Summary of presentation

RESULTS ON SELECTION AND EVALUATION OF CLONES DA XANH PUMMELO IN BEN TRE PROVINCE

Trần Thị Oanh Yến, Nguyễn Nhật Trường, Nguyễn Ngọc Thi và Phạm Ngọc Liễu

SUMMARY

Da xanh pummelo is the famous and good pummelo variety in quality, grown popularly in Ben Tre. However, its fruit shape and quality are not homogenous because of propagation from many different mother plants. So it is necessary to select the best clone for propagation. From 2005-2008, we surveyed, evaluated and selected the best Da xanh pummelo clone, coding BDX 12, at My Thanh An village, Ben Tre province. Clone BDX 12 is 20 years old, having high and stable productivity (>200 kg/tree/year) and good quality (Brix >11%; pH: 4,4; number of seed < 1 seed).
Besides, genetic relationship of Da xanh pummelo clones in Ben Tre is also obtained by using ITS (Internal Transcribed Spacer) method.

PRELIMINARY RESULT ON IN-VITRO SELECTION OF CITRUS VOLKAMERIANA FOR FUSARIC ACID-TOLERANCE

Trần Thị Thu Yến, Nguyễn Thị Diệu Hiền, Nguyễn Thanh Bình và Lê Thị Thu Hồng

SUMMARY

Fusaric acid is a well-known phytotoxin that is produced by several Fusarium species, particularly pathogenic strains of Fusarium solani causing wilt diseases of a great variety of plants such as Citrus root rot. F.solani causes root rot complex, interacting with others such as nematode, phytophthora making severe root rot.

Through in vitro selection, we use Fusaric acid from 0 - 50 ppm for the screening of Fusarium-tolerant Citrus rootstocks. The result showed that Fusaric acid at different concentrations infected the growth and development of Citrus Volkameriana rootstock, especially roots. By in-vitro selection we have selected 2 Volkameriana inviduals that were tolerant to Fusaric acid at 10 ppm. (VB7 and VS8 clones).

EMBRYOGENIC CALLI INDUCTION FROM ENDOSPERM TISSUE CULTURE OF DUONG MANDARIN *(CITRUS RETICULATA BLANCO)*

Nguyễn Thanh Bình, Trần Thị Thu Yến, Bùi Thế Giang và Nguyễn Minh Châu

SUMMARY

Endosperm tissues of Duong Mandarin (Citrus reticulata Blanco) were cultured in four growth media to produce embryogenic callus included: A1 [MT + 2 mg/l 2,4-D]; A2 [BM + 2,4-D (2 mg/l)]; A3 [A1 + 1 mg/l 6-benzyladenine]; and A4 [A2 + 1 mg/l 6-benzyladenine]. Soft and friable calli were obtained from endosperm of Duong mandarin 150 days after callus induction in all four media in which BM media showed the best results. Endosperm excised from fruits 60-90 days after pollination was suitable for inducing embryogenic callus in BM medium plus 2,4-D (2.5 mg/l) and ME (750-1000 mg/l). The effect of ME increased the rate of friable calli and rooting ability, reduced the rate of solid calli.

PRELIMINARY STUDY ON THE DEVELOPMENT OF SOMATIC EMBRYOGENESIS ENDOSPERM OF DUONG LA CAM PUMMELO IN THE TRIPLOID PRODUCE

Bùi Thế Giang, Nguyễn Thanh Thủy, Nguyễn Văn Hùng và Nguyễn Thanh Bình

SUMMARY

Endosperm tissues of Duong la cam pomelo excised from 12 weeks after pollination were cultured in MT medium plus 2,4-D (1.5 or 2.0 mg/l) which showed the best differentiation of endosperm explants to induce direct somatic embryos. Germinations of somatic embryos derived from endosperm tissues were obtained in MS basal medium without growth regulator. However, there were many variation of somatic embryos in all three medium MS, MT and BM. And we have got rooting from those embryos in all three basal media on germination of somatic embryos derived from Duong la cam pomelo endosperm tissues cultured.

STUDY AND SELECTION OF ROOTSTOCK – SCION COMBINATIONS OF NAM ROI AND DA XANH PUMMELO FOR SALT TOLERANCE IN MEKONG DELTA

Võ Hữu Thoại, Nguyễn Vũ Sơn, Lê Thị Khỏe và Nguyễn Minh Châu

SUMMARY

The aim of first experiment is to screen local citrus seedlings under salt condition in order to determine the best species (clones) for rootstocks. Fourteen citrus seedlings that included in this experiment were collected from provinces of the south Viet Nam.

After 4 weeks pruning, all seedlings that were irrigated salt water at 0, 2, 4, 6 and 8‰ of NaCl concentration in net house condition of SOFRI during 56 days on 30 minutes every day.

The experiment showed that the salinity was affected on the plant growth revealed through decreasing single shoot height, dry and fresh weight of single shoot and leaves total and chlorophyll content in leaves of local citrus seedlings after 56 days of the salt treatment.

The result of this experiment indicated that the citrus seedlings such as buoi Bong (Hue), buoi Bung (Ben Tre), sanh (Ben Tre) and hanh (Ben Tre) could be satisfactory salt tolerant rootstocks.

Second experiment was the forecasting rootstock – scion incompatibility in citrus between Da xanh and Năm roi pommelo and local citrus rootstocks was also carried out at the net house condition of SOFRI. The experiment results showed that all the local citrus rootstocks were able in good compatibility with Da xanh and Năm roi pommelo scions.

Third experiment was the effect of salinity on growth, development and yield of grafted citrus combinations in field condition was carried out at Mo Cay district - Ben Tre province.

