



Pgt – Molecular diagnostics

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Ug99 Race Group diagnostic assay

➤ Stage-1:

- Does it belong to the Ug99 Race Group?
- Set of 4 qPCR assays.

➤ Stage-2:

- What race phenotype?
- Panel of 15 SNP markers.

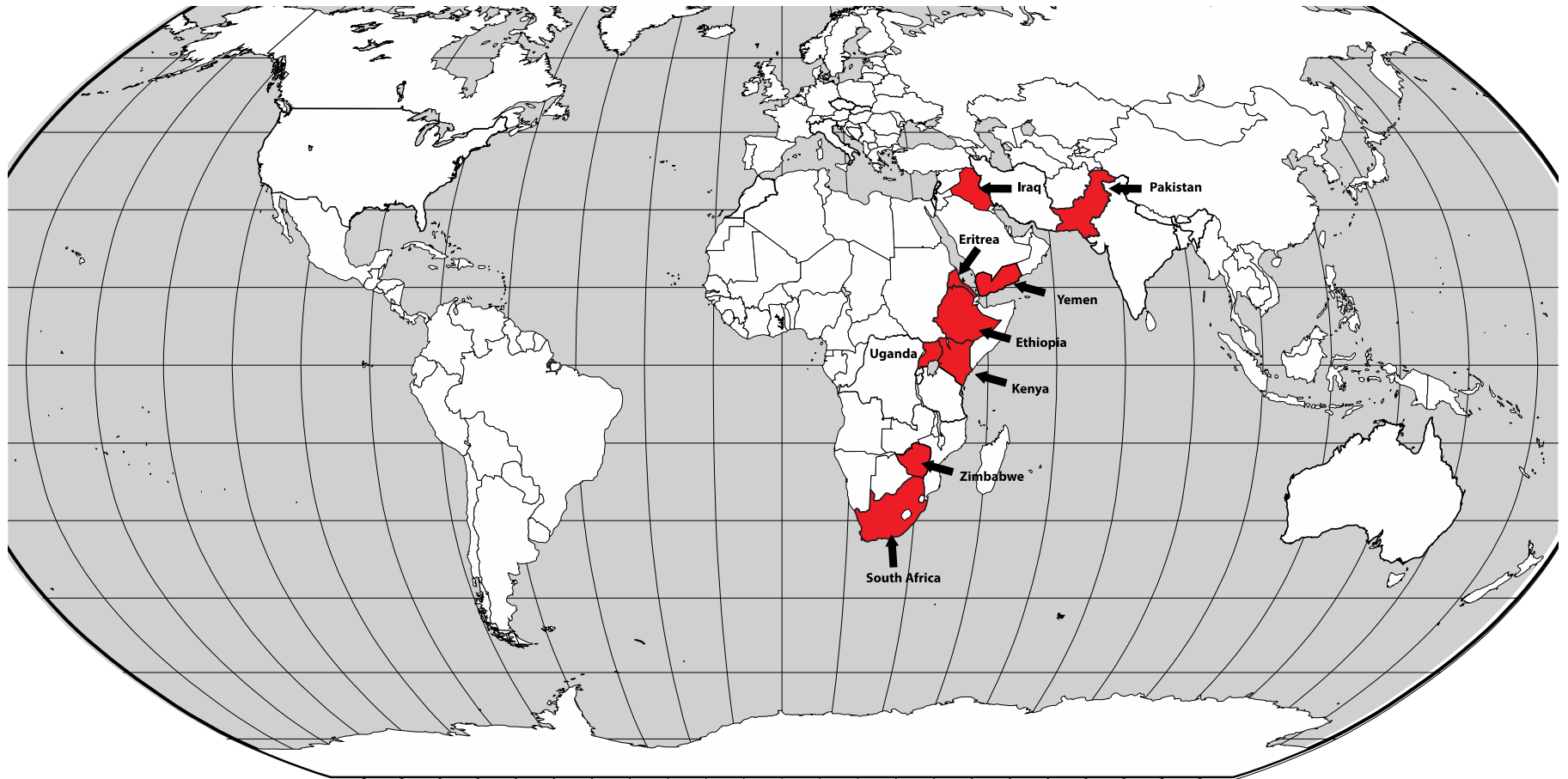
Stage-2 assay: SNP panel

| Race | Sample ID | Genotype | A003 | A005 | A007 | A010 | A012 | A021 | A022 | A031 | A013 | A014 | A017 | A020 | A023 | A026 | A030 | A001 | A004 | A006 | A011 | A016 | A018 | A024 | A029 | A033 | A034 |
|---------|------------|----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| TTKSK | 98UgA_1 | AF-001aa | CC | GG | GG | TT | TT | TT | CT | GG | CC | AA | CC | CC | AA | GG | AA | AA | GG | TT | CC | GG | GG | CC | AA | GG | AA |
| TTKSK | 04Ken156/4 | AF-001ab | CC | GG | GG | TG | TT | TT | CT | GG | CC | AA | CC | CT | AC | GG | AC | AA | GG | TT | CC | GG | GG | CC | AA | GG | AA |
| TTKSK | 07Ken34_1 | AF-001ac | CC | GG | GG | TT | TT | TT | CT | GG | CC | AA | CC | CT | AA | GG | AA | AA | GG | TT | CC | GG | GG | CC | AA | GG | AA |
| TTKSK | 07Ken11_2 | AF-001ad | CC | GG | GG | TT | TT | TT | CT | GG | CC | AA | CC | CT | AC | GG | AC | AA | GG | TT | CC | GG | GG | CC | AA | GG | AA |
| TTKSK | 09Tan06_2 | AF-001af | CC | GG | GG | TT | TT | TT | CT | GG | CC | AA | TT | CT | AC | GG | AC | AA | GG | TT | CC | GG | GG | CC | AA | GG | AA |
| TTKST | 06Ken19v3 | AF-001ba | CT | GG | GA | TT | TT | TT | CT | GT | TT | AA | CC | CT | AC | GG | AC | AA | GG | TT | CC | GG | GG | CC | AA | GG | AA |
