Chawewan Vutiyano 2009: Identification of Wild Species Carrying Aromatic Allele in Rice (*Oryza* spp.). Doctor of Philosophy (Tropical Agriculture), Major Field: Tropical Agriculture, Interdisciplinary Graduate Program. Thesis Advisor: Associate Professor Apichart Vanavichit, Ph.D. 138 pages.

Thailand is riched in aromatic rice germplasm which is widely diversified as local aromatic landraces. The successful identification of aromatic gene in rice open up a new frontier towards the understanding of the origin of aromatic rice. In order to trace the aromatic gene into the wild species, all wild rice species were screened for the 8 bp deletion, the functional part of the gene.

Two hundred and forty-four accessions of wild rice species including *O. nivara and O. rufipogon* collected from different geographical areas in Thailand. All morphological characteristic of wild rice were observed at vegetation, reproduction and harvested stage. All 244 accessions were selected and used for genotyping with Aromarker. The presence of aromatic allele were found in six accessions of two wild rice species, *O. rufipogon* and *O. nivara* collected from Phitsanulok, Sukhothai, Chai Nat, Nakhon Ratchasima, Trat and Chantaburi. Twenty nine landrace varieties cultivars collected from the same provinces were also found to carry the same aroma allele.

All 18 wild rice species were screened with Aromarker. Eight species of wild rice consisted of *O. australiansis O. brachyantha O.latifolia O.meridionalis O.nivara O.officinalis O.punctata* and *O.rufipogon* carried aroma allele. All of evidences indicate that aroma gene present in the cultivated rice today may originally come from wild rice ancestor.

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