RESULTS OF SCREENING FOR ALUMINUM TOLERANCE IN LOCAL CITRUS AS ROOLSTOCKS IN HYDROPONIC

Lê Thị Khỏe, Võ Hữu Thoại, Đỗ Hồng Tuấn và Nguyễn Ngọc Anh Thư

SUMMARY

The local citrus cultivars and species as rootstocks collected from acid sulphate soils presented different of adaptation to aluminium (Al) concentration in soils, and the evaluation of these characteristics could lead to a viable option for the utilization of soils. The objective of this experiment was to select the aluminium tolerant rootstocks in hydroponic culture, based on the visual symptom of aural parts, the production of plant fresh weight via the relative growth rate, the length of the primary shoots and roots as compared to control (non-aluminum solution), respectively. The results revealed that "Long co co" pummelo-2 (C. maxima) (38,89 %, 67,84 %,

59,20 % and 50,68 %), "Long co co" pummelo-1 (C. maxima) (40,74 %, 64,90 %, 56,05 % and 47,71 %), "Sweet orange-LA" (C. sinensis) (44,44 %, 61,32 %, 52,90 % and 45,55 %)), "Sweet orange -TG (C. sinensis) (46,29 %, 62,39 %, 53,84 % and 46,07 %) were better tolerant.

Keywords: Citrus sp., aluminum tolerance

PRELIMINARY RESULTS FROM THE OBSERVATION ON THE EFFECT OF SOME PLANT EXTRACTS ON CONTROLLING OF THRIPS INFECTED ON DA XANH PUMMELO

Trần Thị Thanh Vân, Lê Quốc Điền và Nguyễn Văn Hòa

SUMMARY

The results from the observation shown that thrips population on young shoot and leaf of Green peel pomelo were high. In this investigation, the treatment using Toi Toi and the extracts from ginger and onion pulp had good control of Thrip spp and Scirtothrips dorsalis Hood under laboratory conditions. The results also shown that at laboratory conditions, the extract from ginger at the ratio of 1:1 had best results in controlling of Thrip spp and Scirtothrips dorsalis Hood.

RESULTS ON CONTROL OF MITES AND THRIPS ON DA XANH POMELO

Đỗ Hồng Tuấn, Lê Quốc Điền và Nguyễn Văn Hòa

SUMMARY

We conducted experiments to control mites and thrips on Da xanh pomelo. In the first experiment, we tried with 7 treatments used chemical, biochemical substances and mineral oil. All most treatments shown highly effect to control mites and thrips, however, for the safety purpose we only recommend to use mineral oil SK Enspray 99 EC or biochemical B40-abamectin to control mites on Da xanh pomelo with five sprays during a period of fruiting. In second experiment, B40 - Abamectin should be sprayed when flowers of trees start to blow and 5 more sprays as in the first experiment. When the flowers blow, nymphs and adults of thrip's population were very high and there were about 18,71 ± 4,19 individuals per flowe r or about 97 individuals per 5 yellow sticky traps have been counted in third experiment. When Ortus 5SC, Nissorun 5EC, Comite 73EC or the combination of Abamectin and yellow sticky traps have been used, these treatments were highly effect to control thrips. However, Nissorun 5EC could kill green ants and fishes, the results shown in the fourth experiment. To combine yellow sticky traps and interval sprays of Ortus 5SC and Comite 5EC when flowers have not been blown yet, the effect in controlling of mites and thrips were high, this result is shown in the fifth experiment.

STUDY ON MATURITY INDICES OF POMELO DUONG LA CAM IN SOUTHEAST REGION

Mai Thị Kim Truyện và Nguyễn Văn Hùng

SUMMARY

Maturity indicates of pomelo c.v. *Duong la cam was studied during the year 2008. The experiment included of 5 different maturity incidies. The result showed that the main harvesting season of pomelo Duong la cam is from October to December. The best fruit quality as fruit harvested at period of 190 to 200 days after fruit set. Poor quality as fruit harvested at below 180 days after fruit set.*

SURVEY ON PRODUCTION SITUATION AND PACKING PROPERTIES OF DUONG LA CAM POMELO IN SOUTHEAST AND COMPARISON THE SITUATION WITH THE VIETGAP STANDARD

Lê Thị Chung và Nguyễn Văn Hùng

SUMMARY

Surveying production of Duong la cam pomelo was conducted at Vinh Cuu district, Dong Nai province and Tan Uyen district, Binh Duong province. Results showed that out of 61 requirements of VietGAP standards, farmers fully met only 10 requirements, only few farmers complied 32 requirements and 19 requirements were found unachievable. Almost farmers had no ideas on prevention of risks from soil, fertilizers and water resource. Pomelo farmers from the investigated provinces did not record fertilizer, pesticide application for crop as well as product harvest. The survey also showed that farmers did not have any chemical stores or cabinets which required by VietGAP for safety to the workers and environment. Basic facilities for workers such as toilet and hand washing basin were found not available both on farms and packhouses.

STUDY ON CONTROL OF POSTHARVEST DISEASES OF "DA XANH" POMELO

Nguyễn Thanh Tùng, Ngô Trần Quang Huy, Phạm Hoàng Lâm, Đỗ Văn Ơn và Nguyễn Văn Phong

SUMMARY

In collecting and subdividing process of fruit sample at produce areas, retailer, wholesaler and market, we determined one fungical diseases which mainly attacked on postharvest "Da xanh" pomelo fruit.

Hot water treatment at 50^{o}C–5minutes and sodium carbonate salt 2% inhibited development of fungical diseases on postharvest "Da xanh" pomelo at room temperature - 7 days.

Combination hot water treatment 55^{o}C -5-10 minutes with sodium carbonate salt 2% showed inhibition of diameter development of fungical disease. Beside, this combination didn't affect quality pomelo fruit after storage at room temperature 7 days.

ANALYZING OF NAM ROI AND DA XANH POMELO SUPPLY CHAINS IN SYSTEM OF DOMESTIC AND EXPORT MARKETS

Đoàn Hữu Tiến, Tạ Minh Tuấn và Trần Thị Oanh Yến

SUMMARY

Production of Nam roi and Da xanh pomelo has been helped farmers and agents of pomelo suply chain to get income. On the suply chain of Nam roi pomelo from Vinh Long to HCMC, the profit of farmer, collector, wholesaler and retailer was 350VND/kg, 240VND/kg, 210VND/kg and 1.127VND/kg respectively. On the suply chain of Da xanh pomelo from Ben Tre to HCMC, the profit of farmer, collector, wholesaler and retailer was 4.429VND/kg, 690VND/kg, 645VND/kg và 4.284VND/kg respectively. On the suply chain of Nam roi pomelo from Vinh Long to HCMC the price of pomelo was increasing 2.2 times. On the suply chain of Da xanh pomelo from Vinh Long to HCMC the price of pomelo was increasing 1,7 times. The export suply chain gave farmer higher profit than domestic suply chain.

