

Summary of presentation

Preliminary Research of Micropropagation Technique on Selected Cha Bot Banana

Tô Văn Đức, Mai Văn Trường, Nguyễn Thị Xuân Hạnh, Nguyễn Thanh Bình và Bùi Xuân Khôi

SUMMARY

Preliminary result of micropropagation technique of selected Cha Bot banana cultivars revealed that the best multiplication rate of adventitious buds and size of the leaves of the shoot clusters, the quality shoot clusters were MS medium supplement BA (5,5mg.l⁻¹) plus IAA (0,5mg.l⁻¹) plus active charcoal (1g.l⁻¹), Adenin (75mg.l⁻¹) plus Glucose sugar (3%); the best rooting ratio and size root of plantlets were MS medium supplement IBA (2 mg.l⁻¹) plus active charcoal (2 g.l⁻¹) plus Adenin (35mg.l⁻¹) plus Glucose sugar (1%). The discussions and recommendation are also detailed in the report.

Randomly amplified polymorphic DNA for identification genetic relationships among papaya (*Carica papaya* L.) and evaluation flooding - adaptation reference to their heredity

Nguyễn Trần Nhật Hoàng

SUMMARY

Papaya (*Carica papaya* L.) is the most important *Carica* species of the tropical and subtropical regions. Flooding from excessive rainfall or high water-table level in lowland compromised the growth and yield of papaya. The present studies were established molecular markers to assess the genetic relationships among twelve papaya cultivars by using randomly amplified polymorphic DNA (RAPD) markers. The RAPD markers were combined with flooding characteristics of twelve papaya cultivars to evaluate flooding-adaptability in reference to their heredity. The studies assumed that twelve papaya cultivars were divided into 3 groups. Group 1: Moderate flooding-adaptability cultivars ('Tainung No.2', 'Thailand wild', 'Sai Num Phueng', 'Jampada' and 'Khaek Dam'). Group 2: Flooding-adaptability cultivars ('Philippines wild', 'Indonesia wild' and 'Thailand small fruit'). Group 3: Flooding-sensitive cultivars ('Da Bong', 'Dai Loan Tim', 'Da Moc' and 'Ba Vi local').

Results on breeding of red flesh dragon fruit – Long Dinh 1 (*Hylocereus* spp.)

Trần Thị Oanh Yến, Trần Kim Cương và Phạm Ngọc Liên

SUMMARY

Red flesh pitaya Long Dinh 1 is result of hybridization between white flesh pitaya (Vietnam) and red flesh pitaya (Colombia). It was screened from 188 hybrids after evaluating and trials at Tiengiang, Longan and Binhthuan. The red flesh pitaya Long Dinh 1 has good fruit shape, bright red peel, rather firm flesh, sweetness (beix: 16-17%), low total acid: 0,3g/100ml, high vitamin C: 9-11mg/100ml, and high yield: >40kg/tree/year, (>40 tons/ha), in pitaya orchard 3 years old.

The results on selection of seedless sweet orange clones (*Citrus sinensis*)

Trần Thị Oanh Yên, Nguyễn Ngọc Thi., Nguyễn Nhật Trường và Phạm Ngọc Liên

SUMMARY

Seedless is one of important characteristics in citrus for fresh consumption in the domestic and international markets. One of methods of seedless citrus breeding is selection of clones from natural populations. After three years of survey on sweet orange orchards, we selected: three clones of sweet orange variety having vigour growth, good quality, seedless fruit and high yield. The results on observation of pollens showed that ratio of empty pollens is more than 95%.

Selection of Excellent Individuals of Longan Groups and Performances of Some Promising Clones of Xuong Longan Group in The Condition of Southeast Region

Nguyễn An , Nguyễn Văn Hùng, Mai Văn Trường và Bùi Xuân Khôi

SUMMARY

Longan is one of the important fruit crops and is grown widely in Vietnam. High yield and good quality cultivar is essential for improvement longan production. In the southeast region, two longan groups grown commonly are Tieu da bo and Xuong. Xuong group has high fruit quality but poor fruit setting. A selection of excellent individuals of Xuong groups in cultivation areas was conducted of the southeast region during 2000-05. Four Excellent individuals selected and named XCV 01, XCV 03, XCV 26, XCV 28. These individuals are higher in productivity and better in fruit quality as compared with the populations. An experiment to compare performance of 4 excellent individuals and NVT20 XCV (as check) was carried out on the basaltic soil in the southeast region in 2003. The initial result revealed that XCV 26 was the most promising individual with the same in yield and best in fruit quality as compared with the check NVT20XCV.

