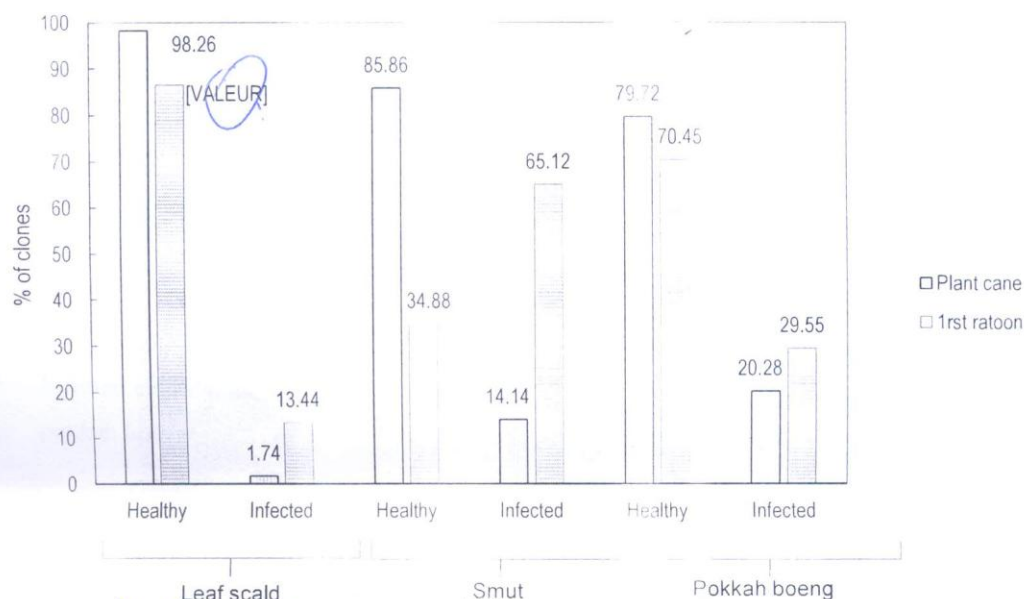


F32	R11/7003	N27	2	2	0	0	2	2	0	0	2	2	0	0	2
F33	R93/0136	SP80/3280	2	1	0	1	1	0	1	2	2	1	0	1	2
F34	R579	R94/6447	12	11	0	1	12	6	0	6	10	2	2	10	12
F35	R98/6095	HoCP85/845	10	10	0	0	10	2	0	8	8	8	2	2	10
F36	TC9	R95/4065	33	33	0	0	32	19	1	14	26	21	7	12	33
F37	R00/4009	R95/4053	43	41	0	2	32	9	11	34	31	17	12	26	43
F38	R98/4009	R98/4001	28	28	0	0	25	16	3	12	20	18	8	10	28
F39	RB83/5054	R97/2335	26	25	1	2	19	4	8	23	24	16	3	11	27
Total			848	747	15	116	741	301	122	562	689	608	174	255	863

162



163

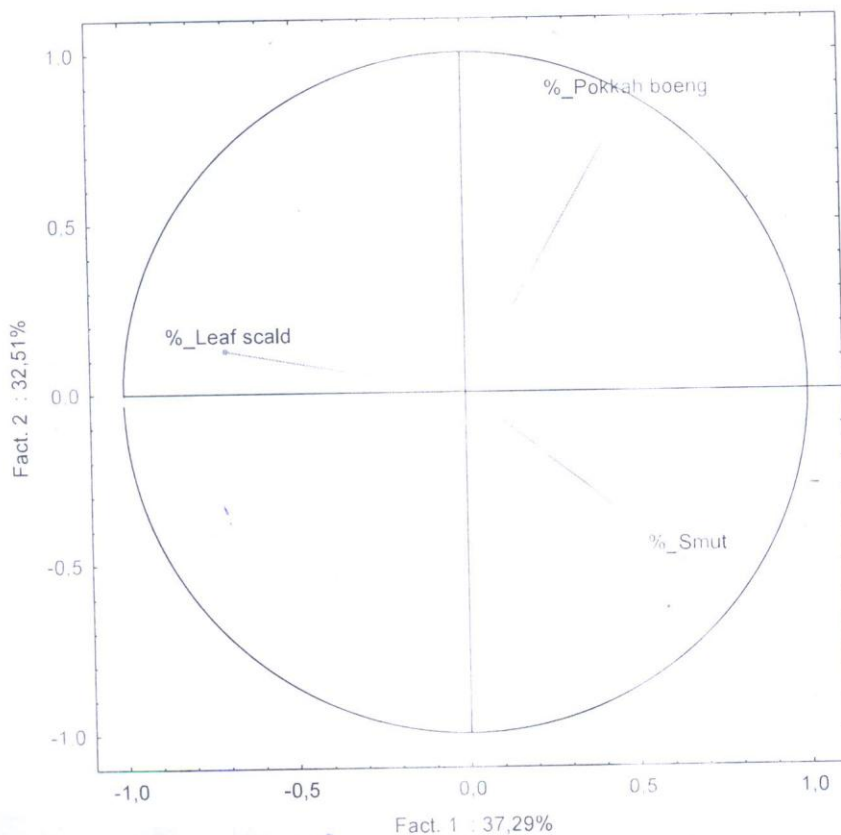
164 Figure 1. Rate of disease free and infected clones depending on endemic disease observed in
165 plant cane and first ratoon in Ferké I, Ivory Coast.

