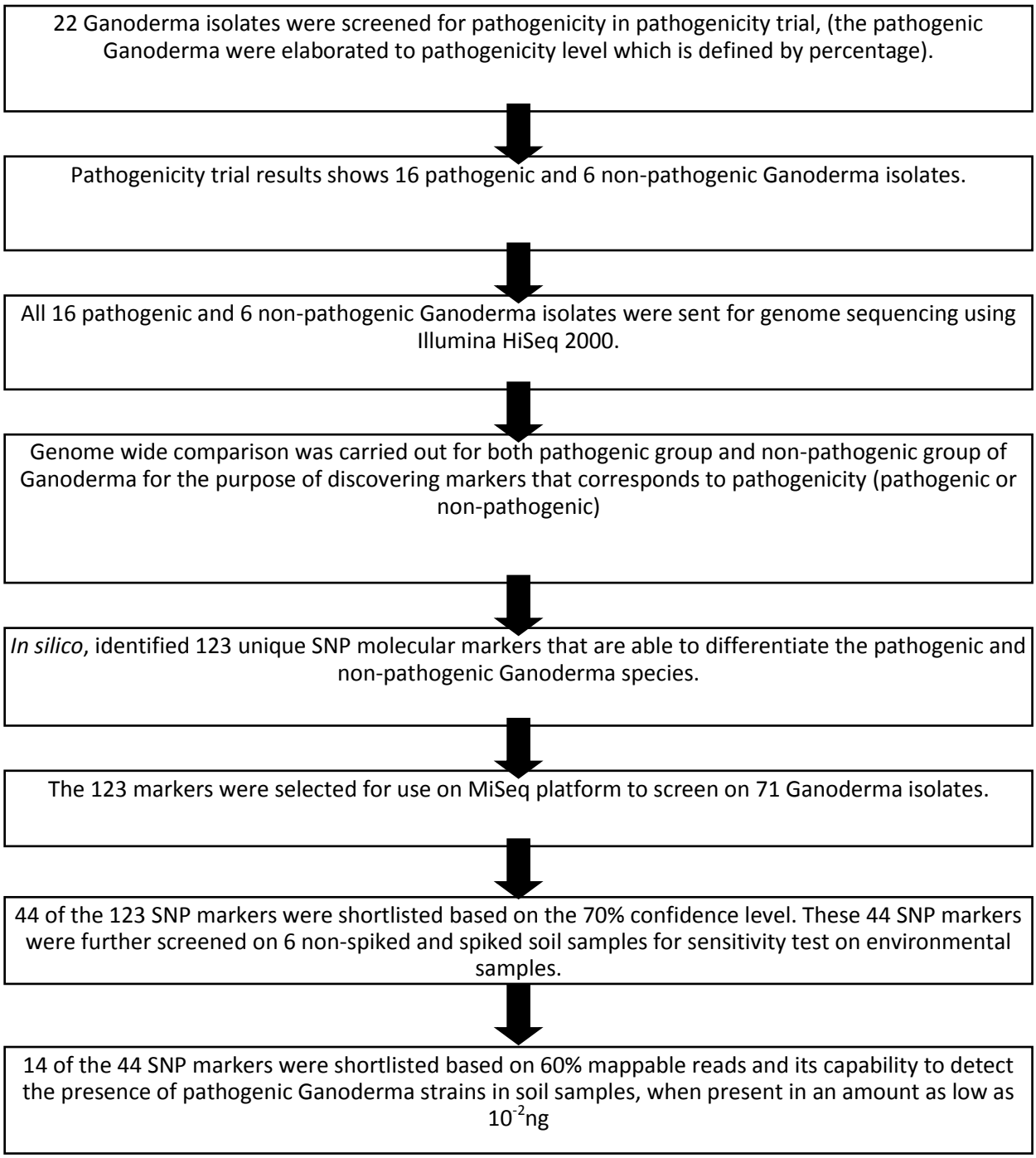
FIG. 1

FIG. 2


22 Ganoderma isolates were screened for pathogenicity in pathogenicity trial, (the pathogenic Ganoderma were elaborated to pathogenicity level which is defined by percentage).
Pathogenicity trial results shows 16 pathogenic and 6 non-pathogenic Ganoderma isolates.
All 16 pathogenic and 6 non-pathogenic Ganoderma isolates were sent for genome sequencing using Illumina HiSeq 2000.
Genome wide comparison was carried out for both pathogenic group and non-pathogenic group of Ganoderma for the purpose of discovering markers that corresponds to pathogenicity (pathogenic or non-pathogenic)
In silico, identified 123 unique SNP molecular markers that are able to differentiate the pathogenic and non-pathogenic Ganoderma species.
The 123 markers were selected for use on MiSeq platform to screen on 71 Ganoderma isolates.
44 of the 123 SNP markers were shortlisted based on the 70% confidence level. These 44 SNP markers were further screened on 6 non-spiked and spiked soil samples for sensitivity test on environmental samples.
14 of the 44 SNP markers were shortlisted based on 60% mappable reads and its capability to detect the presence of pathogenic Ganoderma strains in soil samples, when present in an amount as low as 10^{-2}ng