Effect of different levels of NPK - Organic fertilizer combinations on yield and quality of “Cát Hoà Lạc” mango.

Trần Nguyễn Liên Minh, Nguyễn Minh Châu

SUMMARY

Different levels of NPK -Organic fertilizer combinations on yield and quality of “Cát Hoà Lạc” mango were intensively investigated on 7 year old trees at Cái Bè district, Tiền Giang province during the year 2003-2005. The results showed that fertilizer formulae, 690 g N – 450 g P₂O₅ – 675 g K₂O + 5kg Dynamic lifter; 460 g N – 300 g P₂O₅ – 450 g K₂O + 10kg Dynamic lifter and 690 g N – 450 g P₂O₅ – 675 g K₂O + 5kg greenfield, gave significant effect on yield as compared to the control. The fertilizers, 460 g N – 300 g P₂O₅ – 450 g K₂O + 10kg Dynamic lifter and 460 g N – 300 g P₂O₅ – 450 g K₂O + 10kg Greenfield resulted in increasing quality of Cat

Hoa Loc mango. Nitrate and pesticide accumulation in Cat Hoa Loc mango fruits was found to be very low and negligible as compared to the control.

Effect of NPK rates and organic fertilizers on fruit quality and yield of “monthong” durian

Huỳnh Văn Tuấn, Nguyễn Văn Thảo, Nguyễn Minh Châu

SUMMARY

The present study effect of NPK rates and organic fertilizers on fruit quality and yield was conducted at Cho Lach, Ben Tre province during years 2003-2005. The results showed that application of 12 kg Dynamic lifter organic fertilizer + 4 kg Guano fertilizer; 500g N + 620g P₂O₅ + 420g K₂O + 4 kg Dynamic lifter organic fertilizer + 1 kg Guano fertilizer were increased number of fruit per tree, fruit weight and yield of “Monthong” durian when compared to control.

Effect of the rates of NPK fertilizers on development, yield and fruit quality of tissue-culture propagated Cavendish banana on gray soil in Southeast Vietnam

H Thành Nam, Nguyễn Thảo Xuân Huỳnh, Mai Văn Tr và Bùi Xuân Khôi

SUMMARY

The effect of NPK rates on development, yield and fruit quality of tissue-culture propagated Cavendish banana on gray soil in the Southeast Vietnam were surveyed during 2004-05. The trial was laid out in RCBD including 4 treatments and 5 replications with 10 banana mats per treatment. The result showed that, the rate N-P₂O₅- K₂O of 300:200:300 (g/mat/year) and 350:300:400 gave an significant increase on development, yield and fruit quality as compared to the rate 150:50:150; 200:100:200 and the control (no applied NPK fertilizers). There is no difference on growth and yield of banana between the application rate N-P₂O₅- K₂O of 300:200:300 and 350:300:400. The application rate 300N-200P₂O₅- 300K₂O (g/mat/year) is suggested for application on tissue-culture propagated Cavendish banana production on gray soil of the Southeast region of Vietnam.

Effect of Dosages NPK Fertilize and Organic Matter to Growth, Productivity and Quality Mangosteen Fruit in Southeast Region.

Nguyễn An , Mai Văn Tr và Bùi Xuân Khôi

SUMMARY

The experiment (RCBD design, 9 treatments, 3 replications) performed at a 12- years old mangosteen orchard on the red soil in Dong Nai province during 2003-05. The result showed that user 1100g N + 1100g P₂O₅ + 1550g K₂O with 20 kg chicken organic matter or 900g N + 900 gP₂O₅ + 1250g K₂O with 40 kg beef organic matter was higher in productivity and better in fruit quality. Not reducing productivity in only user organic matter treatments comparison with ‘user NPK fertilize’s treatments.

