x hortulanus	gladiolus	Gartengladiole	Iridaceae	Monocotyledonae	80	round	6		
Gossypium hirsutum	cotton	Baumwolle	Malvaceae	Dicotyledonae	150+	round spiny	6		
Gloriosa superba	flame lily	Ruhmeslilie	Colchicaceae	Dicotyledonae	37	prolate	6		
Glycine max	soy bean	Sojabohne	Fabaceae	Dicotyledonae	30-40	round	6		5
Guizotia abyssinica	noog, ramtilla	Gingelikraut, Ramtillkraut	Astereaceae	Dicotyledonae	30	round spiny	6		
Helleborus	christmas rose	Christrose	Ranunculaceae	Dicotyledonae	40	triangular	6		4
Helianthus annuus	sunflower	Sonnenblume	Astereaceae	Dicotyledonae	30	round spiny	6		4
Hemerocallis	spider lily	Schönlilie	Amoryllidaceae	Monocotyledonae	80	round	6		4
Hibiscus syriacus	hibiscus	Hibiskus	Malvaceae	Dicotyledonae	150-200	round spiny	6		5
Hordeum vulgare	barley	Gerste	Poaceae	Monocotyledonae	45	round	6	6	4
Hyacinthus orientalis	hyacinths	Hyazinthe	Asparagaceae	Dicotyledonae	40-60	prolate	6		4
Hydrangea macrophylla	hydrangea	Hortensie	Hydrangeaceae	Dicotyledonae	15	round	5		6
Hydrangea paniculata	hydrangea	Hortensie	Hydrangeaceae	Dicotyledonae	15	round	5		6
Hypericum	St John's wort	Johanniskraut	Guttifereae	Dicotyledonae	20	round	6		3
Ilex aquifolium	holly	Stechpalme	Aquifoliaceae	Dicotyledonae	33	round	6		
Impatiens x neuginia	Impatiens	Fleissiges Liesschen	Balsaminaceae	Dicotyledonae	20x50	prolate	6		5
Juglans regia	walnut	Walnuss	Juglandaceae	Dicotyledonae	40	round	6		
Justicia adhatoda	Malabar nut, adulsa	Indisches Lungenkraut	Acanthaceae	Dicotyledonae	20x50	prolate	6	6	
Lactuca sativa	lettuce	Kopfsalat	Astereaceae	Dicotyledonae	30	round spiny	7	3	3 / 5
Lamprantus spec		Mittagsblume	Aizoaceae	Dicotyledonae	20	round	6		
Larix	larch	Lärche	Pinacea	Coniferopsida	40-60	spherical	6		
Lavandula officinalis	lavender	Lavendel	Lamiaceae	Dicotyledonae	40x60	prolate	6		5
Leucanthemum vulgare	oxeye daisy	Margerite	Asteraceae	Dicotyledonae	28	round spiny	6		5
Lilium	lily	Lilie	Liliaceae	Monocotyledonae	50x100	prolate	6		4
Lolium multiflorum	Italian rye-grass	Italienisches Weidelgras	Poaceae	Monocotyledonae	40	round	6		4
Lolium perenne	German rye-grass	Deutsches Weidelgras	Poaceae	Monocotyledonae	40	round	6		4
Magnolia x soulangiana	magnolia	Magnolie/Tulpenbaum	Magnoliaceae	Magnoliids	60	prolate	5		6
Malus domestica	apple	Apfel	Rosaceae	Dicotyledonae	30	round	6		5
Matricaria chamomille	chamomilli	Kamille	Asteraceae	Dicotyledonae	24	round, spiny	6		5
Mentha x piperita	mint	Pfefferminze	Lamiaceae	Dicotyledonae	30-40	prolate	5		6
Mentha suaveolens x piperita	mint grapefruit	Pfefferminze Pampelmus	Lamiaceae	Dicotyledonae	30-40	prolate	5		6
Momordica spec	bittergourd	Bittergurke	Cucurbitaceae	Dicotyledonae	120	round	5 + Tween	5 + Tween	
Nicotiana	tobacco	Tabak	Solanaceae	Dicotyledonae	35	round	6	4	4
Ocimum basilicum	basil	Basilikum	Lamiaceae	Dicotyledonae	20	round	6		5
Oenothera biennis	evening primrose	Gewöhnliche Nachtkerze	Onagraceae	Dicotyledonae	160	triangular	6		

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<i>Olea europaea</i>	olive tree	Olivenbaum	Oleaceae	Dicotyledonae	25	triangular	6		5
<i>Ononis arvensis</i>	field restharrow	Bockshauhechel	Fabaceae	Dicotyledonae	25	prolate	5		6
<i>Oryza sativa</i>	rice	Reis	Poaceae	Monocotyledonae	30-45	round	6	4	4
<i>Papaver nudicaule</i>	Island poppy	Island- Mohn	Papaveraceae	Dicotyledonae	30	round	6		5
<i>Passiflora edulis</i>	passion flower	Maracuja, Passionsblume	Passifloraceae	Dicotyledonae	45	polygonal	6		
<i>Pentas lanceolata</i>	spruce	Stern von Ägypten	Rubiaceae	Dicotyledonae	20	tetracolpate	6		
<i>Petroselinum crispum</i>	parsley	Petersilie	Apiaceae	Dicotyledonae	23	prolate	6		
<i>Petunia spec</i>	petunia	Petunie	Solanaceae	Dicotyledonae	28	triangular	6		4
<i>Phacelia tanacetifolia</i>	blue tansy	Büschelschön	Boraginaceae	Dicotyledonae	20	round	6		
<i>Phalaenopsis</i>	orchids	Orchidee	Orchidaceae	Dicotyledonae	15	round	5		
<i>Phaseolus</i>	bean	Bohne	Fabaceae	Dicotyledonae	33-45	triangular	5		4 / 6
<i>Phoenix dactylifera</i>	date palm	Dattelpalme	Arecaceae	Monocotyledonae	10x15	prolate	6		
<i>Phlox paniculata</i>	phlox	Flammenblume	Polemoniaceae	Dicotyledonae	42	round	6		
<i>Picea abies</i>	pine	Fichte	Pinacea	Coniferopsida	60-100	bisaccate	6 (floating!)		
