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Institute of Agriculture and Related Sciences

BOOK OF ABSTRACTS

A.Y. 2020-2021

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Institute of Agriculture and Related Sciences

The Book of Abstracts A.Y. 2020-2021 Institute of Agriculture and Related Science is an annual publication of Davao del Sur State College that showcases a selection of research studies conducted by students. This publication offers valuable insights into the wealth of knowledge and innovative ideas emerging from the academic work of both students and their mentors.

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MESSAGE FROM THE OFFICE OF THE PRESIDENT

The Davao del Sur State College (DSSC) is committed to delivering quality education and fostering impactful research that contributes to community development and improves quality of life. Our research initiatives create opportunities for growth, innovation, and progress.

I congratulate our students for their impactful research and our faculty members for their dedication to mentoring students to become future researchers of integrity and excellence. I also extend my gratitude to Dr. Cherry Ann P. Roxas, RDI Director, and Asst. Prof. Jayson R. Pucot, Head of the Research Publication Office, for their hard work in compiling and documenting our graduate students' thesis abstracts. May this Book of Abstracts inspire future researchers for years to come.

Congratulations to all involved in this achievement!

AUGIE E. FUENTES, Ph.D.
President

MESSAGE FROM THE OFFICE OF THE DIRECTOR FOR RESEARCH, DEVELOPMENT AND INNOVATION

Research is a cornerstone of academic excellence, driving students to engage with global challenges and contribute to the creation of new knowledge. It is with great pleasure that I present the Book of Abstracts, highlighting the outstanding theses of students from the Institute of Agriculture and Related Sciences (IARS).

I would like to express my sincere appreciation to our dedicated faculty and Dean, Dr. Juan P. Agudera Jr., for his leadership and support in guiding our students. To the graduates, congratulations on your achievements! May this research experience inspire you to continue exploring, learning, and contributing to the world of knowledge.

CHERRY ANN P. ROXAS, DBA
RDI Director

MESSAGE OF THE DEAN

As we face the pressing challenges of sustainable agriculture, food security, and environmental stewardship, the contributions reflected in these abstracts are a testament to the dedication and ingenuity of our academic community. Each project represents not only a step forward in scientific discovery but also a commitment to making a positive impact on both local and global scales.

I commend all our researchers for their hard work and encourage continued collaboration, exploration, and innovation in the pursuit of knowledge. I also extend my heartfelt gratitude to the institute research coordinator, Prof. Jovie Cañada, for her assistance in the compilation of these abstracts. Together, we can shape the future of agriculture and related sciences for the betterment of society and the planet.

JUAN P. AGUDERA JR., Ph.D.
Dean, IARS

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Bachelor of Science in Agroforestry

STATUS OF RIPARIAN ZONE IN BRGY. TRES DE MAYO, DIGOS CITY, DAVAO DEL SUR

Author: Henry James A. Fuentes Year:2021
Adviser: Ralf O. Melencion, RF

The study was conducted at the 3-kilometer riparian zone in Brgy. Tres de Mayo, Digos City, Davao Del Sur. It's to assess the flora species, farming practices of the riparian zone, and the existing policies implemented in the riparian buffer zone. Sampling was employed to study the site to minimize the cost and time of collecting the data to increase the accuracy and precision of the study, common sampling method for heterogeneous site using nested plot sampling method also to determine the soil erosion and to develop a land-use map in riparian zone of Brgy. Tres de Mayo, Digos City, Davao Del sur.

Based on the results, only a few tree species were found in the study area. As observed, the riparian zone have 2 agricultural practices converted to rice and coconut farm the study site was dominated by grass land and covered a very few tree species.

There are no environmental policies that established in riparian zone so that many people can access easily inside the riparian zone. In the other side of the area the researcher found stream bank erosion 10% of relatively moderate, 20% moderate, 40% severe, and only 30% of the riverbank have no sign of erosion. But the number one problem was the people who live inside in 20-meter zone they cut the tree for converting in their lute, and used for their daily needs the environmental policy for the riparian zone was low of implementing to the local community. Because due to the lack of information and awareness of the people.

Bachelor of Science in Agriculture
(Major in Animal Science)

PROPAGATION OF GRAPE *(Vitis vinifera)* USING DIFFERENT LIGHT INTENSITIES IN MODIFIED VACUUM TECHNIQUES

Author: Maricel O. Acapulo Year:2021
Adviser: Rogelio R. Tanduyan, MS

The study was conducted from March 2021 to April 2021 at Davao del Sur State College, Matti, Digos City to evaluate the Propagation of grape (Vitis vinifera) cuttings using different light intensities in modified vacuum techniques with parameters of days of shoot emerge, rate of survivability, number of roots and leaves. The study was carried out in Factorial split plot in Randomized Complete Block Design (Fac. RCBD) with four (4) treatments and replicated three (3) times. The treatments were the following: T1 -Control (direct planted on the soil media); T2- Dip with KD foliar 10ml/100ml water; T3- Vacuum (covered with transparent cellophane); T4-Dip with KD foliar fertilizer and Vacuum. And also using of environmental (Factor A1)-Shaded condition and (Factor A2)-Non-shaded condition.