| TTKST | 07Ken18 | AF-001bb | CC | GG | GG | TT | TT | TT | CT | GT | TT | AA | CC | CT | AC | GG | AC | AA | GG | TT | CC | GG | GG | CC | AA | GG | AA |
| TTTSK | 07Ken24_4 | AF-001ca | CC | GA | GG | TT | TT | TT | CT | GG | CC | AA | TT | CT | AC | GG | AC | AG | GG | TC | CC | GG | GG | CC | AA | GA | AA |
| TTTSK | 09Tan07_1 | AF-001cc | CC | GG | GG | GG | TT | TT | CT | GG | CC | AA | CC | CT | AC | GG | AC | AA | GG | TT | CC | GG | GG | CC | AA | GG | AA |
| TTTSK | 09Tan08_2 | AF-001cd | CC | GG | GG | GG | TT | AT | CT | GG | CC | AA | CC | CT | AC | GG | AC | AA | GG | TT | CC | GG | GG | CC | AA | GG | AA |
| TTKSF | UvPgt55 | AF-001da | CC | GG | GG | TT | TT | AA | TT | GG | CC | AG | CC | CC | AA | GA | AA | AA | GA | TT | CC | GG | AG | AC | AT | GG | AG |
| TTKSF | 09Zim01_1 | AF-001db | CC | GG | GG | TT | TT | AA | CT | GG | CC | AA | CC | CC | AA | GG | AA | AA | GG | TT | CC | GG | GG | CC | AA | GG | AA |
| TTKSF | UvPgt61.2 | AF-001dd | CC | GG | GG | TT | TT | AA | CT | GG | CC | AA | CC | CC | AA | GA | AA | AA | GG | TT | CC | GG | GG | CC | AA | GG | AA |
| UvPgt60 | PTKST | AF-001fa | CT | GG | GG | TT | TT | TT | CT | GT | TT | AA | CC | CT | AC | GG | AC | AA | GG | TT | CC | GG | GG | CC | AA | GG | AA |
| TTKSP | UvPgt59 | AF-001ea | CC | GG | GG | TT | TG | AA | TT | GG | CC | AA | CC | CC | AA | GA | AA | AA | GG | TT | CT | AG | AG | AC | AT | GG | AA |