166 Clone susceptibility to endemic diseases in 1st ratoon

167 The rate of disease free genotypes in first ratoon cane was high regarding leaf scald and
168 pokkah boeng with respectively 87 and 70 % as opposed to low (35 %) for smut. About 50
169 and 28 % of cane genotypes were resistant or moderately resistant to smut and pokkah boeng
170 respectively (figure 2). In contrast, 13.4, 16.5 and 0.1 % of genotypes were susceptible or
171 highly susceptible to leaf scald, smut and pokkah boeng respectively. This showed that the
172 occurrence diseases economically important, namely leaf scald and smut, was relatively high
173 (about 15 %) compared to that of pokkah boeng (0.1 %)

significantly higher or?
(not based on statistical interpretation)

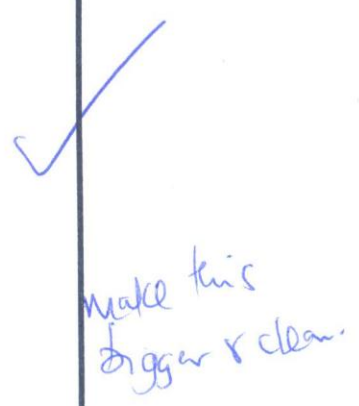
No anova for us to assess statistical significance!



214
 215 Figure 4. Correlation circle resulting from projection of infected sugarcane genotypes and
 216 their infestation rate observed in 1-2 factor plane following principal component analysis
 217 (PCA).

Can't this come out in
 figure 3? Instead of having
 another figure with similar
 information

G6



281 Increase in clone infestations in first ratoon cane compared with plant cane was observed.
282 regarding the three endemic diseases but more importantly for smut by 51 %. This ^{is similar to} confirms
283 observations made by several authors like Bailey (1979) in South Africa, Croft and Berding
284 (2000) in Australia, Sundar et al (2012) in India and Zhao et al (2015) in Florida (USA).
285 Increase in infection of susceptible sugarcane varieties with age is probably unknown. One ^{do more}
286 hypothesis could be the result of high competition of shoots at tillering stage for soil water ^{lit. search.}
287 and nutrients in ratoon cane with high mortality rate of tillers. In that physiological process,
288 some tillers in excess would become vulnerable to diseases in the case of susceptible clones
289 or varieties. Another hypothesis could be the result of increasing pressure of infestation from
290 contaminated soil by the crop itself with age.

291 5. Conclusion

292 It came out from the study that most relevant diseases determining the diversity of
293 susceptible sugarcane genotypes were, in descending order, pokkah boeng, smut and leaf
294 scald. Dendrogram resulted from cluster analysis showed that infected genotypes were
295 split into 6 groups. Cluster G5 was the most prolific of infected genotypes with 286
296 clones (33 %) split into 36 families over 39 (92 %). It was followed by clusters G6 and
297 G1 with 125 and 93 infected genotypes split into 29 and 28 families, respectively.
298 Clusters G2, G3 and G4 were the less prolific ones, with 42, 52 and 56 infected genotypes
299 split into 14, 23 and 21 families, respectively. Clusters G1 and G2 were much more
300 associated with genotypes susceptible to smut and pokkah boeng but also with genotypes
301 moderately susceptible to pokkah boeng. Clusters G3 and G4 were rather associated with
302 genotypes susceptible or highly susceptible to leaf scald. In contrast, clusters G0, G5 and
303 G6 were related to disease-free, resistant or moderately resistant genotypes and which
304 crosses or families would therefore be recommended for Ferké agro-ecology.

305 References

- 306 Bailey RA, 1979. Possibilities for control of sugarcane smut (*Ustilago scitaminea*) with
307 fungicides. In: Proceed. South Afr. Sugarc. Technol. Assoc. (June 1979): 137-142.
- 308 Béhou YYM, Péné CB, Zézé A, 2018. Genetic Diversity of First Sugarcane Varieties of
309 Reunion-Ivorian Origin Preselected in Ferké, Ivory Coast. *In press (IABS)*.

Please conclude on dis severity on plant cane
vs ratoon too. |