RESULTS OF ISOLATION AND TESTS FOR CONTROLLING CAPACITY OF SOME ENTOMOPATHOGENIC FUNGAL ISOLATES ON MEALY BUG DYSMICOCCUS SP.

Huỳnh Ngọc Hài và Nguyễn Văn Hòa

SUMMARY

From January to September, 2008, six isolates of parasitic fungi on mealybug were isolated and collected. They were Aspergilus sp .(1) (A -RSMC1), Aspergilus sp.(2) (A-RSMC2), Aspergilus sp.(3) (A-RSM), Paecilomyces lilacinus (P-L), Paecilomyces sp. (1) (P-RSVS), Paecilomyces sp.(2) (P-RCC). The results from study indicated that two isolates named A-RSM and P-RCC had high ability in controlling of Dysmicocus sp. *(84,78 and 73,32%) under laboratory conditions. In addition, under nethouse conditions these two isolates of parasitic fungi had also affected on Dysmicocus* sp. *but with the lower percentage of controlling than that under laboratory conditions (63,41 and 67,53 %).*

SCREENING OF PINEAPPLE ROOT BUD FOR PHYTOPHTHORA DISEASE OF SOME POTENTIAL CULTIVARS FOR PINEAPPLE IN SOUTHEAST REGION

Nguyễn Thị Thuý Bình và Lê Thị Thu Hồng

SUMMARY

Phytophthora disease is an important pest on pineapple. Six isolates of Phytophthora sp. were collected on pineapple and rate 18,75%. Twenty pineapple samples were collected; among them have 9 samples were local cultivars, 11 samples were import from French cultivars. By using bioassay method, GF90; Ci09; BR cultivars were the least infected at 0,2cm^2; 0,75cm^2; 1,08cm^2, Ci036 cultivar were infected highest at 4,17cm^2, and other cultivars were medium infected.

PRELIMINARY RESULTS OF CROSS-BREEDING ON LONGAN C.V. XUONG COM VANG AND C.V. XUONG COM RAO

Phan Đình Kim Thư và Nguyễn Văn Hùng

SUMMARY

Xuong hat tieu da vang and Xuong hat tieu da xanh cultivars of longan have good characteristic of small size of fruits, tiny seeds, and strong development. These cultivars own many good qualities that can be combined in cross-breeding. Classical cross-breeding can create good hybrids that have owned many good qualities from their father and mother. On this study, we used five varieties of Xuong group and have carried out eight of crosses. The results showed that the numbers of hybrid seeds achieved from 53.38% to 68% in different 8 cross tests. Hybrid longan seeds were grown and gave a high germination rate (from 83.35% to 92.38%). The plantlets originated from hybrid seeds show a better survive and develop normally and uniformly. All plantlets adapted well in the net house condition.

EFFECT OF BORON ON FRUIT SET AND YIELD OF "XUỒNG CƠM VÀNG" LONGAN

Bùi Thị Mỹ Hồng và Đoàn Thị Cẩm Hồng

SUMMARY

The aim of this study was to investigate the effect of Boron (B) fertilization on fruit set and yield of "Xuồng cơm vàng" longan. The results showed that foliar application of borax at concentration of 2g/l was sprayed on leaves at stage of inflorescence 10 cm in length, gave the best result in increasing fruit set and yield. However the quality of fruit was not significant different among the treatments and the control as well.

EFFECT OF SOME PLANT GROWTH REGULATORS ON YIELD OF LONGAN *(DIMOCARPUS LONGAN)* ON GREY SOIL IN THE BA RIA VUNG TAU PROVINCE

Nguyễn An Đệ và Bùi Thị Mỹ Hồng

SUMMARY

The experiment was conducted to investigate the effect of concentrations of spray on the leaves of some plant growth regulators (GA_3 and NAA) on yield of longan (Dimocarpus longan) grown in grey soil of Ba Ria Vung Tau province from May to November in 2008. Experiment was done arranged by RCBD including 6 treatments, 4 replication, each in 1 tree. The result showed that spray single NAA or combined NAA and the GA_3 made a reduction of the fall of fruit and increased the yield of longan. Spray of (20ppm) NAA in combination with (5ppm) GA_3 gave highest longan yield.

CAT HOA LOC (SONG HAU) MANGO PRODUCTION PILOT FOLLOWED GLOBALGAP STANDARDS AND EXPERIENCES FOR FRUIT PRODUCTION BASED ON GAP STANDARDS

Nguyễn Văn Hòa[(1)], Nguyễn Thành Hiếu[(1)], Lê Văn Bằng [(2)] và Nguyễn Minh Châu[(1)]

SUMMARY

SOHAFARM[(2)] has 7.000 ha areas of land for house, agriculture and others. There are 150.000 Cat Song Hau mango trees of 7 - 8 years old planted at SOHAFARM, which give 3,000 tones fruit per year. In the project, to build up the pilot of Cat Song Hau mango for GLOBALGAP standards at SOHAFARM, we had chosen a group of 7 farmers with 18 ha mango for implementing the GLOBALGAP production model. The project started from August, 2006. Firstly we carried out the farm survey, the results showed that the areas can be done for GAP production, however, there were many things need to be improved or changed to meet the customer requirements. Then, we have conducted intensive training/mentoring sessions in different aspects such as GLOBALGAP standards and regulations, plant protection and safe chemicals use, harvesting and post-harvest toward GAP requirements, first aid, etc. When the pilot implementing, we developed the GLOBALGAP manual for Cat Song Hau mango, built the protocol for mango production including fertilizers and chemicals used, which the farmers accepted to use. In addition, we along with the staff of Mango club at SOHAFARM built the quality management system (QMS), which helped to manage the group working properly from the Group to individual farmer. With the consultancies from SOFRI staff, the farmers changed their way to culture mango towards GAP requirements, they built the stores for fertilizers, chemicals, equipments and so on. After one year implementation, two farmers with 3 ha fail to follow with the group due to their capacity. On 27-28th July, the external auditor from SGS came for auditing both the group management and field production on 5 farmers' farm with 15 ha. The results shown there were well done on group quality management system, quality manual, procedures and documentation and the field implementations except one farmer farm. So there were 4 farmers with 11.7 ha got GLOBALGAP Certificate on August, 2008.