In terms of the days of shoot emerged. It turns out that there was significant difference on the interaction of (Factor A1) Shaded condition to (Factor B) treatments, and the interaction between (Factor A2) Nonshaded condition to (Factor B) treatments on the mean of shoot emerged of grape (Vitis vinifera).

In terms of the number of roots at 30 days. It turns out that there was significant difference on the interaction of (Factor A1) Shaded condition to (Factor B) treatments and the interaction between (Factor A2) Non-shaded condition to (Factor B) treatments on the mean of number of roots of grape (Vitis vinifera).

On the number of leaves result revealed that there was significant difference on (Factor A1) Shaded condition and (Factor A2) Non-shaded condition on the mean of number of leaves of grape (Vitis vinifera). It is highly recommended that (Factor A1) under shaded condition is the best environment to propagate grape cuttings which is directly planted on the soil media (Factor B1) for it helps to minimize the direct exposure of grapes to sunlight and helps to maintain normal physiological activities of grapes to grow faster.

GROWTH AND YIELD PERFORMANCE OF MADRE DE AGUA *(Trichanthera gigantean)* USING FISH AMINO ACID (FAA FOLIAR FERTILIZER

Author: Nerion L. Bunal, Jr. Year:2021
Adviser: Carmelo Fe Ellaisa N. Flores, MS

A study entitled "Growth and Yield Performance of Madre de Agua (Trichanthera gigantea) using Fish Amino Acid (FAA) Foliar Fertilizer". This study was conducted to determine the Growth and Yield Performance of Madre de Agua (trichanthera gigantea) using Fish Amino Acid was conducted at Purok 6, Manggahan Matti, Digos City, Davao del Sur from February 18 to May 18 2021. 60 stem cuttings of Madre de Agua were used in the study to determine the; Plant Height, Number of Leaves, Number of Nodes, Stem Diameter, Yield and Nutritional Content. The experimental area was properly & locked in three with four (4) treatments and three (3) replication. The treatments were T1 (control) pure water, T2 (5 ml of FAA/of water), T3 (10 ml of FAA/of water), T4 (15 ml of FAA/of water) were being used. A Randomized Complete Block Design (RCBD) was used in this study. All the data gathered were recorded and analyzed using the Analysis of Variance (ANOVA). The ANOVA revealed a not significant ($P>0.05$) result in terms of Plant Height, Number of Leaves, Number of Nodes, Stem Diameter, Yield. The Moisture Content is not significant in the Nutritional Content, whereas the Crude protein is significant result. However, the data shows that Treatment 4 (15 ml of FAA per liter of water) got the highest mean in terms of Plant Height, Number of Leaves, Yield and Moisture Content.

GROWTH PERFORMANCE OF BROILER CHICKEN *(GALLUS GALLUS DOMESTIC)* SUPPLEMENTED WITH FERMENTED JUTE *(CORCHORUS OLITORIUS)* LEAF VIA DRINKING WATER

Author: Bryan Louie O. Caballero Year:2021
Adviser: Carmela Fe Ellaisa N. Flores, MS

The study on the growth performance of broiler chicken supplemented with Fermented Jute Leaf via drinking water was conducted at Brgy. Cogon, Digos City from March 31, 2021 to April 28, 2021. This study focuses on the validation of the effects of jute on the broiler and was carried out in a Complete Randomized Design using a total of 75 experimental birds with five treatments and replicated three times. The treatments were the following: T1 (No Treatment), T2 (Commercial Multivitamins), T3 (20 ml of FJL/L of water), T4 (25 ml of FJL/L of water), and T5 (30 ml of FJL/L of water).

In terms of Average water intake, it has been observed that supplementation of FJL showed significant differences in all treatment means. In Average feed intake, treatment means were not significantly different. In Feed conversion ratio, no significant differences were found among treatment means. With regard to Weight gain it was noted that there were no significant differences in treatment means.

Furthermore, T2 (Commercial Multivitamins) has the highest IOFCC among all treatments and the varying levels of FJL given to broiler chickens have higher IOFCC than T1 (No Treatment). In the temperature and relative humidity of the study area, the maximum temperature recorded was 32 0C and the minimum was 27 0C. In addition, the highest percentage of relative humidity recorded was 82 % and the lowest was 55 %. Concerning with the health issues it is recommended to use Fermented Jute Leaf as water supplement to broiler chicken at the level of 25 ml instead of Commercial Multivitamins.

RIPENING BEHAVIOUR OF CARDABA BANANA (*Musa balbisiana)* USING TWO APPLICATION METHODS OF ETHEPHON

Author: Gay Marie J. Castañares Year:2021
Adviser: Alexander M. Campaner, Ph.D.

The study was conducted at Davao del Sur State College (DSSC) Matti, Digos City on April 2021. The study was conducted to evaluate the ripening behavior of cardia (Musa balbisiana) using two application methods of ethephon. The study was conducted in a completely randomized Design (CRD). There were two application methods using different levels of ethephon were T3 – T4 was (5, 10 ml) whole hands application and T5 – T6 was (5, 10ml) hand crown application. Data gathered were number of days to ripening, number of days to deterioration, percentage weight loss, changes on peel color, total soluble solid, pH including some environmental factors such as: temperature and relative humidity.

