

Inter Simple Sequence Repeats (ISSR) for detection of molecular markers in Black Pepper (*Piper nigrum* L.)

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In order to determine the effectiveness of Inter Simple Sequence Repeats (ISSR) as molecular markers on black pepper (*Piper nigrum* L.) a series of experiments was conducted. In this study, CTAB method was used to isolate total DNA extracts of black pepper leaves. PCR amplifications were carried out using 21 ISSR primers (GA8 YA, GA8YC, ISSR1, GA9YA, ISSR2, GA9C, ISSR3, CA10GL, GA9Y, GA8AY, AC8YA, CT8RC, GT8C, AC8YA, AG8YC, CA10G, GA8YG, TC8A, TC8RT) and they were used to detect the molecular markers of two introduced varieties (Panniyur-1 and Kuching) and five local selections (KW27, GK 49, KW33, TG7, IW5) of Black Pepper. Of the 21 primers, six primers (GA8AY, GA8C, GA8YG, GA8YA, GA9C and ISSR-I) that produced prominent polymorphic bands were used to detect the genetic distance of the black pepper varieties used in this investigation. These six primers collectively produced 76 polymorphic bands. A dendogramme was constructed for the primer GA 8 C at first and a combined dendogramme was constructed using all 61 polymorphic bands from the other five primers at the end. ISSR markers were able to detect the geographical variations of the black pepper population used.