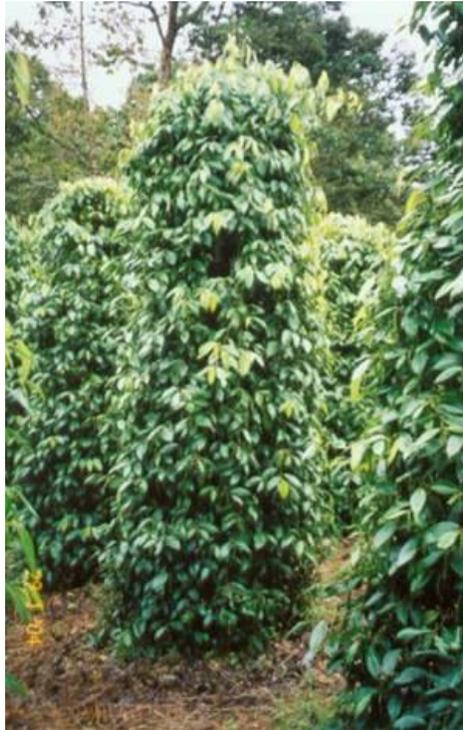


Recommended Pepper Varieties in Sarawak
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In this article, we look at the currently recommended pepper varieties for planting by farmers in Sarawak, viz. *Kuching*, *Semongok emas* and *Semongok aman*.

Kuching

This is the most widely grown cultivar in Sarawak, being the traditional variety. It has vigorous growth and is high yielding. However, it is susceptible to many diseases, particularly *Phytophthora* foot rot, black berry, *Fusarium* wilt and wrinkle leaf.



Kuching vines



Kuching fruit spikes

Semongok emas

This variety was derived from breeding work at the Agriculture Research Centre, Semongok near Kuching and released in 1991. It is a back-cross hybrid obtained by selection of progenies produced by crossing *Balancotta* (an Indian variety) with that of *Kuching* and back-crossing a selected hybrid produced with *Kuching*. During the early years of crop production, there are no marked differences in terms of green berry yield between *Semongok emas* and *Kuching*, but the former is superior from the third year onwards. The yield of *Semongok emas* is quite stable whereas that of *Kuching* tends to fluctuate from year to year.



Semongok emas vine

The canopy of *Semongok emas* is not as dense as that of *Kuching*. This facilitates the picking of fruit spikes. Ripening of berries is also more even and this allows harvesting to be reduced to three rounds instead of five or six for *Kuching*. *Semongok emas* is more resistant to black berry disease. It is also tolerant to pepper weevil. With respect to wrinkled leaf disease and root-knot nematodes, this variety has no advantages over *Kuching*.



Semongok emas fruit spikes

Semongok aman

This variety was released on 12 August 2006 during Farmers' Day celebrations in Sri Aman. It was derived from clonal selection from an introduced accession, PN 106. It has very good fruit set, bigger berries and longer fruit spikes than *Kuching*. *Semongok aman* also has the good characteristic of *Semongok emas* in that it is more uniform in ripening, allowing the crop to be harvested over a shorter span of time. With respect to diseases and pests, the former is more tolerant to black berry and *Phytophthora* foot rot diseases as compared to *Kuching*. It is also tolerant to pepper weevil/stem borer. In areas where black berry disease and pepper weevil are prevalent, *Semongok emas* and *Semongok aman* would outyield *Kuching*.

In terms of chemical quality, *Semongok aman* has higher contents of piperine, oleoresin, volatile and non-volatile oils than *Kuching* and *Semongok emas*. Green pepper sauce produced from *Semongok aman* berries is more pungent than that produced from *Kuching* berries. The pericarp of *Semongok aman* is thicker than that of *Kuching* and so the conversion rate to white pepper is lower (22% as compared to 24% for *Kuching*), but the same as that of *Semongok emas*. For creamy white pepper production, *Kuching* is still the preferred variety. *Semongok aman* is highly suitable for the production of premium black pepper and green pepper products.



Semongok aman fruit spikes

Characteristics of the recommended pepper varieties

Characteristics	Variety		
	<i>Kuching</i>	<i>Semongok emas</i>	<i>Semongok aman</i>
Green berry yield (kg/vine/year)	6-8	6-8	6-8
% Driage (conversion ratio) to black pepper	33	31	33
% Driage (conversion ratio) to white pepper	24	22	22
Weight of 100 mature green berries (g)	13.8	15.6	15.7
Length of fruit spike (cm)	9.7	9.9	10.1
Chemical quality			
% piperine	3.5	3.4	5.4
% oleoresin	11.0	11.0	15.5
% volatile oil	2.8	3.0	3.8
% non-volatile oil	7.9	8.0	11.5
Harvesting rounds per season	4-6	2-3 (more uniform ripening)	2-3 (more uniform ripening)
Susceptibility to: <i>Phytophthora</i> foot rot disease	Highly Susceptible	Susceptible	Less Susceptible
Susceptibility to: Black berry disease	Highly Susceptible	Tolerant	Tolerant
Susceptibility to: Pepper weevil	Susceptible	Less Susceptible	Less Susceptible