

# PalmGenes

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The past 10 years have seen an explosion in the amount of sequence information available in the public databases. This growth has had a profound effect on the way scientists direct their research. Similarly, the next few years will also see huge increases in the amount of information on genes and proteins expressed in organisms. This immense amount of knowledge generated has allowed the development of genomics and bioinformatics as key areas of research. While plant DNA contents may vary, the gene sequences of closely related genomes are remarkably similar. Therefore, the knowledge of genes expressed in oil palm could drive research in related fields to greater heights, and *vice versa*.

## WHAT IS *PalmGenes*?

*PalmGenes* is the first oil palm DNA database to be established on the Internet. It is designed to serve as a knowledge bank and facilitate the querying of genes expressed in oil palm. The database provides sequence information, functional classifications, clone information, references, research findings and other information related to the gene clone of interest. *PalmGenes* is a useful tool for molecular biologists working with plants to gather information on oil palm genes. The database is accessible to all researchers in the public and private sector. *PalmGenes* (Figure 1) is accessible at <http://palmoilis.mpo.gov.my/palmgenes.html>.

## ESTABLISHMENT OF *PalmGenes*

### Sources of Sequenced Genes

The majority of the oil palm genes in *PalmGenes* were isolated from cDNA libraries constructed at MPOB. The cDNA libraries used include those constructed from inflorescence, mesocarp, kernel, root, shoot, callus, embryoid, suspension cultures and young



Figure 1. PalmGenes webpage.

etiolated seedlings. Clones isolated from these libraries were sequenced and appropriately edited. The edited sequences obtained were then used for gene similarity searches in publicly available DNA databases.

### Search Function

Search in *PalmGenes* can be performed by gene name, or using appropriate phrases associated with the gene or its function. All searches will return a list of genes which in turn will be linked to its full description. Boolean searches are also available in *PalmGenes*. If searching for a gene name, the \$ symbol can be used as a wildcard. Help tools to assist in searches are available in *PalmGenes*.

### Information Available

Highlights of information available (Figure 2) on a particular gene clone are as follows:

- sequence data of the gene clone;
- similarity to known genes; and
- putative functional categorization.



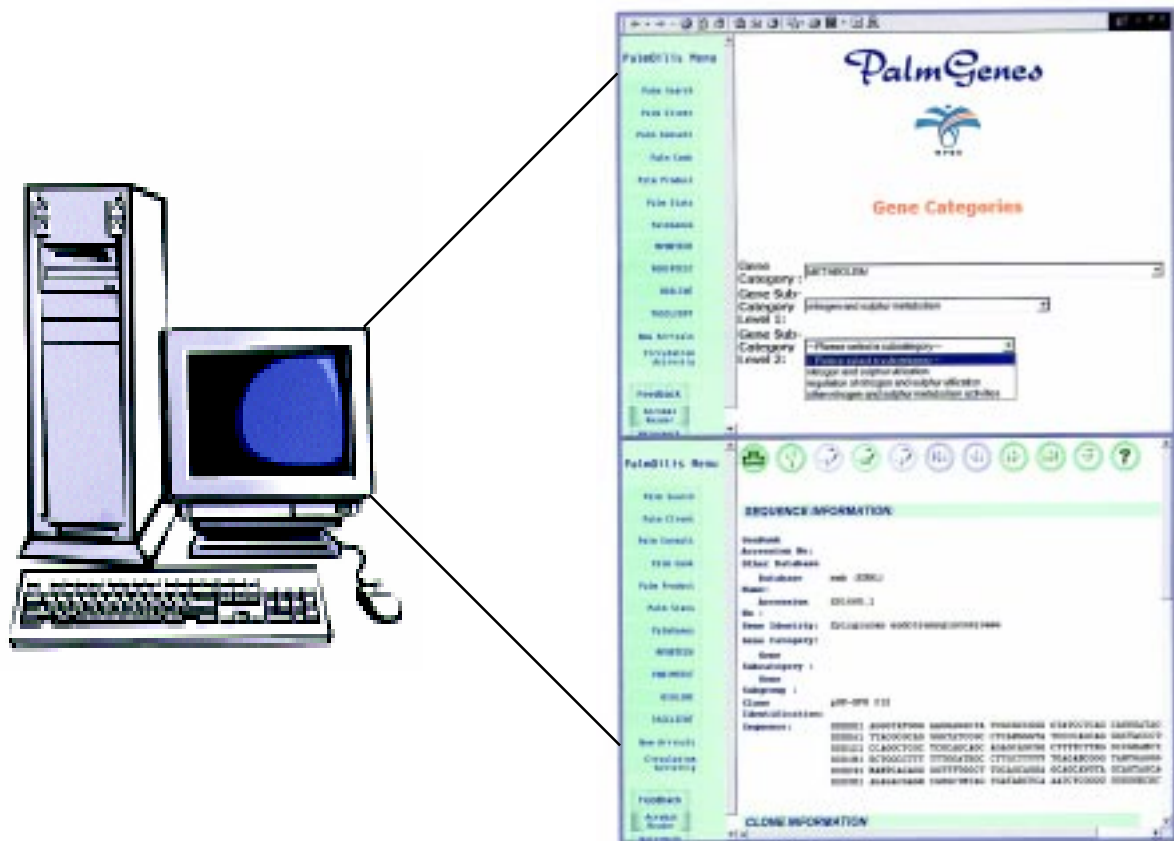


Figure 2. Information displayed in PalmGenes.

### BENEFITS OF *PalmGenes*

- Provides an avenue for disseminating information on oil palm gene clones available at MPOB;
- Expedites research in relevant areas requiring information on specific gene clones; and
- Promotes oil palm research activities.

### ACCESSIBILITY

*PalmGenes* is accessible through the MPOB website (<http://mpob.gov.my>) and *PalmOilis* (<http://palmoilis.mpob.gov.my>)

For more information kindly contact:

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