

# Experimental Farm Laboratory of Plant and Animal Science



## STAFF

Assoc. Prof. Yoshinori NAKAO (Pomology)  
 Assoc. Prof. Takashi MORITA (Vegetable Science)  
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 Assoc. Prof. Yasumasa MORITA (Ornamental Plant Science)



Assoc. Prof.  
Yoshinori NAKAO



Assoc. Prof.  
Takashi MORITA

## TEACHING

Agricultural Practice I, II, III, IV (for Department of Agrobiological Resources)  
 Agricultural Practice (for Department of Applied Biological Chemistry)  
 Agricultural Practice (for Department of Environmental Bioscience)  
 Plant and Animal Science  
 Animal Food Resources  
 Fruit Production and Processing Science  
 Advanced Plant and Animal Production Science  
 Advanced Plant and Animal Science



Assoc. Prof.  
Yoshiaki HAYASHI



Assoc. Prof.  
Yasumasa MORITA

## Pomology

- Plant metabolic response to environmental changes on fruit coloration
- Control of fruit tree growth and fruit ripening with growth regulators
- Accumulation control of functional components in fruit

## Vegetable Science

- Effect of vibration treatment on growth of vegetables
- Studies on interactions between plants
- Effect of soil hydrophilic agents on growth of vegetables

## Animal Science

- Studies on feeding non-conventional resources for improving livestock productions
- Contribution to goat productions in Japan
- Effect of carotenoid supplementary feeding on livestock products

## Ornamental Plant Science

- Studies on flower color and patterning of ornamental plants
- Genetic studies on flower color mutations.



Control of grape berries coloration by LED (light emitting diode) light irradiation



Effect of vibration treatment on germination



Feeding trials of Japanese Saanen dairy goats



Flower color variations of *Petunia hybrida* happened by bud mutation(s)

## Recent publications/

- Hayashi, Y., Y. Nakanishi (2022) Impacts of the Covid-19 pandemic on goat production in Japan. *Goats of the world and world of goats- Emerging from the shadow of COVID-19*. E-Book, International Goat Association 111-115.
- Hayashi Y., E. Takeya, Y. Ikeno, H. Kumagai, E. M. Cruz, N. P. Garcia, D. L. Aquino, T. Fujihara (2021) Periodic changes in chemical composition and in vitro digestibility of locally available Gramineae feed resources in the Philippines. *Tropical Animal Health and Production* 53: 123.
- Saenphoom P., Y. Hayashi, S. Chintong (2021) Effect of pectic-oligosaccharides from Japanese orange peels as prebiotic in animal feed. *Khon Kaen Agriculture Journal Suppl.* 1: 394-399.
- Honda M., Y. Kawashima, K. Hirasawa, T. Uemura, J. Sun, Y. Hayashi (2021) Astaxanthin Z-isomer-rich diets enhance egg yolk pigmentation in laying hens compared to that in all-E-isomer-rich diets. *Animal Science Journal* 92: e13512.
- Suzuki N., F. Y. Purba, Y. Hayashi, T. Nii, Y. Yoshimura, N. Isobe (2020) Seasonal variations in the concentration of antimicrobial components in milk of dairy cows. *Animal Science Journal* 91: e13427.
- Shaohua C., H. Murano, T. Hirano, Y. Hayashi, H. Tamura (2020) Establishment of a novel technology permitting self-sufficient, renewable energy from rice straw in paddy fields. *Journal of Cleaner Production* 272: 122721.
- Waki, T., et al. (2020) A conserved strategy of chalcone isomerase-like protein to rectify promiscuous chalcone synthase specificity. *Nature Communications* 11: 870.
- Honda, M., Y. Kawashima, K. Hirasawa, T. Uemura, S. Jinkun, Y. Hayashi (2020) Possibility of using astaxanthin-rich dried cell powder from *Paracoccus carotinifaciens* to improve egg yolk pigmentation of laying hens. *Symmetry* 12: 923.
- Ban, Y., Y. Morita, M. Ogawa, K. Higashi, T. Nakatsuka, M. Nishihara, M. Nakayama (2019) Inhibition of post-transcriptional gene silencing of *chalcone synthase* in petunia picotee petals by fluacyprym. *Journal of Experimental Botany* 70, 5: 1513-1523.
- Honda, M. H. Kageyama, T. Hibino, R. Waditee-Sirisattha, T. Fukaya, Y. Hayashi, M. Goto (2019) Chemical-free approach for Z-isomerization of lycopene in tomato powder: Hot air and superheated steam heating above the melting point of lycopene. *European Journal of Lipid Science and Technology* 122: 1900327.
- Honda, M., H. Ishikawa, Y. Hayashi (2019) Alterations in lycopene concentration and Z-isomer content in egg yolk of hens fed all-E-isomer-rich and Z-isomer-rich lycopene. *Animal Science Journal* 90: 1261-1269.
- Shah, M. K., Y. Tabata, H. Kumagai, Y. Hayashi (2018) Study on nutrient supply in relation to feeding system of buffalo in Chitwan, Nepal. *Journal of Agriculture and Natural Resources* 1: 133-141.
- Morita Y. and A. Hoshino (2018) Recent advances in flower color variation and patterning of Japanese morning glory and petunia. *Breeding Science* 68: 128-138.