



DNA PROFILING OF PARRY CULTIVARS USING SUGARCANE SPECIFIC STMS PRIMERS

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Objectives



- To identify sugarcane germplasm based on molecular markers
- To construct molecular fingerprints that will support the protection of plant breeder's rights and identification of genotypes.

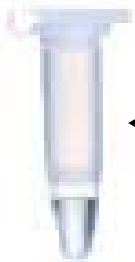


Methodology

Sample collection



DNA extraction



DNA Quantification



PCR Amplification



Polyacrylamide gel electrophoresis

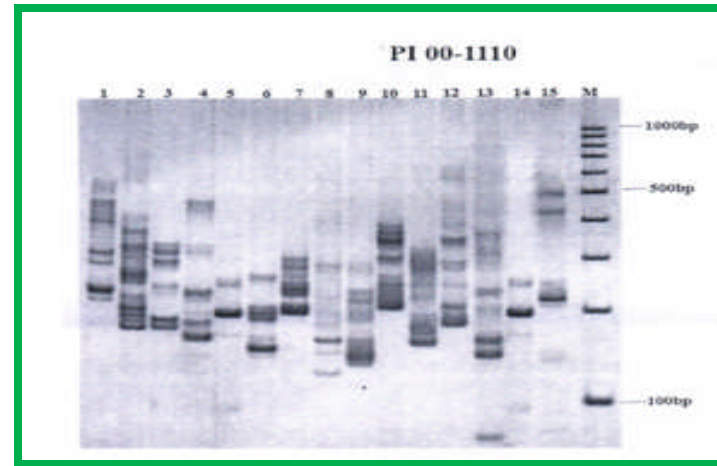
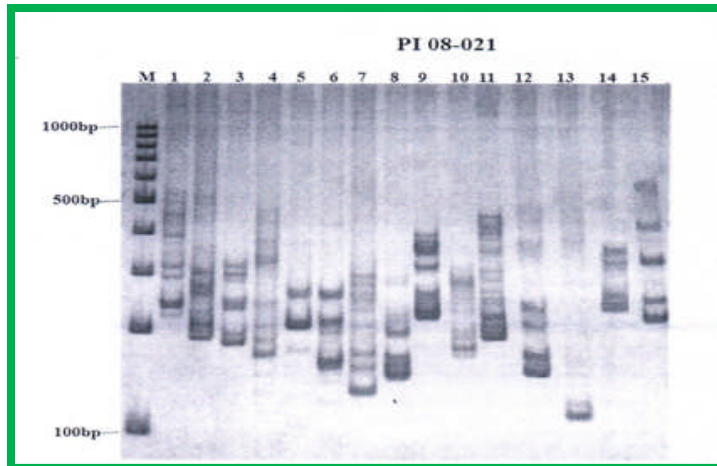
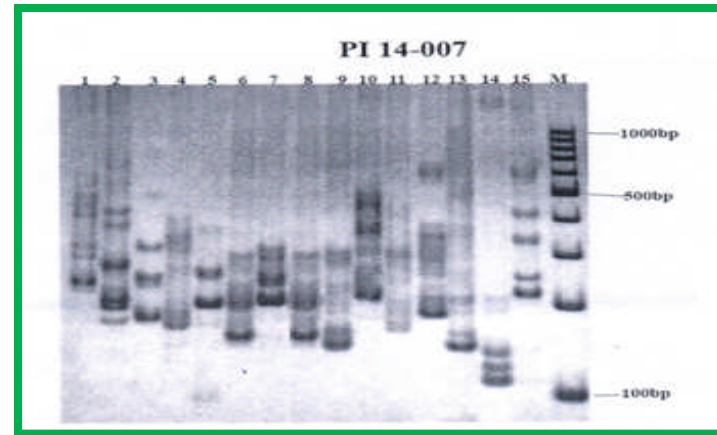
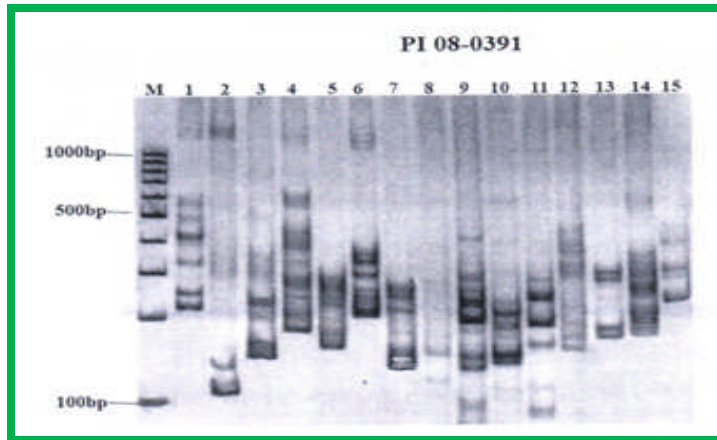


Staining the gel

STMS Primers

S.No	Primer No	Primer sequence	
		Reverse (R)	Forward (F)
1	NKS 1	F: tggcatgtgcattagccaat	R: ccccaactgggacttttaca
2	NKS 2	F: gctgtcccgttccaagttac	R: gcgaccggattatgatgatt
3	NKS 3	F: cgtgttcctcttcaacaacg	R: tgcttcgctatatatgggttca
4	NKS 6	F: tccaaattgcctgtgtgtttc	R: cttacacatgcacaggcaca
5	NKS 8	F: gtgacagcggcttgttcag	R: gaatgcgcacagccattcag
6	NKS 9	F: cttcagtggccatcttgc	R: gaatgcgcagggataggataggata
7	NKS 11	F: caccactcacatccacttgc	R: tatggagagatgctgctgct
8	NKS 17	F: gctcgccatgaatagaaagg	R: accgaggtaggaggaggagtgt
9	NKS 24	F: tatatggcgaggacagatgc	R: gggttcagattagagcaatcg
10	NKS 31	F: aaccaccactccatcgtctc	R: caccgagtcccattgttct
11	NKS 34	F: cgtcttgtggattggattgg	R: tggattgctcaggtgtttca
12	NKS 38	F: tgaactcggcaacagtttt	R: cccaccaagtcggttctgaat
13	NKS 48	F: ggaagcaagcaagaagaacc	R: tctctgcagtgtgtgtctg
14	NKS 57	F: cgagcctccctccatgatt	R: accaccaccaacctcatctc
15	NKS 69	F: atgggagtgggactgaagag	R: aaattaaaccccggagcag

Molecular profiling of clones using NKS primers



M- 100bp LADDER

1-NKS 1

NKS 24

2-NKS 2

3-NKS 3

4-NKS 6

6-NKS 9

7-NKS 31

8-NKS 34

9-NKS 11

11-

12-NKS 38

13-NKS 48

14-



Conclusion



- It is estimated that using more primers will bring out better characterization of sugarcane clones
- Though we have a set of morphological descriptors for all the nine sugarcane genotypes, these molecular profiles give clear identity for parry cultivars
- Combination of all these methods will support for selecting parents for our crossing programme





Acknowledgement



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Thank you

