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TEACHING	Food Crops Science	Metabolic Physiology
	Tropical Agriculture	Crop Production Science
	Plant Resources	Advanced Crop Physiology (MC)
	Advanced Crop Production Science (MC)	



Professor Hiroyasu MICHİYAMA
Associate Professor Tatsuya HIRANO

1. Establishment of effective cultivation technique for crop production

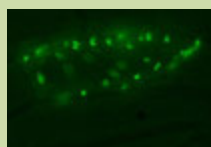
Biochemical analysis of carbohydrate metabolism in rice



Rice plants temporarily accumulate starch in leaf sheaths and culms before heading.

Sucrose derived from degradation of starch is translocated into the filling grains.

Analysis of genes encoding starch-metabolizing enzymes in leaf sheaths and culms.



Subcellular localization of beta-amylase protein OsBAM2. OsBAM2-GFP fusion protein is localized to the plastids.



Kiku-type buckwheat

Investigation of growth and development in buckwheat varieties including new plant types under diverse environment around the world

- 1) The results help develop the buckwheat cultivation method in winter in the warmer regions of Japan such as Okinawa.
- 2) Kiku-type buckwheat seems to be environmentally friendly through saving herbicide because of its growth characteristics which covers the ground.

2. Improvement of crop quality: analysis of the effects of environment on plant growth and accumulation of active ingredients

Growth, development and yield components in Castor

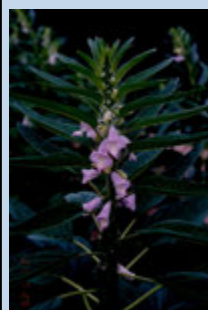


Reinoleic acid, a special fatty acid, is produced only by castor, and has many special uses, **lubricant, paint, plastics, poly-urethane and making cosmetics**, which are important for environmentally friendly life.

We help the castor cultivation in Indonesia and the other countries using our results.

Big inflorescence is not good for oil quality, because many immature fruits are mixed.

Sesame is good for human health



Sesame flowers

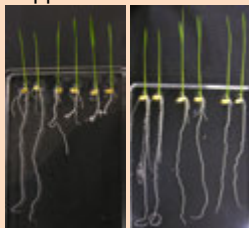
We are studying about the effects of environmental conditions on the growth of sesame plants and **accumulation of antioxidants, sesamin and sesamol**, in seeds. Our research contributes to sesame cultivation in Burkina Faso.



3. Analysis of crop growth profile for sustainable utilization of cultivated land

Study in response to nitrogen nutrients in rice

Nipponbare Koshihikari



0.1 2.0 5.0 0.1 2.0 5.0
NH₄⁺ (mM) NH₄⁺

Analysis of the factors involved in inhibition of root growth under high ammonium conditions



Varietal differences in response to exogenous ammonium

Research on floating rice in Southeast Asia



Floating rice field in Prachinburi rice research center, Thailand

Internodes of floating rice plants rapidly elongate under flooding.