(1): SOFRI: Southern Horticultural Research Institute

(2): SOHAFARM: Song Hau Farm Co. Ltd belonging to Thot Not district, Can Tho City -

GAP: Good Agricultural Practices

STUDY ON DIVERSITY OF THRIP SPECIES ON MANGO AND PRELIMINARY RESULTS ON THE TEST OF SOME PLANT EXTRACTS FOR CONTROLLING OF MAJOR THRIPS UNDER LABORATORY CONDITIONS

Nguyễn Thị Kim Thoa, Lê Quốc Điền và Nguyễn Văn Hòa

SUMMARY

The results of the investigation showed that there were three species of thrips on Mangos: Scirtothrips dorsalis Hood, Megalurothrips sjostedti Trybom, Thrips hawaiiensis Morgan. Result also showed that population of Scirtothrips dorsalis was more popular at SOFRI while population of Megalurothrips sjostedti and Thrips hawaiiensis were more at Cho Gao district.

The life cycle of Scirtothrips dorsalis is about 12-14 days at 28-32°C and 80-90%; Megalurothrips sjostedti is about 19 days at 29°C and 58% RH; Thrips hawaiiensis is about 30 days at 20- 25^{0}C and 79%.

The use of plant extracts in mango for thrips control was studied and results shown that plant extracts from "daisy flower", "quao", "onion", "Gralic-Tỏi tỏi" provided good control of mango thrips.

BREEDING OF DURIAN AND RAMBUTAN IN HIGH QUALITY

Giản Đức Chứa, Nguyễn Ngọc Thi và Nguyễn Ngọc Anh Thư

SUMMARY

From 7 crosses (hybrid of Mongthon x Chanee) among Cơm vàng sữa hạt lép, Mongthon, Ri 6 và Chanee 1,043 hybrids were gained. Test for Phytophthora tolerance of these has shown that 181 individuals had percentage disease of 1 level. 14 hybrids of rambutan were also made and evaluating work is going on.

PRELIMINARY RESULTS OF DEVELOPING DRAGON FRUIT VARIETIES HAVING PINK OR PURPLE FLESH WITH HIGH QUALITY BY CONVENTIONAL HYBRIDIZATION

Nguyễn Ngọc Thi

SUMMARY

Objective of dragon fruit breeding from 2005 to 2010 are fruit with pink or purple flesh and good quality. Methods were applied as selfing from 'Longdinh 1' red flesh Cultivar ('H14') and crossing between red flesh clone (H10) and 'Binhthuan' white flesh; red flesh Long Dinh 1 (H14) x three local white flesh varieties [namely, 'Vo xanh', 'Binhthuan' (BT) and 'Chogao'] and red flesh Long Dinh 1 x four ones imported from Taiwan (namely, 'VN', 'A1', 'B1' and 'Red flesh').

Results obtained 13 crosses and a selfing one. By fruit quality evaluation from 231 clones of H14 x 'Chogao' white flesh (CG) and from 296 individuals of H10x BT, 13 promising hybrids have been selected including: Four clones with white-pink flesh (H10xBT-380, H10xBT-209, H14xCG-334 and H14x CG-053) and nine ones having purple to pinkish purple flesh ('H10xBT-164', 'H10x BT-195', 'H10xBT-295', 'H10xBT-361', 'H10xBT-319', 'H14xCG-005', 'H14xCG-033', 'H14xCG-072', 'H14xCG-345') which have sourish sweet to very sweet in taste (TSS varying from 13.85 to 18.30%). These promising individuals along with two local cultivars, 'H14' and 'BT', will be grown for trial DUS and VCU at Tiengiang, Longan and Binhthuan provinces in 2009. The clones from H14'selfing and 9 remain crosses making with H14 has been grown at field conditions for evaluation fruit quality in the next years.

Keywords: red flesh, white flesh, pink flesh, purple flesh, crosses, clones/individual.

IMPROVEMENT QUALITY AND SWEETNESS OF CHO GAO DRAGON FRUIT *(HYLOCEREUS UNDATUS)* WITH POTASSIUM FERTILISERS

Nguyễn Hữu Hoàng và Nguyễn Minh Châu

SUMMARY

Dragon fruit (H. undatus) belongs to CAM family, many studies had been done on the crop to recommend different fertiliser doses with the aim to improve its yield and fruit quality. The trial of "Improvement quality and sweetness of Cho Gao dragon fruit (Hylocereus undatus) with fertilisers through basin application was carried out with the objective to find out type and doses of potassium fertiliser which performed well in improvement of fruit quality and yield of Cho Gao dragon fruit. The trial was laid out with 6 treatments of potassium fertilisers such as KCl, KNO_3 and K_2SO_4 to compare with control of farmer. The result of first year harvest showed that KNO3 and K_2SO_4 at rate of 500-750g/plant/year had a positive effect on fruit quality in term of flesh acidity, total and reducing sugars. The application of KNO_3 and K_2SO_4 500g/plant/year produced fruit with higher content of TSS in comparison to higher dose of 750g/plant/year. Basin application of KCl at different rate was found to improve peel thickness and fruit firmness.

