Breakout Session 1

How to measure big pollen

How to measure big pollen

- Introduction of the G-chip
- Introduction to G-chip templates
- Pollen sedimentation
- Practicing use of large filters and funnels
- Sample preparation
- Measurements and data analysis

G-chip – Consumables and Large Pollen Kit

- G-chip: channel size 400µm width x 300µm height
- Filter: 300µm used with a
- Funnel: to place the filter at a 5ml tube
- Buffer: AF8 or AF9
- Large Pollen Kit
  - 2 G-chips
  - 50 filter 300 µm
  - 50 funnel
  - 2 bottle AF8 or AF9
- Kit content also individually available

G-chip templates

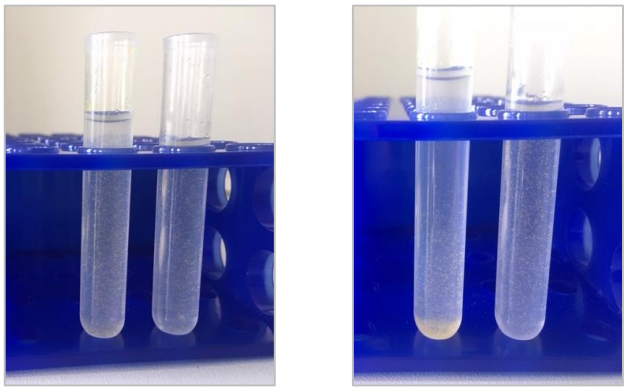
- Pollen: 150µm and bigger
  - pumpkin, squash, zucchini (*Cucurbita maxima, C. pepo, C. moschata* and other *C. species*)
  - cotton, ocra, hibiscus and other species of *Malvaceae* family
- Buffers also for measurement of big pollen (maize, melon) with E-chip applicable

- Species specific templates available from Amphasys webpage
  - Squash
  - Zucchini

Pollen sedimentation

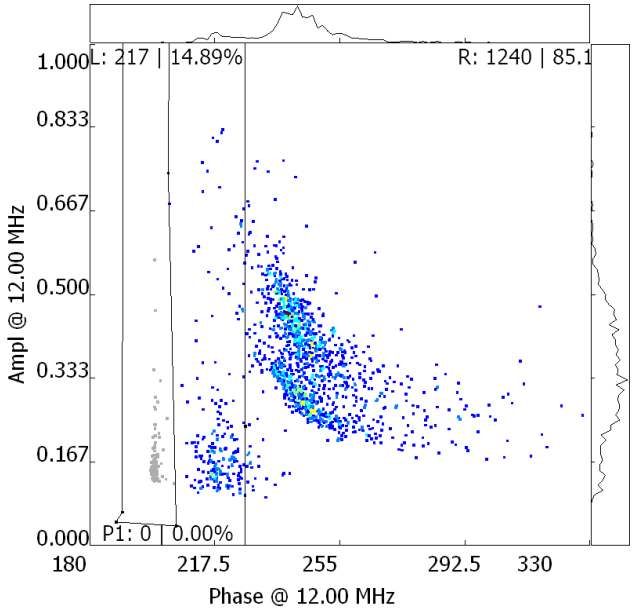
- Buffer AF8 and AF9 contain a viscose component to prevent fast sedimentation of big pollen

Comparison AF5 // AF8



Freshly filtered after 30seconds

- Air bubbles are generated with intense shaking of the buffer
  - Disappear after some time or
  - Can be excluded with gating and hiding function