According to the study's results, the number of days to ripening, number of days to deterioration, day 2 on changes on peel color and the TSS are highly significant while the percentage weight loss, day 1 on changes on peel color and the pH was significant at 5% level.

These findings indicated that using ethephon as ripening inducer can extend the shelf life of bananas for several days before they deteriorate.

In this study, the number of days to ripening resulted a highly significant among treatment. This means that the fruit reacts when treated, the ripening triggered to the ethylene which is the active hormone of ethephon that causes fruit to ripe. In number of deteriorations shows a highly significant. The fruits treated exhibit's a number of days before it was deteriorated. In percentage weight loss shows a significant among treatment, the fruits treated with 5 ml level of ethephon takes a long period of time to ripen. This means treated with 5ml level of ethephon in terms of weight loss, the weight decreases while the rate of percentage weight loss increases.

Changes on peel color shows a highly significant among treatment, in day 1 shows that treated fruits has no changes but on the next day treated fruits of ethephon show a changes in peel color resulting to reach the ripening period of fruits. In chemical composition resulted to a highly significant among treatment, this means that treated of ethephon was affected in Total soluble solid. While significant result in pH.

Based on the results, the best application is whole hands application with 5-10ml of ethephon. Just simply mixed 5-10ml ethephon with 1 liter of iii water and dip the fruits to the mixture for a second then air dry for 1 hour then put it in a carton then open for 24 hours.

GROWTH PERFORMANCE OF BROILER CHICKEN (*Gallus gallus domesticus*) SUPPLEMENTED WITH FERMENTED LEMON GRASS (*Cymbonpogon citratus*) AS WATER SUPPLEMENT

Author: Margie M. Celomin Year:2021
Adviser: Carmela Fe Ellaisa Flores, MS

The study was conducted at Brgy. Cogon Davao del Sur from MARCH 31 to APRIL 29, 2021 and was laid out Complete Randomized Design (CRD). Further test of significant difference among treatments was done using Tukey's. The five treatments namely T1- Control (water only), T2- Commercial Multivitamins, T3- 10 ml of FLG per liter of water, T4- 20 ml of FLG per liter of water, T5- 30 ml of FLG per liter of water were replicated three times. A total of seventy five (75) birds were used in this study. Results showed when it comes to feed intake, Water intake, Body weight gain, Final weight, feed conversion efficiency of the broiler chicken have various levels of fermented Lemon Grass as a water supplement had no significant effect on growth performance of experimental birds.

RIPENING PERFORMANCE OF TOMATO *(Lycopersicon esculentum)* USING TWO APPLICATION METHODS OF ETHEPHON

Author: John Eric V. Cudal Year:2021
Adviser: Alexander M. Campaner, Ph.D

The study was conducted at Davao del Sur State College in April 2021. The experiment was laid out in Completely Randomized Design (CRD). The design was used because the experimental units are randomly assigned to treatment conditions. Data gathered were rate of number of days to ripening, number of days to deterioration, percentage weight loss, changes in peel color and chemical composition such as TSS and pH value including environmental factors such as: temperature and relative humidity.

Based on the findings of the study, the ripening duration results a highly significant result. T3 and T5 have the best treatment in terms of ripening duration. In percentage weight loss results a highly significant result, the data shows the more fruit less treated the ripening duration takes a long period of time resulted to higher percentage losses, as the rate of percentage weight loss fluctuates as the weight decreases.

For the peel color, day 1 and day 2 have no significant results, but on the third day of the study the fruits subjected to ethephon exhibit a response resulting on changes in peel color of the fruit. For TSS and pH value, the data shows a highly significant result.

The TSS °Brix ranging from 3.6-4.5, while pH value of the fruit ranges from 4.28-4.64, this means that whatever levels of ethephon and type of application could not affect the quality of the fruits.

These findings indicated that the application of ethephon as ripening inducer (10mL) by misting and washing was effective in terms of ripening duration of the fruit.

DRESSING RECOVERY AND SENSORY EVALUATION OF BROILER CHICKENS SUPPLEMENTED WITH DRUMSTICK TREE *(Moringa oleifera)* POWDER

Author: Chirstian Dave G. Daquipil Year:2021
Adviser: Carmela Fe Ellaisa Flores, MS.

This study was conducted to evaluate the dressing recovery and Sensory Evaluation of in terms of odor, appearance, flavor, texture, juiciness and overall acceptability of broiler chicken supplemented with drumstick tree (*Moringa oleifera*) powder. The study was carried out in Complete Randomize Design (CRD) with five (5) treatments and replicated three (3) times with the total of 75 birds. Treatments were as follows; T1-Control (water), T2- (Commercial Supplement), T3- (5g of DTP), T4- (10g of DTP) and T5- (15 of DTP). The evaluation was conducted with 10 evaluators at Brgy. Poblacion, Malalag Davao del Sur May 10 2021. For the result of dressing recovery, the highest mean garnered by T4 (10g of DTP) 67.64 followed by T3(5g of DTP) 67.52%, is T2 (Commercial Supplement) 67.41%, T1 (control) 67.52% and T5 (15g of DTP). And for the sensory evaluation in terms of odor and texture T4 is superior, appearance, flavor and juiciness T3 is superior, overall acceptability T2 is superior. Overall there is no significant different among the treatment. Recommending using other form of preparation or methods.