<i>Pinus sylvestris</i>	pine	Kiefer	Pinacea	Coniferopsida	60-100	bisaccate	6 (floating!)		
<i>Pistacia vera</i>	pistachio	Pistazienbaum	Anacardiaceae	Dicotyledonae	30	round	6		
<i>Pisum sativum</i>	pea	Erbse	Fabaceae	Dicotyledonae	50	prolate	5	4	4 / 6
<i>Primula vulgaris (syn. acaulis)</i>	primerose	Primel	Primulaceae	Dicotyledonae	15-20	round	6		5
<i>Prunus avium</i>	cherry	Kirsche	Rosaceae	Dicotyledonae	38	triangular	6		
<i>Prunus dulcis</i>	almond	Mandelbaum	Rosaceae	Dicotyledonae	51	triangular	6		
<i>Prunus spinosa</i>	blackthorn	Schlehdorn	Rosaceae	Dicotyledonae	43	triangular	6		
<i>Prunus serrulata</i>	Japanese cherry	Japanische Zierkirsche	Rosaceae	Dicotyledonae	35-40	triangular	6		
<i>Punica granatum</i>	Pomegranate	Granatapfel	Lythraceae	Dicotyledonae	23	triangular	6		
<i>Pyrus communis</i>	pear	Birne	Rosaceae	Dicotyledonae	32	triangular	6		
<i>Quercus robur</i>	common oak	Stiel-Eiche	Fagaceae	Dicotyledonae	33	triangular	6		
<i>Ranunculus asiaticus</i>	persian buttercup	Ranunkel	Ranunculaceae	Dicotyledonae	20	round	6		5
<i>Ranunculus arvensis</i>	corn buttercup	Hahnenfuss	Ranunculaceae	Dicotyledonae	20	prolate	6		5
<i>Raphanus sativus sativus</i>	radish	Radieschen/Rettich	Brassicaceae	Dicotyledonae	20	prolate	7	3	3 / 5
<i>Raphanus sativus oleiferus</i>	radish	Rettich	Brassicaceae	Dicotyledonae	20	prolate	7	3	3 / 5
<i>Rheum rhabarbarum</i>	rhubarb	Rhabarber	Polygonaceae	Dicotyledonae	30	round	6		5
<i>Rhododendron</i>	rhododendron	Rhododendron	Ericaceae	Dicotyledonae	55	tetradae	6		5
<i>Ribes nigrum</i>	blackcurrant	Schwarze Johannisbeere	Grossulariaceae	Dicotyledonae	34	round	6		
<i>Ribes rubrum</i>	redcurrant	Rote Johannisbeere	Grossulariaceae	Dicotyledonae	29	round	6		
<i>Rosa canina</i>	dogrose	Hundsrose	Rosaceae	Dicotyledonae	30x50	prolate	6		
<i>Rosa indica</i>	tearose	Teerose	Rosaceae	Dicotyledonae	20x50	prolate	6		
<i>Rosa multiflora</i>	multiflora rose	Kletterrose	Rosaceae	Dicotyledonae	20x50	prolate	6		
<i>Rosmarinus officinalis</i>	rosmarine	Rosmarin	Lamiaceae	Dicotyledonae	40-45	prolate	5		6
<i>Rubus fruticosus</i>	blackberry	Brombeere	Rosaceae	Dicotyledonae	30	triangular	6		
<i>Rubus idaeus</i>	raspberry	Himbeere	Rosaceae	Dicotyledonae	25	triangular	6		
<i>Rubus fruticosus x idaeus</i>	tayberry	Taybeere	Rosaceae	Dicotyledonae	25	triangular	6		
<i>Rudbeckia hirta</i>	rudbeckia	Rudbeckia	Asteraceae	Dicotyledonae	30	round spiny	6		
<i>Saccharum officinarum</i>	sugarcane	Zuckerrohr	Poaceae	Monocotyledonae	40-120	round	6		

Species	English	German	Family	Class	Size (µm)	Form	AF buffer pollen	AF buffer microspore	alternative AF buffers
Salix viminalis	basket willow, osier	Korbweide	Saliceae	Dicotyledonae	20	round	6		5
Salvia farinaceae	sage	Salbei, mehliger	Lamiaceae	Dicotyledonae	40x60	prolate	6		5