EFFECTS OF NPK AND ORGANIC FERTILIZATION FOR DRAGON FRUIT

Nguyễn Hữu Hoàng và Nguyễn Minh Châu

SUMMARY

Dragon fruit (H. undatus) is becoming a led exporting fruit crop of Vietnam. In Tien Giang, the crop was now shifted to grow on cemented post rather than using of living plant as supported tree for its climbing. With the advantage in using of national net-work of electricity instead of generator dragon could produce at least two cycles bearing in off-season. The recommended fertiliser doses for new mode of dragon fruit producing was not available. The experiment of "Establishment of NPK fertiliser doses in combination with compost for Cho Gao dragon fruit (Hylocereus undatus)" was laid out with 8 treatments of different NPK doses in combination with chicken compost (humic) and control of farmer. The results after two year application of such fertilisers showed that fruit yield harvested from experimental treatments was higher (54,11-55,51kg/plant/year) than in control of farmer (51,86kg/plant/year) but not significant difference. At higher dose of N, P and K fertiliser resulted in better fruit quality in regard of fruit firmness, TSS, reducing and total sugar. Fruit acidity was found lower as increasing of K-from 500 to 750g/plant/year dose plus chicken compost.

STUDY ON THE GRAFTING METHODS FOR SWEETSOP IN SOUTHEAST REGION

Nguyễn Văn Thu, Nguyễn Quốc Chương, Mai Văn Trị và Bùi Xuân Khôi

SUMMARY

Investigation on the grafting methods for sweetsop should that all 3 methods H grafting, nối đoạn canh, nối ngọn were successfully practiced with high union conclusion found 12-14 months of rootstock was most suitable.

EFFECTS OF FRUITS CUTTING LEVELS TO YIELD AND QUALITY ON CUSTARD APPLE IN SOUTHEAST REGION

Đỗ văn Quỹ, Nguyễn Văn Thu và Mai Văn Trị

SUMMARY

The experiment on fruits cutting rate was conducted on 6 years sweetsop trees at Lang Dai commune, Dat Do District, Ba Ria- Vung Tau province from February to November 2008. 7 treatments: 30 fruits, 40 fruits, 50 fruits, 60 fruits and 70 fruits/tree and control (not cut off), designed by R.C.B.D. The result showed that rate of 50 fruits/tree mean cutting off 61,61% gave good number of first calss fruits: leading to high economical value to the farmers.

EFFECTS OF SOME OF THE CHEMICALS TO SHED LEAVES RATE, PRODUCTIVITY AND QUALITY OF CUSTARD APPLE IN SOUTHEAST REGION

Đỗ văn Quỹ, Nguyễn Văn Thu và Mai Văn Trị

SUMMARY

The experiment "Effect of many chemical cause shed leaves to support to flower processing on custard apple tree" had been performed on 6 years custard apple tree at LangDai commune, DatDo District, BaRia – VungTau province from February to November 2008. There are 7 treatments includes: thiourea 0,4%, thiourea 0,6% and thiourea 0,8%; ethephon 0,6%, and ethephon 8%; and control spray water, arranged R.C.B.D. Ethephon 0,6 (%) was the best treatment to cause shed leaves. Yield and economic efficiency to farmers from this treatment was also highest.

EFFECTS OF SOME APPLICATION LEVELS OF N,P,K FERTILIZERS ON YIELD OF JACKFRUIT ON GREY SOIL IN SOUTHEAST REGION

Nguyễn Thanh Thịnh, Nguyễn An Đệ và Bùi Xuân Khôi

SUMMARY

Fertilizer is important factor to cultivate jackfruit effectively in the Southeast region of Vietnam. Many research results and recommendation showed that the rate 2:2:3 of $N:P_2O_5:K_2O$ is suitable for jackfruit in wearing-fruit stage. Some of inorganic levels to combine organic fertilizer in an experiment included 9 treatments were carried out on grey soil in Ba Ria-Vung Tau province. Treatment of a ($1100gN+1100gP_2O_5+1650gK_2O$ + 30kg cow pat/tree/year) showed optimal with high blooming and high yield in experiment.

SCREENING FOR TOLERANCE TO PHYTOPHTHORA DISEASE OF SOME JACKFRUIT VARIETIES IN SOUTHEAST REGION

Lê Thị Vân, Nguyễn Thị Thúy Bình và Lê Thị Thu Hồng

SUMMARY

We have isolated 9 samples of phytophthora sp. out of 67 samples collected from infested jackfruit trees in Southeast region. By artificial infection of Phytophthora sp of 11 commercial varieties of jackfruits, the result showed that Ruột Đỏ jackfruit was highest infested, MDN06, MDN09, MBRVT32 were medium while Ma Lai variety was the most tolerant with the least areas of infection.

PAPAYA BREEDING FOR TOLERANCE TO PRSV (PAPAYA RINGSPOT VIRUS)

Nguyễn Trịnh Nhất Hằng và Nguyễn Phương Thúy

SUMMARY

The papaya production has been reduced due to papaya ring spot virus (PRSV). HCAR-164 var. introduced which is conformed tolerance to PRSV. The present study crosses were effected involving 'HCAR-164' as female and 'Dai Loan tim' as male parents. Among these F_1 hybrids, 8 lines were particularly outstanding in vigor, improved fruit quality. The average TSS (10.3-11.5 Brix %), firmness (1.8-2.4 kg/cm^2), pulp thickness (2.6-3.3cm) were better than when compared to parent plants. Beside of that, they were not effect by PRSV in the field. Usefulness of these lines will be evaluated and discussed for selection var. tolerance to PRSV.

RADIATION INDUCE MUTATION FOR IMPROVING ĐAI LOAN TIM PAPAYA VARIETY

Nguyễn Trịnh Nhất Hằng và Huỳnh Văn Chánh

SUMMARY

A papaya breeding program was initiated at the Southern Fruit Research institute, Vietnam in 2006. Using gamma rays to induce mutation of seeds, germinated-seeds of popular local variety Dai Loan Tim papaya were irradiated with gamma rays ranging from 10Gy to 60Gy. Radio sensitivity test of germinated-seeds showed that lethal dose killing 50% and 100% (LD 50 and LD100) of the irradiated germinated–seeds were 30Gy and 60Gy respectively. Two doses below LD 50 value viz. 10Gy and 20Gy were selected for field planting. A total 1000 M_1 plants were planted and screened in the field. Among these, four mutant plants which were particularly outstanding in vigor with medium dwarf stature, bearing the first flower at a height of 50-60cm from the ground and improved fruit quality when compared to control papaya plant. The average fruit weight of four mutant papayas ranged from 1.3-1.6 kg/fruit, the average total soluble solids from 10.8 -12.6 Brix%. Usefulness of these economic mutants for improving precocity and reducing plant height in papaya breeding program will be discussed.