GROWTH AND YIELD PERFORMANCE OF SWEET CORN (*Zea mays Linn*) AS CASH CROP IN SUGARCANE (*Saccharum officinarum*) PRODUCTION

Author: Mark R. Flores Year:2021
Adviser: Alexander M. Campaner, Ph.D.

The study was conducted at Km. 69 Sinawilan, Matanao, Davao del Sur from February to April 2021. The study was conducted to evaluate the growth and yield performance of sweet corn (Zea mays Linn.) as cash crop in sugarcane (Saccharum officinarum) production. The experiment was laid out in Randomized Complete Block Design (RCBD). There were 6 treatments and 3 blocks; the following were T1-20 cm- 1 plant per hill, T2- 20 cm- 2 plants per hill, T3-30 cm- 1 plant per hill, T4-30 cm- 2 plants per hill, T5- 50 cm- 2 plants per hill and T6-50 cm- 3 plants per hill. Data gathered were germination rate, plant height, number of leaves, surface leaf area, root spread measurement, number of fruits, and average weight of sweet corn including some environmental factors such as: temperature, relative humidity, light intensity and rainfall.

Based on the findings of the study, the germination rate, plant height, number of leaves, surface leaf area, number of fruits, root spread measurement and weight of sweet corn are not significant which means growth and yield of sweet corn as cash crop in sugarcane production are comparable even at different planting distance adopted and number of plants per hill. Therefore, sweet corn is highly recommended as cash crop in sugarcane production which in this study did not affect the growth of ratoon.

CARGASS YIELD AND MEAT EVALUATION OF IMPROVED NATIVE CHICKEN *(Gallus gallus domesticus)* AS INFLUENCED BY DIFFERENT LEVELS OF LACTIC ACID BACTERIA SERUM (LABS) AS WATER SUPPLEMENT

Author: Johnmark L. Gulles Year:2021
Adviser: Augie E. Fuentes, DVM, Ph.D.

The study was conducted to determine the carcass yield and meat evaluation of improved native chicken as influenced by different levels of lactic acid bacteria serum as water supplement. Sensory Evaluation was done to evaluate the meat odor, meat color, meat juiciness, meat taste, meat texture, and general acceptability of improved native chicken on 25th day of May 2021, which was laid out in Completely Randomized Design (CRD). Further test of significant difference among treatments was done using Tukey's test at 5% level. The four treatments were; T1 - Control (pure water), T2 - 20 ml of LABS per liter of water, T3 - 30 ml of LABS per liter of water, T4 - 40 ml of LABS per liter of water were replicated three times. Results showed no significant difference in terms of dressing recovery, meat odor, meat color, meat texture and meat juiciness among treatments. However, in terms of meat taste and general acceptability ii parameters, T4 with 40 ml of LABS per liter of water showed significant difference compared to the rest of the treatments. Supplementation of Lactic Acid Bacteria Serum (LABS) as water supplement in improved native chicken have the positive effect to improve the production and growth performance of chicken.

RIPENING BEHAVIOUR OF LAKATAN (*Musa acuminate)* USING TWO APPLICATION METHODS OF ETHEPON

Author: Helaine T. Ike Year:2021
Adviser: Alexander M. Campaner, Ph.D.

The study was conducted at Davao del Sur State College (DSSC) Matti, Digos City on April 2021. The study was conducted to evaluate the ripening behaviour of lakatan (Musa acuminata) using two application methods of ethephon. The experiment was laid out in Completely Randomized Design (CRD). There were two application methods using different levels of ethephon were T3 andT4 was (5,10 ml) whole hands application and T5 and T6 was (5,10ml) hand crown application. Data gathered were number of days to ripening, number of days to deterioration, percentage weight loss, changes on peel color, total soluble solid, pH including some environmental factors such as: temperature and relative humidity.

Based on the results of the study, the number of days to ripening was highly significant, and the day 1 on changes on peel color, ii the number of days to deterioration and the pH was significant at 5% level.

These findings indicated that using ethephon as ripening inducer can extend the shelf life of bananas for several days before they deteriorate. In this study, the ripening duration resulted a highly significant results among treatments. The fruits treated with different levels of ethephon exhibits the shortest days to ripening while untreated fruits shows the longest duration in terms of ripening. This means, the fruit reacts when it was induced, and the ripening triggered by the ethylene which is the active hormone of ethephon causes the fruit to ripen depending on the levels of treatment. Treatment 3 and 4 is the best when it comes to abrupt consumption but treatment 5 and 6 has also an advantage in terms of duration especially in the market where there is a competition. In percentage weight loss, data shows the more the fruits is less treated the ripening duration takes a long period of time resulted to higher percentage losses. The result of the study shows that there was no significant difference among treatments. When the weight is decreasing, the rate of percentage weight loss is increasing and the treatment is not responsible for the high percentage of weight losses.

For the peel color, day 1 has no significant results, but on the second day of the study the fruits subjected to ethephon exhibits a response, resulting a changes on peel color of the fruit. In fruit deterioration, there is also a significant result. The data shows, treated fruits exhibits a number of days before it was deteriorated.

TSS among treatments shows comparable result while pH was highly significant. This means that whatever level of ethephon and type of application could not affect the natural sweetness of the fruit.

