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International Conference on
**Advancement in Agriculture,
Horticulture and Animal Husbandry**
(AAHAH-2024)
May 04-05, 2024

Souvenir

International Research
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International Conference on Advancement in Agriculture, Horticulture and Animal Husbandry (AAHAH-2024)

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Email: irdcp.publication@gmail.com / conference.irdcp@gmail.com

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About Conference
International Conference on
Advancement in Agriculture, Horticulture and Animal
Husbandry (AAHAH-2024)

During the worldwide lockdown due to COVID 19 pandemic, a lot of important activities have come to a halt. However, when we look at the brighter side, all of us have more time for adding to our knowledge and insights.

With this aim, to keep contributing to learning and motivation international research and development Center for publication is going to organize a two-day International Conference with the title “**Advancement in Agriculture, Horticulture and Animal Husbandry (AAHAH-2024)**” on **May 04-05, 2024** through hybrid mode.

We hope, this online mode of the conference in COVID-19 pandemic will be an appreciable step in promoting the research activities and new information between researchers, developers, students, academicians and practitioners working in and around the world by keeping the social distance in view to stop the spread of COVID-19 disease. This conference aims is to present the current researches being carried out in the field of social science and education development around the globe.

Prospective authors from academia as well as industry are invited to submit their abstracts that illustrate original/unpublished works and industrial applications describing advances and significant innovations in the field.

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Message

I am extremely pleased to share that International Research and Development Center for Publication (IRDCP) is organizing a two days “**Advancement in Agriculture, Horticulture and Animal Husbandry (AAHAH-2024)**” on **May 04-05, 2024** through hybrid mode.

I am sure the state of art lectures from the invited experts and the research findings of researchers, academicians, utility engineers will enrich the knowledge of all the participants. It will provide an excellent opportunity for students to learn new ideas.

I offer my best wishes to the whole team of the organizing committee, the participants, and volunteers for the grand success of the conference.

Dr. Kaashifa Khan
Convenor AAHAH-2024

Message

I am happy to know that International Research and Development Center for Publication (IRDCP) is organizing a two days “**Advancement in Agriculture, Horticulture and Animal Husbandry (AAHAH-2024)**” on **May 04-05, 2024** through hybrid mode. I am sure that, this conference would provide an ideal platform for the academicians, scholars and experts to present and exchange their research findings and Ideas.

I wish the conference a great success.

Dr. Rahkush Jain

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Abstract of AAHAH- 2024

Effects of Nitrogen Fertilizer and Seed Quantity on the Growth of Early Maturing Rice (*Oryza sativa* L.) Cultivated by Sowing Method

Phal Kimly^{1*}, Cheang Hong², Chanthy Hout², Mardy Sery³

¹Faculty of Agriculture, Svay Rieng University, Cambodia

²Faculty of Agriculture, Royal University of Agriculture, Cambodia

*Corresponding author: Phal Kimly; *Email: opaht.kimly@gmail.com

Abstract— Every continent in the world except Antarctica grows rice (*Oryza sativa* L.). An essential food crop, rice feeds about half of the world's population, estimated at 8 billion people, and provides 21% of the world's total caloric intake, reaching up to 76% in Southeast Asia. Rice is a staple food, playing a vital role in sustaining the livelihoods of nearly half the world's population, concentrated primarily in Asia. Rice serves as a source of energy, contributing 60–70% of the required daily calories. In Cambodia, rice holds immense significance, deeply intertwined with the nation's economy, culture, traditions, and customs for centuries. The field experiment was conducted in Thmor Sor village, Svay Chrum commune, Svay Chrum district, Svay Rieng province. The experiment focused on two factors: 1) Factor 1: Quantity of rice seeds (V), and Factor 2) Nitrogen fertilizer (F). The rice was grown using a sowing method with a full plot design by SPD (Split-Plot Design). Three replications were performed, resulting in 36 plots, each measuring plot size is 5m x 5m (25 m²). As the results, the *analysis of variance (ANOVA)* revealed a significant difference ($p < 0.01$) in rice yield based on nitrogen fertilizer (N) level. N90 treatment yielded the highest at 4.57 ± 0.52 T/ha, while N110 yielded a lower 3.75 ± 0.03 T/ha. The quantity of rice seeds (V) did not show a significant difference ($p > 0.05$), with V1 (highest yield) at 4.57 ± 0.52 T/ha and V (lowest yield) at 3.75 ± 0.03 T/ha (note: replace V with the actual suffix for the lowest yield). There was also no significant interaction observed between N and V ($p > 0.05$). **In conclusion, the study demonstrates that nitrogen fertilizer application at all four levels positively impacts Sen Pidor rice production. Furthermore, nitrogen application at 90 kg/ha promotes the tallest plant growth and yields the highest rice harvest. Therefore, this research recommends applying nitrogen fertilizer at 90 kg/ha for optimal rice yields.**

Keywords – Nitrogen fertilizer, seed quality, rice yield

Cattle Productivity of Smallholder Farmers in Svay Rieng and Prey Veng Province

Saroeun KONG¹, Sokun KHOEUN¹, Bornmeng SOEUR¹, Sotrachna CHAN¹, Bunyeth CHAN¹,
Kuch THENG², Sath KEO² and Sungchhang KANG³

¹Faculty of Agriculture, Svay Rieng University, Svay Rieng, Cambodia

²Faculty of Veterinary Medicine, Royal University of Agriculture, Phnom Penh, Cambodia