PRELIMINARY RESULTS ON TOMATO BREEDING

Trần Kim Cương, Lê Thị Hương Vân, Lê Trường Sinh và Huỳnh Vũ Sơn

SUMMARY

78 lines of table tomato and 8 lines of cherry tomato, there is one superior line of tomato were selected.

Besides, investigation on hybrids, there are four tomato hybrids which gave good performance of yield and fruit characters were selected for future coordinated yield trials.

Three superior lines of tomato i.e. 1 table variety and 2 cherry varieties, were selected from 84 lines. There outstanding varieties performed good yield and quality that could be developed in commercial level.

THE VARIETAL TRIAL ON OKRA IN TIEN GIANG PROVINCE

Lê Trường Sinh, Huỳnh Vũ Sơn và Lê Thị Hương Vân

SUMMARY

A trial including two combinations bred by Division of Vegetable (SOFRI), two local cultivars, and two others from seed companies as controls was laid out in dry season at Tien Giang province in 2008. The result showed that the combination '1–7' was the best one and suitable for release with advantage of high yield, good fruit quality, low rate of thorny fruit, and early flower. Besides, this combination had few branches so could be sown with high density to increase the production.

STUDY ON THE ABILITY TO INDUCE RESISTANCE OF SOME CHEMICALS TO CONTROL ANTHRACNOSE DISEASE ON HOT PEPPER

Nguyễn Thành Hiếu

SUMMARY

Histological and field studies on systemic acquired resistance (SAR) against hot pepper anthracnose disease were conducted in screen house and Bình Ninh Village (Cho Gao district, Tiengiang province). For study of celular reaction, experiment were carried out on Long Dnh- 4 cultivar (Vegetable Division of Southern Fruit Research Institute) treated with either salicylic acid, silica, canxi clorua, nicotinic acid, acibenzolar-s-methyl (BTH), copper colorua, oxalic acid, Dipotassium hydrogen phosphate and challenged with spore of Colectotrichum sp. For field study, Hai Mui Ten-207 cultivar (West-East Company) was chosen for evaluation of single or by mixture of two or three inducers were applied to control hot pepper anthracnose disease.

The rerults showed that all SAR-chemicals had ability to induced resistance by increasing percentage of appressoria causing fluorescent epidermal cell, fluorescent cell walls and levels of cell response (++ and +++). Likewise, the mixture of Silica + Acibenzolar-S-methyl or Silica + Acibenzolar-S-methyl + Score (fungicide) had effect to reduce percentage of disease incidence and prolong the period of systemic acquired resistance to control anthracnose disease in field.

EFFECTIVENESS OF PREVENTING BACTROCERA CUCURBITAE FROM CHISELING BITTER GOURDS BY SPRAYING PESTICIDE AND HANGING TRAPS

Lê Trường Sinh, Lê Thị Hương Vân, Huỳnh Vũ Sơn và Trần Kim Cương

SUMMARY

The trial "Effectiveness of preventing Bactrocera cucurbitae from chiseling bitter gourds by spraying pesticide and hanging traps" was done in Binh Khuong, Binh Phuc Nhut, Cho Gao, Tien Giang from August to October, 2008. The result of the trial shows that: Using microbiopesticides to prevent Bactrocera cucurbitae from chiseling bitter gourds brought about the highest economic effectiveness; spraying the fly-attracting liquid (SOFRI Protein 10 DD) mixed with the treatment Fipronil 5% spottily onto the bitter gourds trellis brought about the lowest rate of bitter gourds which were bored by Bactrocera cucurbitae.

RESULTS OF THE COLLECTION, CONSERVATION AND EVALUATION ON SOME FLOWER VARIETIES IN TIEN GIANG IN 2007-2008

Nguyễn Văn Sơn và Lê Nguyễn Lan Thanh

SUMMARY

In 2007-2008, 17 kinds and 74 varieties/clones i.e. gerbera, chrysanthemum, orchid, epiphyllum, alpinia, rose, carnation, portulaca, vinca, water lily, lipstick, petunia, ornamental ananas, philodendron, spathiphyllum, dracaena and impatien were collected. They performed good growth in shade. The collected flowers and ornaments showed diversified in shape and colors.

Four gerbera and chrysanthemum varieties were growing and developing well in shade condition in Tien Giang. Some of them are promising of potential cultivation in large scale i.e. gerbera "Popov and Bismarch" varieties, chrysanthemum "Thach Bich" variety.

STUDY ON IN VITRO PROPAGATION OF GERBERA JAMESONII 'ĐT01' VARIETIES BY IN VITRO TECHNOLOGY

Nguyễn Văn Sơn và Lê Nguyễn Lan Thanh

SUMMARY

The flower buds (0.5 - 1 cm in diameter) of Gerbera jamesonii 'ĐT01' variety were surface disinfected in 1% Canxi hypochloride for 35 minutes and then rinsed four times in sterile double distilled water. Shoot regeneration was first on MS medium plus 3 mg/l BA plus 0.1 mg/l NAA and 10 mg/l Adenine sulphate. Shoot regeneration rate obtained highest on MS medium plus 5 mg/l BA plus 0.1 mg/l NAA and 10 mg/l Adenine sulphate. For mass shoot propagation, shoot clusters were subcultured on MS medium supplemented with 1 mg/l BA. Single shoots were cultured on MS medium containing 0.5 mg/l NAA for rooting. All plantlets acclimatized well on coco peat : rice husk: peat : sand : humix (1:1:1:1/2:1/4 ratio).

