

# 2021 FRAC Update

EPPO Resistance Panel

16-17 September 2021



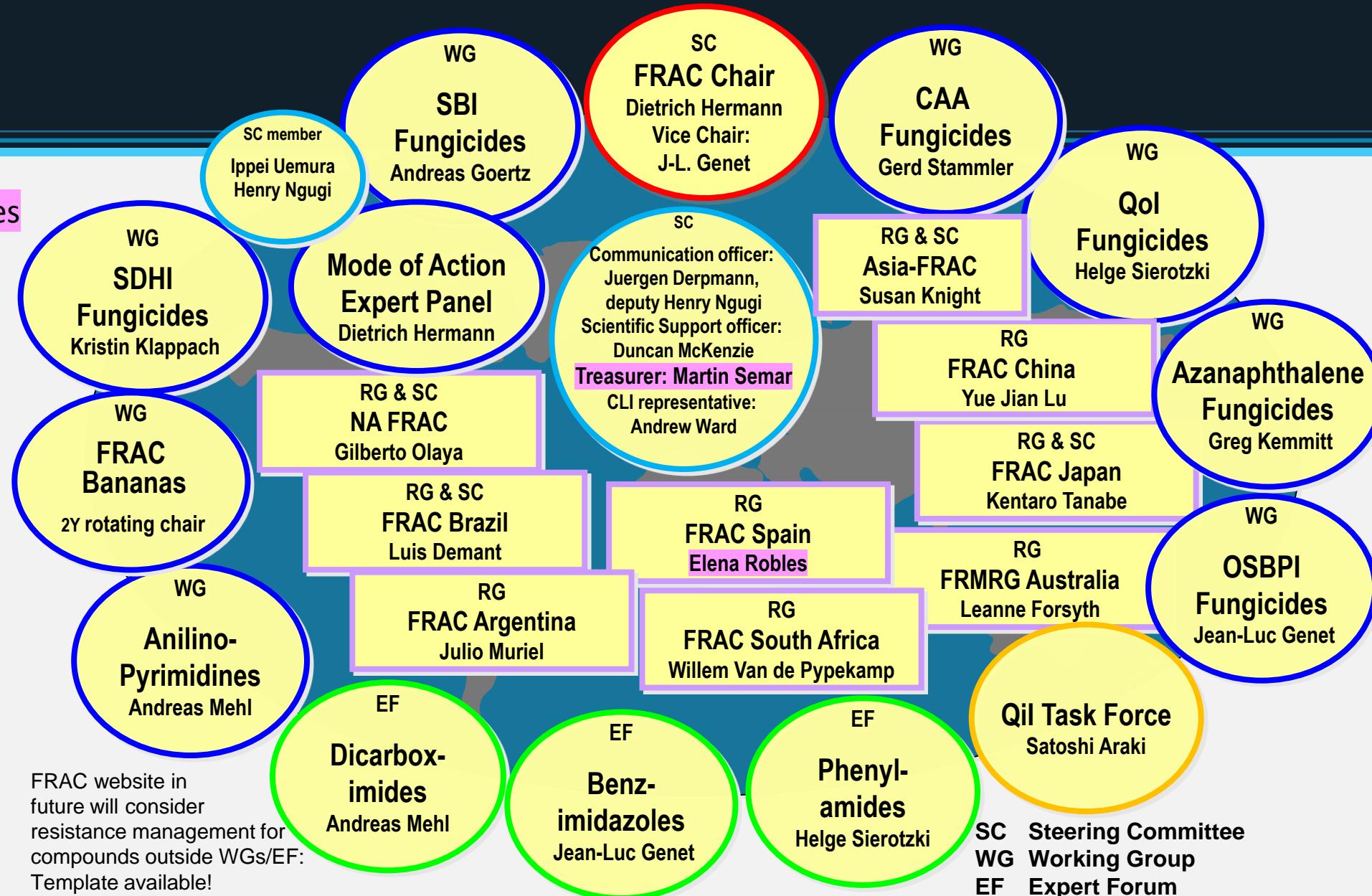
**FRAC**

FUNGICIDE RESISTANCE  
ACTION COMMITTEE

# Organization of FRAC 2020 – What's New?



## 2021 Changes



FRAC website in future will consider resistance management for compounds outside WGs/EF: Template available!

---Internal Use---

SC Steering Committee  
 WG Working Group  
 EF Expert Forum  
 RG Regional FRAC Group

# FRAC videos

- 17 languages now up and running on the FRAC website + 1 in progress. Will be translated in 5 additional languages
- New videos:
  - "Mode of action explainer"
  - "How to manage fungicide resistance"
  - With & without subtitles and in multiple languages

Available on YouTube



# Communication



- Several updates have been made to the FRAC MoA app (iPhones & Android).
- FRAC guidelines are being reorganized by crop starting with cereals, soybeans and banana. Other crops will follow.
- FRAC MoA poster has been updated and can be found on the FRAC webpage.

# FRAC list of first resistance cases



- List of first resistance cases has been updated and is being reviewed by FRAC experts before publication on the FRAC webpage
- Exclusively based on FRAC findings and publications in peer-review journals

# FRAC database



- Database in preparation for FRAC use only
- FRAC data only
- Global and searchable
- No distinction between molecules in the mode of action group
- Includes all reports (detection & no detection of resistance)
- One record = 1 country/crop/pest/mode of action
- Includes information on:
  - Contributing companies and magnitude of monitoring
  - Monitoring type (molecular or bioassay)
  - Mutations and field impact
  - Geographic distribution and frequency at country level (not single fields!)
- Strictly reflects the WG discussions and the meeting minutes
- Updated annually after FRAC WG meetings
- Central repository

# FRAC Code List (1)



- The following inclusions were approved:
  - Inclusion of florylpicoxamid to C4, code 21, Picolinamides
  - Inclusion of cyclobutrifluram to C2, code 7, SDHI. This compound will also be listed by IRAC as nematocide, code N-3. On product labels, FRAC recommends to include both codes.
  - Inclusion of dichlobentiazox to a new code P08, as data shown show a new situation on salicylate related pathway. Description for the codes P01, Po2 and P03 to be reviewed for the 2022 update.
  - Inclusion of ambam/amobam to M3 (multisite)
- Tebufloquin remains in U16 for now but more information is needed from Meiji
- The following compounds are on the waitlist for future inclusion:
  - Pyridachlometyl, aminopyrifen, flubeneteram, seboctylamine, flumetylsulforim, chloroinconazide and flufenoxadiazam

# FRAC Code List (2)



- It was agreed to include 8 biological strains to code BM02 as proposed by FRAC Japan.
- Three others were not classified (NC) as no fungicidal activity published or no information on MoA was available from the suppliers.
- It was agreed to move Plant essential oils and TTO from F7 to BM01
- Several other microbial biocontrol agents were agreed to include to BM02 including 4 *Trichoderma* spp and *Saccharomyces* spp.
- The biofungicide BIOFUN-1 (Biotalys) proposed for inclusion as F10 or M12 however no agreement was reached among the experts



# FRAC « orphan molecules »



- Purpose is to make recommendations for molecules not covered by a FRAC working group (« Orphan molecules »)
- One-pagers already developed and published on the FRAC webpage:
  - Fluazinam
  - Cymoxanil
  - Cyflufenamid
  - Fludioxynil
  - Tricyclazole
  - Doline
- One-pagers recently completed & approved by the FRAC steering committee:
  - Ametoctradin
  - Metrafenone & pyriofenone
  - Fluopicolide & fluopimomide