³National Institute of Education, Phnom Penh, Cambodia

*Corresponding Author Email: kong.saroeun@mail.sru.edu.kh

Abstract— Research to identify smallholder cattle production system contributes as a key to show the recent increased or decreased productivity status in any region. The objectives of research were to find out cattle breeding management of smallholders, to investigate feed resource availability and feeding systems in the cropping zone and to analyze challenge and threat to cattle production of smallholders. 199 farmers were selected for interview. The results revealed that farmers did not select specific bull or concern on the bull history as they grazed their animals at rice field and let them mate each other. To feed the cattle, most farmers used natural grassland and rice straw as basal diets. Most farmers experienced problems and constraints that were threats to their cattle production progress. Disease Infection was the main challenge for the farmers. Foot and Mouth Disease and Lumpy Skin Disease were the most common diseases that the farmers have experienced and followed by diarrhea, Hemorrhagic Septicemia and blackleg. Besides, the farmers faced inadequate feed supply and confirmed that the service of animal health in their commune was not going well as it was difficult to communicate for treatment service. In selling, 30% of farmers complained that it was not easy to sell out their cattle as the selling price dropped down drastically. It can be concluded that cattle raising, breed selection and feed supplying practiced by smallholders were still in low performance as they did not follow technical standard.

Keywords— Cattle productivity, cattle feed, cattle disease

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Antibody Titer of Newcastle Disease in Vaccinated and Non-Vaccinated of Local Chicken of Cambodia

Sokha Thim^{1,3}, Kanan Dim¹, Solida Keo¹, Kroesna Kang¹, Sath Keo¹, Vutey Venn² and
Kouch Theng¹

¹Faculty of Veterinary Medicine, Royal University of Agriculture, Phnom Penh 12400, Cambodia

²General Directorate of Animal Health and Production, Phnom Penh 120603, Cambodia

³Graduate School, Royal University of Agriculture, Phnom Penh 12400, Cambodia

*Corresponding Author Email: tsokha@rua.edu.kh

Abstract— The experiment was conducted at Veterinary Research Station of Faculty of Veterinary Medicine, Royal University of Agriculture. The experimental period lasted 60 days, starting from October 1st to November 30th 2022. Completely Randomized Design (CRD) was used with 2 treatments/groups, vaccination group and non-vaccination group “control”, and 6 replications. The vaccination group were received two times of vaccination by dropping into the ocular at 7 days old and 21 days old. While, blood samples were collected 3 times to detect the antibody level of Newcastle Disease (ND) contained at 21 days old, 35 days old and 49 days old. The ELISA was performed to detect the antibody of those 2 groups. The result of finding showed that the S/P ratio of control at 21 days old, were very low, even in 3rd quartile, which was below the threshold. However, the vaccination group was relatively high, even in 1st quartile, which was higher than the threshold. At 35 days old, S/P ratio of control group was still very low, but a bit higher than at 21 days old. While, the vaccination group was still high, even in 1st quartile, and two-time was higher than at 21 days old, but there were increasing the number of samples developed less antibody than threshold, accounting for 12.22%. At 49 days old, the control group was still very low, even in 3rd quartile, but a bit higher than at 21 days old and 35 days old, and was close to the threshold. The vaccination group was still relatively high, even in 1st quartile but lower than three times comparing to 35 days old. However, in this age, the control group seemed to be increased the number of chickens to developed antibody, vice versa for vaccination group. The average S/P ratio were different significant ($p < 0.001$), where vaccination had higher S/P ratio than control. It was similar finding for log-titer, the vaccination had higher figure ($p < 0.001$). The risk of infection of ND was higher in control group, but it will reduce by increasing the age of chicken, while vaccination group was decreased by increasing age, especially at 49 days old and we need to consideration for another vaccination to get full protection

Keywords— Antibody, vaccination, control, ND, S/P ratio.

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Effect of Stabilizers and Storage Time on the Quality of Tomato Sauce

Sothakong Kouch¹, Rathna Hor¹, Sopheap Ek¹, Kouch Theng² and Chim Chay³

¹Faculty of Agro-industry, Royal University of Agriculture, Phnom Penh, Cambodia

²Faculty of Veterinary Medicine, Royal University of Agriculture, Phnom Penh, Cambodia

³Ministry of Agriculture Forestry and Fisheries, Phnom Penh, Cambodia

*Corresponding Author Email: sothakong.kouch01@gmail.com

Abstract—The experiment was conducted at laboratory of the faculty of Agro-industry, Royal University of Agriculture, locating in Phnom Penh city, commenced from August to October, 2023. The single factor CRD (Completely Randomized Design) was used with 6 treatments and 3 replications. While the 7 ingredients were used such as tomato, sugar, salt, onion, bell pepper, sodium benzoate and vinegar, with or without stabilizers. After processing, the sauce was kept in room temperature to observe the self-life and the variation of nutrients contain in 8 weeks. The chemical compositions in the sauce were analyzed to identify the variation during storing in the temperature room. Through the findings showed that the pH value, Total soluble solids and Color (L, A &B) of all treatments has decreased in 8th week comparing to starting point, while the Total acids increased. If comparing among the 6 treatments, after the products have produced (w0), all the chemical compositions in group T0 containing the lowest, exception of Fat and Color (L). When the self-life up to eight weeks, all the composition parameters were statistically different (except for Moisture, Ash, Dry Mass, and Fat). For identification the Bacteria presenting showed that there was no present in first day of self-life until the first week. The present of bacteria were detected from 2nd week to 8th week, excepted T0. The CFU of T0 had the lowest number of colonies, while T3 had the highest once. At the same time, we found that the number of colonies decreases with the age of storage (self-life), which means that at the beginning of growing in the second week, it had higher amount (from 2.10 to 2.69 of CFU as log); while this number decreased with the shelf life up to 8 weeks, which is between 0 to 2.35.

Keywords— Self-life, Chemical compositions, Bacteria, CFU

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