Salvia officinalis	sage	Salbei	Lamiaceae	Dicotyledonae	40x60	prolate	6		5
Salvia pratensis	meadow sage	Wiesensalbei	Lamiaceae	Dicotyledonae	40x50	prolate	6		5
Saxifraga rosacea	rockfoil	Steinbrech	Saxifragaceae	Dicotyledonae	25-30	triangular	6	6	5
Secale cereale	rye	Roggen	Poaceae	Monocotyledonae	50-60	prolate	6	6	4
Silene vulgaris	bladder campion	Leimkraut	Caryophyllaceae	Dicotyledonae	51	round	6		
Sinapis arvensis	charlock mustard	Wilder Senf/Ackersenf	Brassicaceae	Dicotyledonae	25	prolate	7	3	3 / 5
Solanum lycopersicon	tomato	Tomate	Solanaceae	Dicotyledonae	25	round	6	4	4 / 2
Solanum melongena	eggplant	Aubergine	Solanaceae	Dicotyledonae	25-30	round	6	4	4
Solanum quitoense	quito orange	Quito orange	Solanaceae	Dicotyledonae	25	round	6	6	4
Solanum tuberosum	potato	Kartoffel	Solanaceae	Dicotyledonae	20	round	6	6	4
Sonchus arvensis	field milk thistle	Acker-Gänsedistel	Asteraceae	Dicotyledonae	50	round	6		5
Sorghum bicolor	sorghum, dari	Mohrenhirse	Poaceae	Monocotyledonae	40-50	round	6	6	4
Spinacia oleracea	spinach	Spinat	Amaranthaceae/	Dicotyledonae	30-50	round	4	4	5
Silybum marianum	cardus marianus	Mariendistel	Asteraceae	Dicotyledonae	80	round	6		5
Syringa vulgaris	lilac	Flieder	Oleaceae	Dicotyledonae	29	round	6		5
Tagetes patula	marigold	Studentenblume	Asteraceae	Dicotyledonae	30	round spiny	6	5	5
Taraxacum officinale	dandelion	Löwenzahn	Asteraceae	Dicotyledonae	40-50	round spiny	6		5
Theobroma cacao	cacao	Kakaobaum	Malvaceae	Dicotyledonae	17	round	6	6	
Thymus vulgaris	thyme	Thymian	Lamiaceae	Dicotyledonae	40x60	prolate	6		5
Tilia platyphyllos	largeleaf linden	Sommerlinde	Tiliaceae	Dicotyledonae	32	prolate	6		5
Trifolium	clover	Klee	Fabaceae	Dicotyledonae	20	round	5		6
Triticum spp.	wheat	Weizen	Poaceae	Monocotyledonae	40-60	round	6	6 / 4	4
Tullipa cultivars	tulip	Tulpe	Liliaceae	Monocotyledonae	55	round	6	6	4
Turnera diffusa	damiana	Damiana	Passifloraceae	Dicotyledonae	30	round	6		
Ulmus glabra	wych elm	Ulme	Ulmaceae	Dicotyledonae	31	round	6		
Viburnum opulus	guelder-rose	Schneeball	Adoxaceae	Dicotyledonae	24	round	6		5
Vicia spec	vetches	Wicke	Fabaceae	Dicotyledonae	30-40	round	5	5	
Vicia faba	broad bean	Ackerbohne	Fabaceae	Dicotyledonae	50	prolate	5	5	
Vicia villosa	winter vetch	Zottige Wicke	Fabaceae	Dicotyledonae	35	prolate	5		6
Vinca spec.	vinca	Immergrün	Apocynaceae	Dicotyledonae	60-80	round	5		6
Viola cornuta	violet	Stiefmütterchen	Violaceae	Dicotyledonae	40	round	6		
Viola wittrockiana	violet	Stiefmütterchen	Violaceae	Dicotyledonae	70	round	6		
Vitis vinifera	grape	Weintraube	Vitaceae	Dicotyledonae	22	round	6		
Wisteria sinensis	glycine	Blauregen	Fabaceae	Dicotyledonae	30	triangular	6		5
Zantedeschia aethiopica	calla, a	Calla	Araceae	Monocotyledonae	48	round	6		
Zea mays	corn, maize	Mais	Poaceae	Monocotyledonae	100	round	6	6	

* non-standard filters, ask for availability