Based on the result, using ethephon as a ripening inducer has an advantage depending on the demand, especially the consumption period. The performance of ethephon to trigger for the fruit to ripen shows positive results. Results indicates that whole application with a higher level of treatments (5-10 ml/L) was effective in terms of ripening duration and shelf life of the fruit.

GROWTH PERFORMANCE OF BROILER CHICKEN *(Gallus gallus domesticus)* SUPPLEMENTED WITH VARYING LEVELS OF GUAVA *(Psidium guajava)* LEAF DECOCTION VIA DRINKING WATER

Author: Leo Dominic A. Junsay Year:2021
Adviser: Carmela Fe Ellaisa Flores, MS.

This study was conducted to assess and substantiate guava leaf Decoction (GLD) efficacy on 75 heads of broiler chicken. It was conducted at Brgy. Cogon, Digos City from March 31 to April 28, 2021. The study was laid out in Complete Randomized Design (CRD) with five treatments, three replications, and five birds per replication. The treatments were the following: T1 - Negative Control, T2-Positive Control, T3-15ml. of GLD/L of water, T4-20 ml of GLD/L of water, and T5-25 ml of GLD /L of water.

Based on the result of the study, among the parameters measured, there is a significant difference in the growth performance as influenced by GLD as to Final Weight Gain and Feed Efficiency; both of these parameters showed the superiority of Treatments treated with GLD but not to the rest of the parameters on Water Intake, Feed Intake, Live Weight Gain, and Feed Conversion Ratio. Treatment means of significant results were further analyzed using Least Significant Difference (LSD).

This trial revealed that GLD was an effective treatment and replacement of commercial multivitamins due to its high antibiotic components that can maximize the growth of the chicken. Therefore, GLD in different levels is recommended to be used in poultry farms due to its effects. It is further recommended to validate and verify the quantity, mode of application, and parts of Guava to be used.

Keywords: *broiler, Guava, decoction*

GROWTH PERFORMANCE OF IMPROVED NATIVE CHICKEN *(Gallus gallus)* ON VARYING LEVELS OF LACTIC ACID BACTERIA SERUM AS WATER SUPPLEMENT

Author: Albert A. Lanticse Year:2021
Adviser: Carmela Fe Ellaisa Flores, MS.

This study was conducted to evaluate the effect of Lactic Acid Bacteria Serum on 60 improved native chicken last February to May 2021 at purok 1, Colorado Digos city Davao Del Sur. The study was laid out on Completely Randomized Design (CRD) with three replications with 5 birds per replication. The treatment used for this study were the following: T1- control, T2- 20ml of LABS/L of water, T3- 30ml of LABS/L of water and T4-40ml of LABS/L of water. The study shows that all of the parameter on the growth performance as Water Intake, Feed Intake, Feed Efficiency, Weight Gain and Final Weight of improved native chicken with supplementation of LABS showed the best result at 40ml inclusion per L of water compared to chickens treated with pure water, 20ml and 30ml LABS/L of water.

The result revealed that LABS can be a good water supplementation to improve native chicken. This concludes that LABS is recommended to be used for it is safe and naturally prepared, A good movement to support organic agriculture. This is also recommended to poultry species and validate the levels and the aging process of LABS.

Keywords: *improve native chicken, LABS, water*

CARGASS YIELD AND SENSORY EVALUATION OF BROILER CHICKEN *(Gallus gallus domestiscus)* SUPPLEMENTED WITH FERMENTED JUTE *(Corchorus olitorius)* LEAF VIA DRINKING WATER

Author: Charlo S. Nadela Year:2021
Adviser: Carmela Fe Ellaisa N. Flores, MS

The study was conducted to determine the potential effect of fermented jute leaves extract on the carcass yield and sensory evaluation of broiler chicken. This was conducted at Brgy. Cogon, Digos City from March 31, 2021, to April 28, 2021.

The research was laid out using Completely Randomized Design (CRD) as research design. There were five treatments such as T1 (control-pure water), T2 (commercial water supplement), T3 (20ml of FJL), T4 (25ml of FJL), T5 (30ml of FJL), which were replicated three times. Data gathered were on carcass yield of broiler and sensory evaluation in terms of Odor, Appearance, Taste, Texture, Juiciness, and Overall Acceptability.

Results showed that there was no significant difference observed among treatments on the carcass yield (Average Final Carcass Weight) of broiler chicken by using fermented jute leaves extract via drinking water.

Statistically, no significant difference was found among the sensory evaluation in terms of Odor, Appearance, Taste, Texture, Juiciness, and Overall Acceptability. The performance of broilers as supplemented with fermented jute leaves did not differ significantly with antibiotic supplementation.

For further study, the use of Fermented Jute Leaf Extract as water supplement to broiler chicken at the level of 30ml level instead of Commercial water supplement, which can have a negative effect on broiler chicken and its consumers.

DRESSING RECOVERY AND SENSORY EVALUATION OF BROILER CHICKEN *(Gallus gallus domesticus)* SUPPLEMENTED WITH FERMENTED LEMON GRASS (*Cymbopogon citratus)* AS WATE SUPPLEMENT

Author: Dexter A. Pantonial Year:2021
Adviser: Carmela Fe Ellaisa Flores, MS.