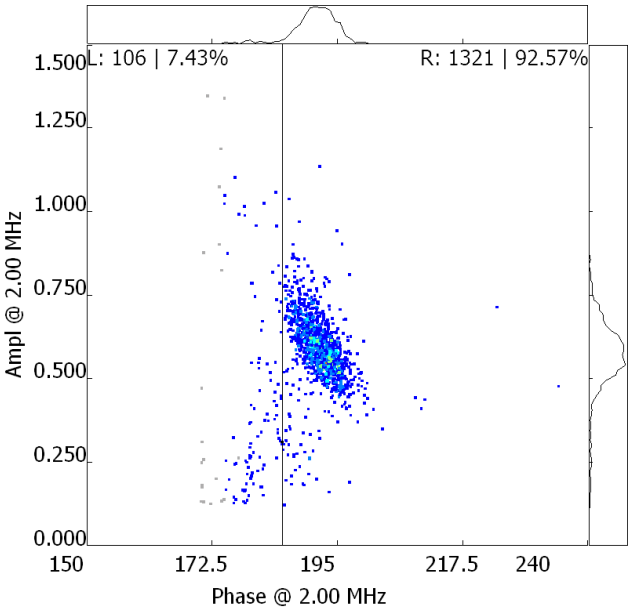


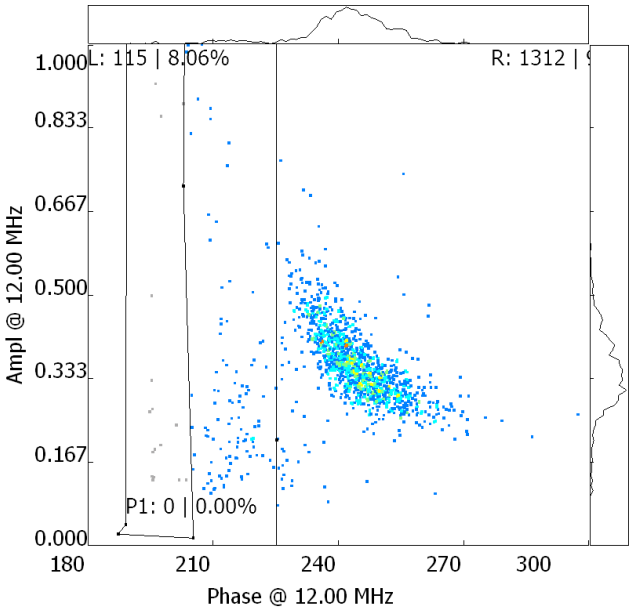
Sample preparation

- add buffer
- invert/shake tube
- filter sample
- add more buffer to the tube
- shake and filter again
- repeat up to 4 ml

Measurement and data analysis - examples

Pumpkin – whole or part of anthere from one flower in AF8

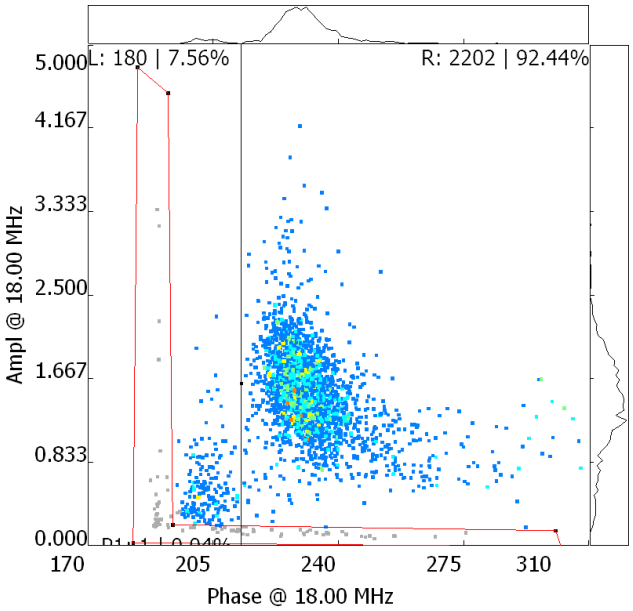


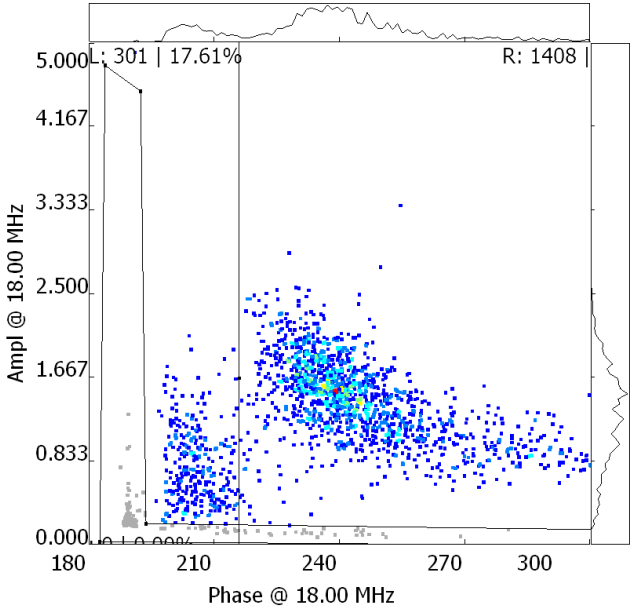


Measurement and data analysis - examples

Cotton – some anthers from one flower in AF9

(applicable to other species of family Malvaceae (hibiscus, ocra)





Measurement and data analysis - examples

Buffer AF9 also applicable for corn pollen with E-chip