



-Innovation in Research based on Environmental  
Insight and Entrepreneurship-

# BOOK OF ABSTRACTS

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**Keynote Speaker:**

Prof. Dr. Ocky Karna Radjasa, M.Sc.

(Director of Research and Community Services Kemenristekdikti)

**Invited Speaker:**

- 1 Prof. Bambang Sumintono, Ph.D. (Lecturer in Malaya University, Malaysia);
- 2 Prof. Dr. Julio Cabral Teehankee (Dean of College of Liberal Arts, De La Salle University, Philippines);
- 3 Athiqah Nur Alami, S.IP, Ph.D. (National University of Singapore, Singapore);
- 4 Prof. Dr. Ismanto Hadi Santoso, MS. (Lecturer in Universitas Wijaya Kusuma Surabaya, Indonesia);
- 5 Evangelos Angelou Afendras, Ph.D (A former lecturer of Indian Institute of Management)
- 6 Dr. Pranav Kumar (Consultant, Edu Train International Bahrain)
- 7 Dr. Ir. Hary Sastrya Wanto, MS. (Lecturer in Universitas Wijaya Kusuma Surabaya, Indonesia);
- 8 Ir. Endang Noerhartati, MP. (Lecturer in Universitas Wijaya Kusuma Surabaya, Indonesia).

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# Local Mineral Formulas for Supplementation of Kacang Goat's Feed Based on Wild Forages, Rice Bran and Sago Stalk

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**Abstract.** Poor growth of grazing kacang goat in the Pariaman region of West Sumatra are related to lack of forage feed due to various limiting factors. Additional feeding of rice bran and sago stalk might be able to fulfill their energy and protein requirement, but the animals are presumably deficient in minerals. The study was aimed to design mineral supplement for better nutrition of kacang goat fed based on wild forages, rice bran and sago stalk. Crude nutrient and mineral composition of wild plants and agroindustry byproducts which are normally consumed or fed to kacang goat were analyzed for dry matter (DM), crude protein (CP), crude fiber (CF), crude ash and minerals (Ca, P, Mg, Na, Mn, Cu, Zn). Samples of plants were collected from three areas where kacang goat are normally grazed, i.e. coconut plantations, banana plantations and idle lands. Mineral feed was then formulated by using locally available materials: Bukit Kamang's stone powder, roasted fresh water mussel shell and limestone. The local mineral was prepared in two different forms: loose and block. The products were fed to 12 young kacang goat males for 14 weeks in three treatments: P0: no supplementation (control); P1: supplemented with loose local mineral; and P2: supplemented with block local mineral. Each treatment consisted of 4 goats as replication. Parameters measured included: body weight gain, feed intake, feed conversion ratio (FCR), blood minerals (Ca, P, Mg), blood hematology (hemoglobin [Hb], mean corpuscular Hb concentration [MCHC], total red blood cell [RBC], white blood cell [WBC], hematocrit concentration [HCT]) and total protein. Results showed that there were seven kinds of wild forages consumed by goat during grazing. The average crude nutrient and mineral content of the forages were as follows: DM: 17.2%, CP: 16.5%, CF: 18.20%; Ca and P: 4.5 dan 2.1g/kg DM; Mn, Cu and Zn: 86.3, 30.5 dan 48.0 mg/kg DM, respectively. The mineral concentration, total protein and hematological values of goat blood ranged in normal values. The average daily body weight gain was 35.4, 31.7 and 41.2 g/head, and FCR was 22.8, 26.0 and 21.3 for P0, P1 and P2, respectively. It was concluded that mineral supplementation in block lick form gave positive effect on growth performance and feed utilization efficiency. Local mineral offered in block lick had better effect than that in the loose form.

**Key words:** kacang goat, local mineral, wild forages, blood hematology, mineral blood statues