The study was conducted at Brgy. Cogon, Digos City, Davao del Sur from March 29, 2021 to May 6, 2021. The study aimed to determine the effect on the dressing recovery and sensory evaluation of broiler chicken using different levels of Fermented Lemon Grass as water.

Completely Randomized Design was used to plan the experiment (CRD) as an experimental design with five treatment replicated three times with one (1) sample per replication. A total of fifteen (15) samples were used in the study. The treatment was T1 (Control), T2 (Commercial Supplement), T3 (10ml/L of Fermented Lemon Grass), T4 (20ml/L of Fermented Lemon Grass), T5 (30ml/L of Fermented Lemon Grass). Data gathered were on dressing recovery and sensory evaluation when it comes to odor, appearance, texture, flavor, juiciness as well as general acceptability.

The findings showed that there was no significant difference observed on dressing recovery as well as the sensory evaluation in terms of odor, appearance, ii taste, texture, juiciness and overall acceptability. In general, the supplementation of fermented lemon grass on broiler chicken cannot affect the quality of meat of broiler chicken.

RIPENING PERFORMANCE OF MANGO *(Mangifera indica)* USING DIFFERENT APPLICATION METHODS WITH ETHEPON

Author: Lovely Rose N. Remolleno Year:2021
Adviser: Alexander M. Campaner, Ph.D.

The study was conducted at Davao del Sur State College (DSSC) Matti, Digos City on May 2021. The study was conducted to evaluate the ripening Performance of mango (Mangifera indica) using different application methods with Ethephon. The experiment was laid out in Completely Randomized Design (CRD). Treatments were follow, T1- Control, T2 (5mL ethephon stem-end application), T3 (10 mL ethephon stem-end application), T4 (5mL ethephon washing application) and T5 (10 mL ethephon washing application). Data gathered were number of days to ripening, number of days to deterioration, percentage weight loss, changes on peel color, total soluble solid (TSS), pH value, temperature and relative humidity.

Based on the results of the study, the number of days to ripening change in peel color and the chemical composition such as total soluble solids (TSS) and pH value are highly significant while the number of days to deterioration was significant and the percentage weight loss of mango using different application methods with ethephon was not significant.

Based on the result, using ethephon was noted to enhance the ripening and post-harvest quality of mango fruits. Among the treatments ethephon application has the best for retaining the various physical and chemical compositions particularly 10 ml using the stem-end application.

GERMINATION PERFORMANCE OF PASSION FRUIT *(Passiflora edulis)* CUTTING USING DIFFERENT LEVELS OF AUXIN

Author: Floramie C. Sedon Year:2021
Adviser: Alexander M. Campaner, Ph.D.

The study was conducted at Linawan, Bansalan, Davao del Sur on March-April 2021. The study was conducted to evaluate the germination performance of passion fruit (Passiflora edulis) cuttings using different levels of auxin. The experiment was carried out by Completely Randomized Design (CRD). The treatments were as follow: T1- (control) single node, T2- (control) double node, T3- (5 ml of auxin) single node, T4- (5 ml of auxin) double node, T5- (10 ml of auxin) single node, T6- (10 ml of auxin) double node. Data gathered were the rate of survival, number of leaves, number of roots, length of roots, diameter of roots, and including some environmental factors such as: temperature, relative humidity, and light intensity. Based on the results of the study, there is no significant difference results on the rate of survival in (7 DAP, 14 DAP, and 45 DAP), number of leaves (45 DAP), number of roots (21 DAP, 28 DAP and 35 DAP), length of roots (21 DAP, 28 DAP and 35 DAP), and diameter of roots (21 DAP, 28 DAP and 35 DAP). While, the results on rate of survival (21 DAP, 28 DAP and 35 DAP), number of roots (45 DAP), length of roots (45 DAP), and diameter of roots in (45 DAP) revealed significantly difference on passion fruit cuttings using different levels of auxin which remarkably noted that the double node cutting treated with 10 ml auxin yield favourable result and thus recommended based on the result of this study.

GROWTH AND YIELD PERFORMANCE OF YOUNG CORN *(Zea mays Linn)* AS CASH CROP IN SUGARCANE *(Saccharum officinarum)* PRODUCTION

Author: Menelyn N. Torrejano Year:2021
Adviser: Alexander M. Campaner, Ph.D.

The study was conducted at Km. 69 Sinawilan, Matanao, Davao del Sur from February to April 2021. The study was conducted to evaluate the growth and yield performance of young corn (Zea mays Linn.) as cash crop in sugarcane (Saccharum officinarum) production. The experiment was laid out in Randomized Complete Block Design (RCBD). There were 6 treatments and 3 blocks; the following were T1-20 cm- 1 plant per hill, T2- 20 cm- 2 plants per hill, T3-30 cm- 1 plant per hill, T4-30 cm- 2 plants per hill, T5- 50 cm- 2 plants per hill and T6-50 cm- 3 plants per hill. Data gathered were germination rate, plant height, number of leaves, surface leaf area, root spread measurement, number of fruits, and average weight of baby corn including some environmental factors such as: temperature, relative humidity, light intensity and rainfall.