Study on health of milk fruit tree at Chauthanh - Tiengiang

Nguyễn Văn Hòa, Nguyễn Khánh Ngọc, Nguyễn Thị Kim Uyên,
Nguyễn Ngọc Anh Thảo và Nguyễn Huy Cường

SUMMARY

*Milk fruit is an important fruit at Chauthanh-Tiengiang. Unfortunately, the phenomenon called die back on it is a serious problem and the causes have not been identified yet. In this study we found that there were many problems involved, such as the root rot due to fungi, mainly by caused by *Fusarium solani*, nematodes and the cultural practice habits of the farmers, all have been indicated in the conclusion; Wilting of the branches and fruits due to *Botriodiplodia* sp. and the root system rotted. A portion of the managing strategy has been carried out that was the control of the nematode. The results shown that using combination of Ridomyl Gold and nematicides such as Regent 0.3G, Stop 15WP, Sincocin 0,56 SL + Agrispon 0,56SL to apply 3 times to the soil at the base of the trunk for 20 days interval could help in reducing the nematode population and enhance the new root system emerged.*

Result of study on root rot disease of citrus and it's management

Nguyễn Ngọc Anh Thảo, Phan Thanh Trí, Bùi Thị Thanh Thúy và Nguyễn Văn Hòa

SUMMARY

*Root rot is a serious disease on citrus tree, especially on citrus in the Mekong Delta. Result from investigation shown that almost varieties were infected by Greening and root rot diseases. Isolation of soil and root samples from diseased citrus tree revealed the presence of *Fusarium solani*, *Phytophthora* sp., *Pythium* sp., *Sclerotium* sp., *Clitocybe tabassens*,... Of them, *Fusarium solani* seem to be a main cause agent.*

*To control root rot disease, we carried out experiment using Chemical and antagonistic fungus *Trichoderma* spp. in the Lab and in the field conditions.*

*In the Lab., result shown that all chemicals used and antagonistic fungus *Trichoderma* were good. In that, Ridomil and Bendazol are better than Nustar. In the field experiment, the results shown that the above chemicals applied to the trees' base and followed by application of the *Trichoderma* at 20 days after application of chemicals could reduce the population of fungal spores and the root system could be recovered.*

Preliminary investigated results on widespread and reinfection of Citrus Greening disease in Tien Giang, Vinh Long and Thua Thien Hue Provinces

Trần Thị Hằng Yến, Trần Thị Yến Phương, Đoàn Văn Bình, Bùi Thị Minh Bình,
Frédéric Gatineauc (CIRAD-Pháp) và Lê Thị Thu Hằng

SUMMARY

This investigation showed that planting citrus free disease seedlings isolated at least 700m from hot spot of VLG disease could contribute to the best plant protection against the reinfection

of the disease. None of 45 citrus varieties is tolerant to VLG as after two years of natural screening almost infected more than 50%. Confidor application could control psylla well to be contributed in IPM for VLG reinfection management.

Observation on the growth and internal symptoms of Greening infected Cam Sanh plant

Nguyễn Thanh Bình, Hồ Quốc Anh và Nguyễn Minh Châu

SUMMARY

The histological observation on thin section of mid vein, leaf stem and twig of Greening infected trees after staining with iodine and aluminum-iron hematoxylin, showed that starch was accumulated in parenchyma, xylem, phloem and medullar parenchyma due to the disorder of cambium division.

Study on black spot canker disease of mango and its management

Nguyễn Ngọc Anh Thảo và Nguyễn Văn Hòa

SUMMARY

Black spot canker is the second serious disease of mango follow anthranose disease. This disease causes fruit yield lost before harvest upto 30-50 percent. Attempt to control this disease, we carried out experiments using chemicals such as: Starner, Kasumin, Cuproxat both in the Lab and the field conditions. Using paper bags, Taiwanese bags and cloth bags for bagging mango fruit of variety Cat Chu could prevent the infection of the bacteria. Result in Lab shown that both Starner and Kasumin could prevent the disease development. In the field conditions, the chemicals could control the disease incidence and Starner showed good potential for safe chemical to control this disease. The investigation for disease occurrence during 2005 in the field shown this disease was heavy from month of 10-11 month due to rain.