IN VITRO MUTAGENESIS IN CHRYSANTHEMUM MORIFOLIUM 'TIM NHAT' VARIETY INDUCED BY Ɣ-RADIATION

Lê Nguyễn Lan Thanh, Nguyễn Thị Hương Lan, Lâm Văn Thông và Nguyễn Văn Sơn

SUMMARY

Flowers of Chrysanthemum morifolium 'Tim Nhat' variety were purple colour and florets were flat spoon shaped. Young flower buds cultured on Murashige and Skoog's medium supplement with 0.5 mg/l benzyladenine for shoot formation. In vitro internode with buds were irradiated with Ɣ-radiation (5, 10, 15, 20 and 30 Gy). Rooting shoots from Ɣ-irradiated treatments were hardening in the greenhouse and transplanted in the shadehouse for selection. Mutants were obtained at all dose treatment. The mutants have colours from light to dark purple and red-purple, some having flat spoon shaped ray florets similar to the original cultivar, but the different were ray floret structures and size of flowers. Promising mutants were 11 lines (1,5kTN5; 3k59; 3kTN14; 1,5k84; 3k32-1; 1k27-07; 3 kTN12; 0,5k74; 1,5k66; 2k5 and 0,5k89) with new colour and shape different from the original cultivar. Mutation in flower colour was detected from 10 Gy treatment in M1V1 and M1V2 generations. Gamma ray induced flower colour mutant of 1k27-07 line was very attractive colour (light mauve).

RESULTS ON COLLECTION, CONSERVATION, EVALUATION AND USE OF FRUIT TREE GERMPLASM

(From April 1994 to December 2008 in the South of Vietnam)

Đào Thị Bé Bảy, Nguyễn Ngọc Thi, Trần Thị Oanh Yến, Trần Thị Mỹ Hạnh, Nguyễn Nhật Trường, Nguyễn Thị Ngọc Diễm, Nguyễn Phương Thúy, Nguyễn Văn Hùng, Phạm Thị Mười, Phạm Ngọc Liễu, Nguyễn Minh Châu và Bùi Xuân Khôi

SUMMARY

From April 1994 to December 2008 in the South of Vietnam, we have collected total of 781 varieties or clones of 49 kinds of tropical and subtropical fruit trees with 394 local and 387 forgein ones. In 2008, we evaluated some kinds of fruit such as: Jackfruit, Durian, Milk fruit, Longan and Mangosteen. Preliminary selection on some promising varieties for trial are Uc Longan, MCS Jackfruit, Bo Milk fruit.

ISOLATION OF MICROORGANISM CAN DEGRADE CHEMICAL RESIDUES IN CULTIVATED SOIL IN THE MEKONG DELTA REGION

Nguyễn Thị Ngọc Trúc và Lê Thị Thu Hồng

SUMMARY

There were 12 culture of bacterial isolated on two kinds of Mineral salt mediums containing Methyl orange or Diphenylthiocarbazone as sole source of cacbon and energy. These cultures are capable of degrading 2,4 D- as an analogue subtract. Morphological characters as well as biochemical test discovered that they appear as Gram-positive rod in young culture and Gram positive coccid in older culture. The shape of bacterials depends on nutrition states of medium and ages of culture. Two of them were identified a Corynebacterium sp.

EFFECT OF BIOPESTICIDES AND SOME PESTICIDES TO CONTROL PLUTELLA XYLOSTELLA IN LABORATORY

Nguyễn Thị Thúy Bình và Trác Khương Lai

SUMMARY

Develop population of Plutella xylostella and resistance pesticides very fast. Using non-reasonable pesticides and much are reason to take for some spices Plutella xylostella resistance. The result of trial shows that non resistance for pesticides used of Plutella xylostella in lab. Effect of Abamectin 0,3% + petroleum oil 39,7% was highest (93,3%) for Plutella xylostella 2 and 4 age at 4 day after spay and effect of Abamectin and Chlofluazuron 50g/l were lowest, the other pesticides were medium effect. Plutella xylostella at 4 ages were resistance higher 2 ages.

STUDY ON CONTROL METHOD OF PLUTELLA XYLOSTELLA ON CABBAGE BY BIO-PESTICIDE AND PLANT-ORIGINED PESTICIDE IN LAM DONG PROVINCE

Lê Thị Vân, Nguyễn Thị Thúy Bình và Trác Khương Lai

SUMMARY

Plutella xylostella is main pest of Brasiana in Vietnam and on the world. The experiment was designed on RCBD, with 8 treatments, 3 replication. The experiment carried out in Dalat City - Lam Dong Province. Result showed that Bacillus thuringiensis var.aizawai combine Abamectin is high efficiency control to Plutella. However, plutella have high anti-pesticide, so control is difficult. Therefore recommendation farmer used circle- pesticide to get high efficiency control.

PRELIMINARY RESULTS ON USING ANTAGONISTIC BACTERIA FOR CONTROLLING OF COLLETOTRICHUM FUNGUS

Nguyễn Văn Hòa và Nguyễn Ngọc Anh Thư

SUMMARY

On mango, Antracnose is the most damaged disease, it infects both in young leaves, shoots and fruits of both pre and post harvest and it is very difficult to control especially for the mango production following GAP standards. The aim of this investigation is to find out the safe product to contribute to the Integrated Disease Management programme. We collected and cultured five bacterial isolates which shown good potential for their ability in controlling of Colletotrichum.

In this study, five bacterial isolates were isolated from carambula and mango trees. Under In - vitro test using these isolates to fight against Colletotrichum isolated from mango, there were three bacteria isolates such as VK-2, VK-3 and VK-2x shown best control of Colletotrichum.

In other study, these five bacteria isolates were tested under nethouse conditions and Collectotrichum fungus isolated from mango was inoculated on the red pepper trees, the results shown that VK-3 and VK-4 were able to decrease disease incidence and disease severity.

In nethouse conditions (without any inoculation of Colletotrichum), these bacterial isolates were inoculated on red pepper trees, the results indicated that VK-2, VK-3 and Bacillus were also shown their ability in decreasing of the disease incidence and severity.