Based on the findings of the study, the germination rate, plant height, number of leaves, surface leaf area, number of fruits, root spread measurement and weight of baby corn are not significant which means growth and yield of baby corn as cash crop in sugarcane production are comparable even at different planting distance adopted and number of plants per hill. Therefore, baby corn is highly recommended as cash crop in sugarcane production which in this study did not affect the growth of ratoon.

GROWTH PERFORMANCE OF BROILER CHICKEN SUPPLEMENTED WITH DIFFERENT LEVEL OF DRUMSTICK TREE *(Moringa oleifera)* POWDER

Author: Alvic Vincent H. Venancio Year:2021
Adviser: Carmela Fe Ellaisa Flores, MS.

The study entitled "growth performance of broiler chicken supplemented with different level of drumstick tree (*moringa oleifera*) powder" was conducted to determine the effects of DTP on the growth performance of broiler chickens in terms of Feed Intake, Water Intake, Weight Gain and Feed Conversion Ratio. The study was conducted at Brgy. Bato, Sta. Cruz Davao del Sur from April 1, 2021, to May 5, 2021 and was laid out in a Complete Randomized Design (CRD). Results were tested using LSD to determine the significant difference among treatments. The 75 DOC were distributed in five treatments namely, T1 (Water), T2 (Commercial Supplement), T3 (5g DTP/L), T4 (10g DTP/L) and T5 (15g DTP/L) replicated three (3) times, with 5 birds per replication for the entire study.

The results showed that T2 had the highest mean in feed intake, while T3 had the highest mean in terms of water intake. However, the T3 also had the largest mean of weight gain, whereas in FCR treatment 3 had the lowest mean.

RESPONSE OF ARABICA COFFEE (*Coffea Arabica*) CUTTINGS APPLIED WITH DIFFERENT TYPES OF ROOTING HORMONE

Author: Shaina Febee C. Waitin Year:2021
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The study was conducted to test the Response of Arabica Coffee cuttings applied with different types of rooting hormone. This was conducted at DSSC-Nursey on February to March 2021.

A Completely Randomized Design (CRD) was used in the trial, with five treatments reproduced three times. T1-ANAA, T2-Mature coconut water (350), T3-Honey, T4-Immature coconut water, T5-Hormex and T6- Water (control) were the treatments. It was limited to the determination of Number roots, Length of longest roots, Number of Bud eye and Number of shoots.

Overall results showed in Number of roots T5-Hormex got the highest mean of 2.19 followed by T1-ANAA with the mean of 1.68,T4-Immature coconut water means of 1.32, T2-Mature coconut water mean of 1.18, T6-water with the mean of 1.10and lastly T3-Honey with the ii lowest mean of 1.03. ANOVA revealed that there is a significant difference among treatment.

Results showed in length of longest roots T5-Hormex got the highest mean of 1.63 followed by T4-Immature coconut water mean of 1.42, T1-ANAA with the mean of 1.38, T6-Water mean of 1.36, T2-Mature coconut water mean of 1.34 and T3-Honey with the mean of 0.99 respectively. The results of the ANOVA revealed that there is no significant difference between the treatments.

In terms of quantity of Bud eye results revealed that the highest mean of 2.20 is from T4-Immature coconut water followed by T1-ANAA with the mean of 1.99 but comparable with T5-Hormex with the mean of 1.90,T2-mature coconut water with the mean of 1.52, T6-Water mean of 1.13 and the lowest mean is from T3-Honey which is 0.95 . ANOVA revealed that there is a significant difference among treatment.

In the number of shoots results showed that T4-Immature coconut water got the highest mean of 2.14 but was comparable with T5-Hormex with the mean of 2.04 and T1-ANAA with the mean of 1.96 followed by the T2-Mature coconut water with the mean of 1.81 , T6-Water with the mean of 1.32 and T3-Honey got lowest mean of 1.08.ANOVA revealed that there is a significant difference among treatment.

Bachelor of Science in Development Communication

RELATIONSHIP BETWEEN SOCIO-DEMOGRAPHIC CHARACTERISTICS AND PREFERRED MEDIUM IN ACCESSING COVID-19 INFORMATION AMONG HOUSEHOLDS IN DARONG, STA. CRUZ, DAVAO DEL SUR

Author: Norebeth D. Codiban Year:2021
Adviser: Rae Katherine D. Adona, MDC

The study was conducted to determine the relationship between socio-demographic characteristics among selected household members in Darong, Sta. Cruz, Davao del Sur. Using a descriptive-correlational research design and a survey questionnaire, 112 respondents participated in the study from April to May 2021.

Data revealed that out of 112, most of the household respondents were female, or 60.71% and most were 41 years old and above (38.39%). The majority were married, which accounted for 55.40%, were high school graduates (42.90%), and 28.6% were unemployed. As to income, 55.4% of the respondents have an income of Php11,000 and below.

Moreover, 83.04% of the surveyed population identified social media as the primary source of information for COVID-19 updates, followed by the television (82.14%), radio (81.25%), and information passed from another person such as friends/family (66.07%). It also noteworthy to reveal that the least go-to for news are the posters (9.82%), billboards (9.82%), community events (8.93%), and leaflets (5.36%).