Preliminary results of the effect of quality of Trichoderma product, its application and soil's humidity on alive ratio, distribution and change of Trichoderma antagonist fungus

Nguyễn Thu Linh và Nguyễn Văn Hòa

SUMMARY

Trichoderma bio-active product was selected from natural conditions contributed to control soil borned diseases. However, successful levels in using it as biocontrol agents to control plant diseases depend on quality of product. Successful Trichoderma product must ensure that Trichoderma will grow after apply to the soil. And application process must be repeated crop by crop. Quality of Trichoderma product, application methods and humidity of soil affect on alive ratio, distribution and change of Trichoderma quality.

The result of current status insect species and primary study on biological product SOFRI D-H-A-T for controlling harmful ants on Dragon fruit

Lê Qu c i n, Hu nh Thanh L c, Nguy n Ph c Sang và Nguy n V n Hòa

SUMMARY

Results of surveys showed that there are 10 species current status on dragon fruit orchard. Although Dragon fruit was cultivated long ago in Tien Giang, the average productivity of dragon fruit, in general, has been high enough and the quality hasn't met the standards of exportation. One of problems of farmers is the harmful ants on dragon fruit. Household ants feed on sugars, honey, fruit juice, fats, and meat. Dragon fruit orchards they are attracted to honeydew, produced by soft scales, mealybugs, high concentration sugar of skind, flower and young shoot.

This primary biological product SOFRI D-H-A-T contains sugars, and Borax (3%), Baits are borax (3%) mixed with materials that attract worker ants looking for food. They are a key tool for managing ants and the only type of baits recommended in most situations. Ants are attracted to the bait and recruit other workers to it. When properly used, baits are more effective and safer than sprays.

To try to achieve long-term control, some pest control companies offer monthly perimeter spray programs. Perimeter treatments pose more risk of environmental upset than baits in bait stations and are less effective than a bait-based IPM program for GAP production.

Results of intercropping between guava and King mandarin and initial experiment of effect from guava extracts to psyllids

H ng Tu n, Lê Qu c i n, Nguy n V n Hòa

SUMMARY

Results of intercropping between guava and King mandarin showed that population of psyllids, aphids and citrus leafminers is very low when we compared that results with outcome of control trial. After plantation 2 years with results PCR test are very low, only 2,5% tree in total was infected greening disease at intercropping trial but other result is 98,5% tree in total was infected greening disease in control trial. From that result, we practiced some experiments of guava extracts in the Lab. First results were recorded from effect of guava extracts on psyllids that is green leaf to be pulverized but this result is't high yet and other guava extracts will be done in next year.

Study on diversity of ant species and the cause of fruit canker on dragonfruits

Hu nh Thanh L c, Lê Qu c i n, Lê Th T ng, Nguy n V n Hòa

SUMMARY

*Canker spots on skin of dragon fruit hindered export to foreign country. The theme for the purpose of integrated pest management on dragon fruit to product high productivity and quality dragon fruit. We recorded 13 species of ants on dragon fruit orchards. The result of isolation and identification from ant body and canker spots on fruit showed that there were presenting of major *Fusarium sp.* and bacteria. Three major species of ant effect to canker on skin of dragon fruit are *Paratrechina longicornis*, *Cardiocondyla wroughtonii* and *Paratrechina sp.*...Ants are the first*

major agent to wind on skin of dragon fruit and also fungus and bacteria to attack the dragon fruit as the secondary causal agent.

Intergated controlling fruit borer (Conogethes punctiferalis Guen.) on Durian in The Mekong Delta

Hu nh Thanh L c, Lê Qu c i n, Nguy n V n Hoà

SUMMARY

On Durian, some important species of insect pests were discovered such as Conogethes punctiferalis Guen., Allocaridara maleyensis Craw., Pseudococcus sp., ect. Among these insects, there was Conogethes punctiferalis Guen. It occurred with high density of larvae infesting skin of the young fruits, especially at the wrist to first size.

To control Conogethes punctiferalis Guen. on Durian , we use Bacillus thuringiensis war. Kurstaki, Spinosad.