In post-harvest treatment on mango fruits, the VK-3, VK-4 could delay the ripening time of the fruit and decrease disease severity.

STUDY ON ORGANIZATION, SUPPLYING AND POLICY FOR EXPORT OF DRAGON FRUIT, RAMBUTAN, POMELO, MANGO AND BANANA TO CHINA, HONG KONG, SINGAPORE AND CAMBODIA

Đoàn Hữu Tiến và Tạ Minh Tuấn

SUMMARY

Currently, Vietnam has not established the Agri-Export Zones (with large area and high quality fruit varieties). The quantity of fruit exports by exporters/ firms was collected through to collectors/ wholesalers/ farmers household. The organizations of fruit cooperative have not promote strength because small scale, few members. However, Thailand was established the Agri-Export Zones. The supply of fruit products to the markets is better. The transport costs in Thailand are lower than in Vietnam. It was becoming favorable factors in supplying Thailand's fruit products to the international market. Tax policy in the Early Harvest Agreement of Free Trade China - ASEAN is also impact to the fruit export of Vietnam and Thailand. This policy has been advantages and enhances competitiveness for Thailand's fruit export to China, while it restrained Vietnam's fruit export.

STUDY ON ADVANTAGES OF PRODUCTION AND EXPORT PRODUCTION OF DRAGON FRUIT, LONGAN, RAMBUTAN, BANANA, POMELO, MANGO FROM VIETNAM AND THAILAND TO CHINA, CAMBODIA, HONG KONG AND SINGAPORE MARKETS

Tạ Minh Tuấn và Đoàn Hữu Tiến

SUMMARY

Thailand and Vietnam have geographical and socioeconomic aspects more or less similar. Those countries produce almost kinds of tropical fruits viz., longan, rambutan, banana, pomelo and mango. ASEAN countries were major destinations for Vietnam and Thailand fruit export. This study discuss on the advantage and the production, quantity export of dragon fruit, longan, rambutan, banana, pomelo, mango in Vietnam and Thailand to China, Cambodia, Hongkong and Singapore markets.

INVESTIGATION FOR HUANGLONGBIN DETECTION BY PCR KIT "READY TO GO"

Nguyễn Thị Ngọc Trúc và Lê Thị Thu Hồng

SUMMARY

The study aiming at technical conclusion related to the possibility of Kit "Ready to go" by PCR. Investment for this business of Kit production is needed products would be required at provincial level in citrus nursery control.

STUDY ON REDUCING OF IN-PUT COST FOR CAVENDISH BANANA BY DIFFERENT TECHNOLOGIES

Trần Thị Thu Yến, Nguyễn Thị Diệu Hiền, Nguyễn Thanh Bình, Phạm Ngọc Liễu và Nguyễn Minh Châu

SUMMARY

Improved production of virus disease-free Cavendish banana was succeeded by apply the following process: shoot tip from young sucker Cavendish banana (0,5 -1m) was culture on agar MS medium supplied with 0.4mg/l thiamin, 4mg/l BAP plus 0.5 mg/l IAA (once distilled water) to initiate adventitious bud induction, then placed onto agar MS medium supplemented with 0.4mg/l thiamin, 5 mg/l BAP plus 80 mg/l Adenin and 20% coconut water for shoot bud multiplication. Clusters of 2-3 shoots were subcultured onto agar MS medium supplemented with 0.4mg/l thiamin plus 2mg/l BAP and 0.15% activated charcoal for shoot elongation and rooting (once distilled water). All cultures were incubated under natural condition (light intensity was 500-1200 lux and temperature 28-35^oC). For better growth of banana plantlets in screen house conditions (80-90% relative humidity, light intensity was 1200-1500 lux and temperature 25-28^oC), firstly, the plantlets were transferred into clay pots containing rice husk and soil (3:1) under a clear, plastic covered tunnel for two week. Finally, they were transferred to organic potting mixture containing organic fertihizer, coconut fiber, soil and rice husi (1: 1:1:1) and kept under natura, Net house conditions.

INITIAL RESULTS OF THE MODEL OF JACKFRUIT INTENSIVE CULTIVATION IN THE SOUTHEAST REGION OF VIETNAM

Nguyễn An Đệ và Bùi Xuân Khôi

SUMMARY

Model of jackfruit (Artocarpus heterophyllus Lamk) intensive cultivation has been carried out in Dong Nai province from May to November in 2008. Area of model are 5.000m^2 that divided into 2 plots: the first plot cultivated by new cultivation techniques and the remaining cultivated by traditional techniques cultivation. After 1 year implementation showed that the tree on model

growing and developing well, the yield of the model increased 37.5% compared with the control. Rate of profit model reached 2.14 higher than for control reached 1.98.

STUDY, PRODUCE AND APPLICATION OF ANTAGONIST FUNGUS SOFRI-TRICHODERMA ON SOME SOILBORNED DISEASES

Nguyễn Văn Hòa, Nguyễn Ngọc Anh Thư và Đặng Thùy Linh

SUMMARY

Trichoderma has been used as a biological control agent on many fungal diseases. To study the antagonistic ability of Trichoderma strains, three strains of Trichoderma named as SOFRI 1, SOFRI 2 and SOFRI 3 were tested. The results shown that SOFRI 1 and SOFRI 2 strains grew well and produced more spores in compassion with SOFRI 3 strain. In another antagonistic ability test, the strains of Trichoderma showed good potential to prevent the development of three strains of Phytophthora (isolated from durian, longan and pineapple) and the strain of Fusarium (isolated from citrus).

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 proccess must be repeated season by season. Quality of Trichoderma product, application methods and humidity of soil affected on a live ratio, distribution and change of Trichoderma quality.

The substrates for mass multiplication of Trichoderma play an important role in the successful use of this product. In this investigation, we found that rice bran, rice, cooked rice and flour were good. Of them, the flour substrate has many advantages than the remaining substrates.

In the initial stage of application of this product, the preliminary results shown that it gave good potential to control soil borned diseases on longan, durian, king mandarin, Chrysanthemum and dragon.