Data revealed that age, gender, marital status, and income have no significant association with the preferred medium in accessing COVID-19 information, while educational attainment has. This study has observed that only the socio-demographic factor such as educational attainment is strongly related to respondents' use and preferred communication channel in accessing COVID-19 related information. The discussion is vital to communication experts to ascertain factors that will affect disseminating essential health information.

KNOWLEDGE, ATTITUDE AND PRACTICES TOWARDS COVID-19 VACCINATION IN SINAWILAN, MATANAO, DAVAO DEL SUR

Author: Regean E. Donato Year:2021
Adviser: Roland R. Licudine

The study was limited only on identifying knowledge, attitude, and practice (KAP) towards COVID-19 vaccination in Brgy. Sinawilan, Matanao, Davao del Sur. This study employed the descriptive method through descriptive-correlation technique. Simple random sampling was used in determining respondents of the study. There were 346 identified respondents in the study. The study was conducted in the months of May and June in the School Year 2020-2021. Data revealed that most of the resident respondents were female, which accounted to 176 or 50.87% while the remaining numbers were male 49.13%. In terms of age, mostly were dominated by 26-30 years of age (22.57%), followed by 20-25 years old (16.18%), 15-19 years old (15.61%), 31-35 years old (13.58%), 36-40 years old (12.43%), 41-45 years old (10.12%) and 46-50 years old (9.54%) respectively.

The knowledge, attitude and practices of the respondents towards ii COVID-19 vaccination obtained a means which described as always which means that respondents have a knowledge, attitude and practiced towards COVID-19 vaccination. Summing all the numerical response, data obtained an overall mean of description of always.

The level of knowledge of the respondents does not significantly differ when analyzed by gender with a p-value of .411 with more than level of significance to 0.05, this indicate that there is no significant difference between the knowledge and gender of the respondents. However, in the level of attitude and practices, it obtained a p-value of 0.000 which is less than the level of significance of 0.05. This means the rejection of the null hypothesis concluded that there is a significant difference of attitude and practices when analyzed by gender.

Last, in the knowledge, attitude and practices of respondents based on their age, found no significant differences. This means that their knowledge, attitude and practices has no significant effect regardless of age in acquiring COVID-19 vaccination information.

DEVELOPMENT COMMUNICATION STUDENTS' PREFERENCE IN TEACHING-LEARNING DURING THE NEW NORMAL: A CONJOINT ANALYSIS

Author: Shawn Marcel A. Medina Year:2021
Adviser: Rae Katherine D. Adona, MDC

In abidance to the tall order in restricting face-to-face transactions due to the pandemic threat, all institutions must adopt an adjusted teaching-learning modality not to interrupt the learning process.

A study was conducted at the Davao del Sur State College (DSSC) with the students from the Bachelor of Science in Development Communication S.Y. 2020-2021 as respondents to explore the factors influencing learning the core subjects of the program. In the present normal, three factors are considered: type of instruction, teaching strategy/platform, and time. Orthogonal design generates 25 combinations of these factors and attributes. 133 respondents turned in their answers through an online survey and analyzed using Conjoint Analysis. The study shows that the student-respondents preferred Synchronous Discussion as to the Teaching-Learning Environment and using the Combination of Google Classroom and Facebook Application as a platform.

Further, results reveal that students prefer learning the program's core courses in the late afternoon. Furthermore, the respondents pointed that the most critical factor in learning the core subjects during the new normal is the Teaching-Learning Strategy/Platform. The results are discussed to provide a holistic learning experience to students, especially in attending to the program's core courses in the present normal.

DIGITAL DIVIDE: FACTORS AFFECTING DevCom STUDENTS ACADEMIC PEFORMANCE IN DAVAO DEL SUR STATE COLLEGE DIGOS CITY

Author: Vann Hendrix N. Sumabat Year:2021
Adviser: Prof. Cherry B. Corpin

The study was conducted to determine and know the factors that affect the DevCom student's academic performance in Davao Del Sur State College.

This study took place from March to June 2021 using a simple random sampling application in choosing the respondents from 1st year to 4th-year levels. Overall, 101 DevCom students were identified as respondents to this study. A descriptive method was applied to this research. For the treatment of data gathered, the researcher used percentage, mean, and as well as Pearson product correlation.

This study took place from March to June 2021 using a simple random sampling application in choosing the respondents from 1st year to 4th-year levels. Overall, 101 DevCom students were identified as respondents to this study. A descriptive method was applied to this research. For the treatment of data gathered, the researcher used percentage, mean, and as well as Pearson product correlation.

As to the parent's monthly income, 86 respondents or 85.1% have an estimated monthly income of 5k-10k, 12 or 11.9% have monthly income of 10k-15k, while 3 or 3% of the respondents have 15k-25k monthly income. In terms of the respondents' area, 65 or 64.4% lived in the rural areas while 36 or 35.6% lived in the urban areas.

Results showed that there was no significant variation on the data from among the factors ownership capacity, digital divide, and GPA. They have a negative low correlation which indicates that when one variable increases the other one decreases and vice-versa.

A similar study is highly recommended to be conducted by using a qualitative approach to fully grasp the data and truly know the reasons behind it.

In addition, it was also recommended to support the students on their gadgets, internet connectivity, and better pedagogy/learning design for the students to have a better learning experience.

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