Effects of edible coatings on postharvest conservation of ‘Cat Hoa Loc’ mangoes

Thái Th Hòa, Nguy n Thanh Tùng, Minh Hi n, Nguy n Minh Châu

SUMMARY

Five edible coatings have been tested with Hoa Loc mango (Mangifera indica L.) which harvested at mature green stage. After coating, fruits were kept at ambient conditions with temperature varied from 27 to 33°C and 55-65% RH. Weight losses, changes of skin and flesh colour, firmness were evaluated during storage. Fruit quality parameters such as total soluble solids (TSS), titratable acidity (TA), pH, ascorbic acid, reducing sugar and total sugar contents were also accessed. Results showed that all tested coatings reduced significantly weight loss in Cat Hoa Loc mangoes after one week storage at ambient conditions. TFC 150 and TFC 210 are the most coating in reducing weight loss. Xedebio is the only coating which delayed ripening of mango fruits. The delay in ripening indicated by slowly development of skin and pulp color, softening and other physico-chemical properties. Xedebio enable to prolong shelf life 6-7 days at ambient temperature as compared to remaining coatings and the control.

Effects of storage temperature on quality and shelf life of ‘Chin Hoa’ durian after harvest

Nguy n Thanh Tùng, Thái Th Hòa, Minh Hi n

SUMMARY

Durian fruits (Durio zibethinus Murr.) Chin Hoa cv. were harvested when mature and stored at 12, 15°C and ambient conditions. Fruit quality parameters such as total soluble solids (TSS), titratable acidity (TA), pH, ascorbic acid content, starch, reducing sugar and total sugar contents were recorded during storage. Percentage of damaged fruits caused by disease, chilling

injury and change in fruit rind and pulp color were also assessed. Results showed that Chin Hoa durian can be kept at 15°C for 14 days without chilling injury. Durian fruits kept at 15°C ripened normally and indicated typical yellow pulp color with b^ value = 42.99, TSS=25.8%, 16.03% reducing sugar. However, about 14.29% of fruits had disease developments on fruit rind. Fruits kept at 12°C shown chilling injury after 10 days storage and abnormal ripening, bad flavour.*

Studies on maturity of 'Da xanh' pomelo

Thái Th Hòa, Nguyễn Thanh Tùng, Minh Hiền

SUMMARY

*Pomelo fruits (Citrus grandis L.) cv. Da Xanh in Ben Tre province were harvested at different maturity and were evaluated. The first harvest when fruits indicated mature stage (25 weeks after flowering), at which there were some changes in lenticels, rind color etc.... Following harvests were carried out 1 week after previous harvest. Six maturity of pomelo were surveyed. Change in fruit weight, rind thickness, rind and flesh color, fruit juice contents, total soluble solids (TSS), titratable acidity (TA), reducing sugar, total sugar and sugar: acid ratio were studied. It is recommended that pomelo Da Xanh should be harvested at 28-29 weeks after flowering to obtain good quality and flavor. At this stage, fruits had average weight of 1.5-1.6 kg, 45% juice, fruit rind changed from dark green to light green with expanding lenticels. Fruit rind color can be expressed by $L^*a^*b^*$ value and Hue angle in CIE system. L^* , a^* value and Hue angle in fruits at 28-29 weeks after flowering were 48.19-51.17, 24.34-29.91 and 116.72-116.92, respectively. Flesh changes from pink to light purple and succulent. Juice contained 10.6-11.5% TSS, 0.53-0.55% TA, sugar: acid ratio was 19.27-21.74.*

Studying on demand and taste of consumers for Mekong Delta King mandarin

Nguyễn Hữu Tín, Huỳnh Văn V và Trần Minh Tuấn

SUMMARY

King mandarin were consumed in the whole country. Most of consumers did not like fruit class under 150gram/fruit, and preferred the 250gram/per fruit. It's price was high in April to August. Some other characteristics of the demands on King Manderine were analyzed in this paper.