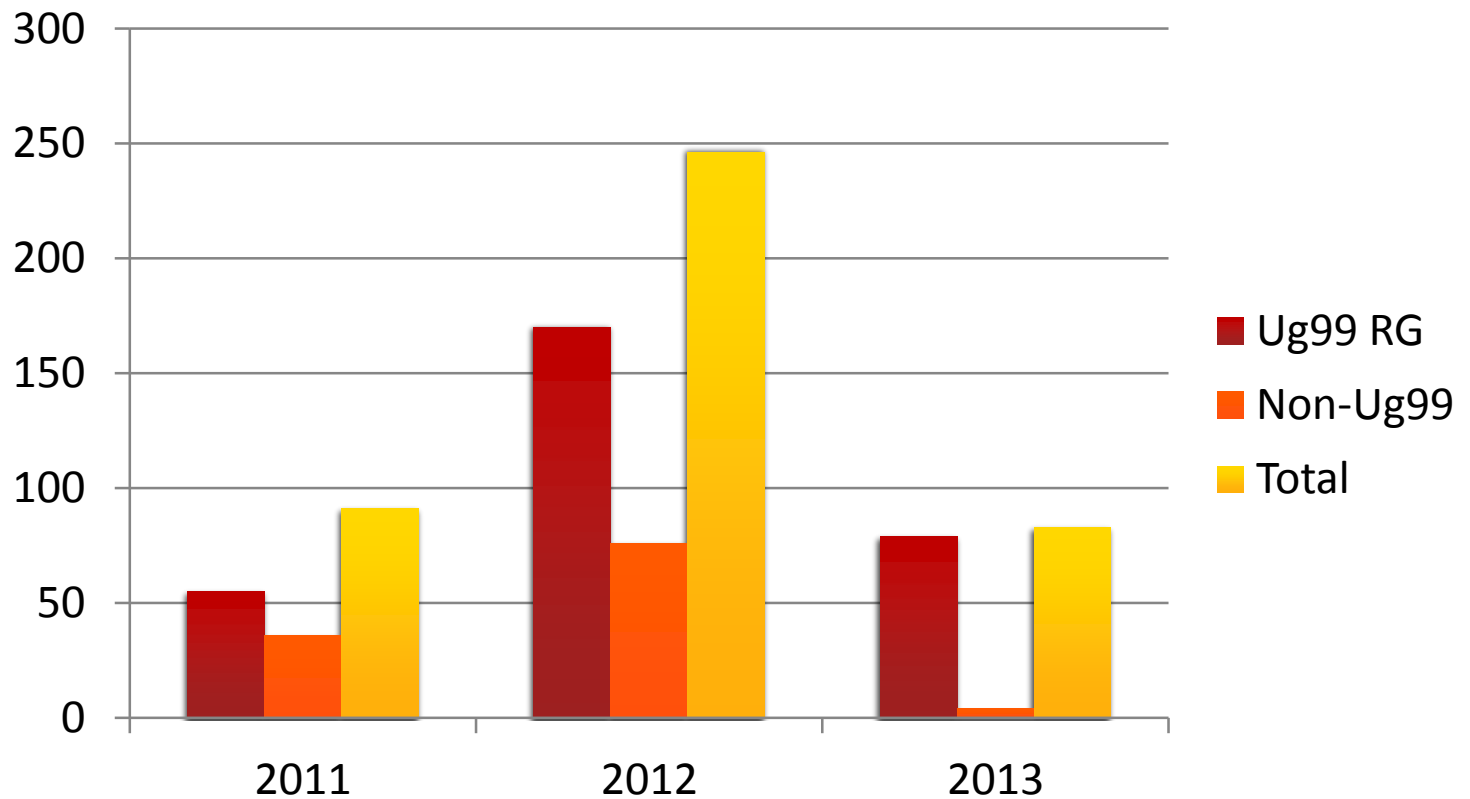
Sample collections (D-samples)

- Field collections
 - Wheat stem section with a single pustule of *Pgt*.
 - Place in 2ml collection tubes.
 - Killed with ethanol treatment.
 - 70% ethanol
 - Store 1 week
 - Decant off ethanol
 - Air dry
 - Send to CDL for analysis.

D-Samples analyzed: 2011 - 2013



D-samples: Summary



Ug99 Race Group genotypes