Investigation on the market and liking for consumption of Cat Hoa Loc mango in South Vietnam

Huỳnh Văn V, Nguyễn Hữu Tín và Trần Minh Tuấn

SUMMARY

The studied showed that production of Cat Hoa Loc mango is almost consumed in the domestic market. In there, they primarily consumed in the South Vietnam. Class of II of Cat Hoa Loc mango is the most productions in the consumed production. They have major cropped

from March to May in annually. The prices of CatHoaLoc mango depend on harvested quantity of the crop. Factors: shaped of fruit, size of fruit, the colour of fruit skin, the quality of fruit flesh and the prices are major factors which consumers decide to buy them. Most of consumers like of CatHoaLoc mango like as class of I.

Effect of some plant growth regulators to shoot multiplication, rooting and plantlets of three promising chrysanthemum varieties.

Lê Nguyễn Lan Thanh

SUMMARY

The purpose of this study is to determine the best medium for shoot multiplication, rooting and plantlets for every chrysanthemum varieties. Result showed that the best medium for shoot multiplication of 2 varieties CN93 and Tho do is MS + 0,5 mg/l BAP, vang Dai Loan is MS + 1,0 mg/l BAP. The best medium for rooting is MS + 15% CW, suitable for 3 chrysanthemum varieties.

Effect of pruning methods and growth regulators on flower quality of life- plant

Nguyễn Thị Hằng Lan

SUMMARY

Spraying GA₃ (1g/10l) and Growmore 6.30.30 (10g/8l) increased flower quality of the Life-plant (*Kalanchoe blossfeldiana*) as compared to other treatments that were not sprayed. Pruning to the remain four pairs of leaves combine with spraying these chemicals gave good quality of the pot flower.

Pest Control on Pak-choi by Safe Methods

Lê Thị Hằng Vân

SUMMARY

Safe methods including color mulchings, color row covers, and using bio-pesticide Dipel were compared to controls in dry season. Control 1 had not received any treatment. A treatment that was sprayed chemical pesticides as farmer's habit was designed as control 2. In rainy season, the row covers were laid out with control 2. The result showed that mulching pak-choi with yellow, red or silve polyethylene did not affect percentage of leaves damaged by Coleoptera (*Phyllotreta striolata*) and Lepidoptera (*Crociodomia binotalis*). This percentage on Dipel treatment was lower than on control 1 but was similar to control 2. Row cover showed the best way to control the pests. However, only white net could be recommended because it did not affect the yield in dry season but increased the yield in rainy season. Black and green nets reduced much light intensity so gave negative effects on plant growth and yield.

K T Q U KH O S Á T H I N T R NG S Á U H I V À I T N G R Y B Ô N G X O À I (*Idioscopus niveosparsus*) T R Ê N X O À I C Á T H Ò A L C T I C Á I B È - T I N G I A N G

Ph m T n H o và Trác Kh ã ng Lai

SUMMARY

Mango (Mangifera indica L.) is popular fruit and so much in like by consumer. Mango pests is big problem for mango growers. One of serious insect pests is mango hoppers. They are damage in the flowering stage, make flower poor grow and fall down. Some of orchards, the fruit cannot take form from pollination. So that, the farmer used to pesticides for control them and to now as “alarm bell” apply pesticides on mango crop.

In this studied, survey application pesticides to control pests on mango. Also show, Thiamethoxam and Imidacloprid are efficiently to control mango hooper. The studied set up desmontration of mango hopper management. It is database to set up IPM on mango hopper.

K T Q U KH O S Á T T Ì N H Ì N H S D N G T H U C B O V T H C V T V À T H I T L P Q U Y T R Ì N H P H Ò N G T R T N G H P R P S Á P (*DYSMICOCCUS BREVIPES CKLL.*) T R Ê N D A.

Trác Kh ã ng Lai, Ph m T n H o và Nguy n D ã ng Tuy n

SUMMARY

Insect pest is not diversified on pineapple (Ananas comosus). Mealybugs is serious insect pest on pineapple, they are found in all pineapple growing area. Of more importance in their damage is ‘mealbug wilt disease’ by virus transmitted from mealybug. Studied about their biology, ecology, natural enemies and method to control them to be necessary. From that, to se up IPM programme to control mealybug. My Hao product (solution for dish washing up) is efficiently to control mealybug as mealybug insecticide. The studied also show IPM process to control mealybug.