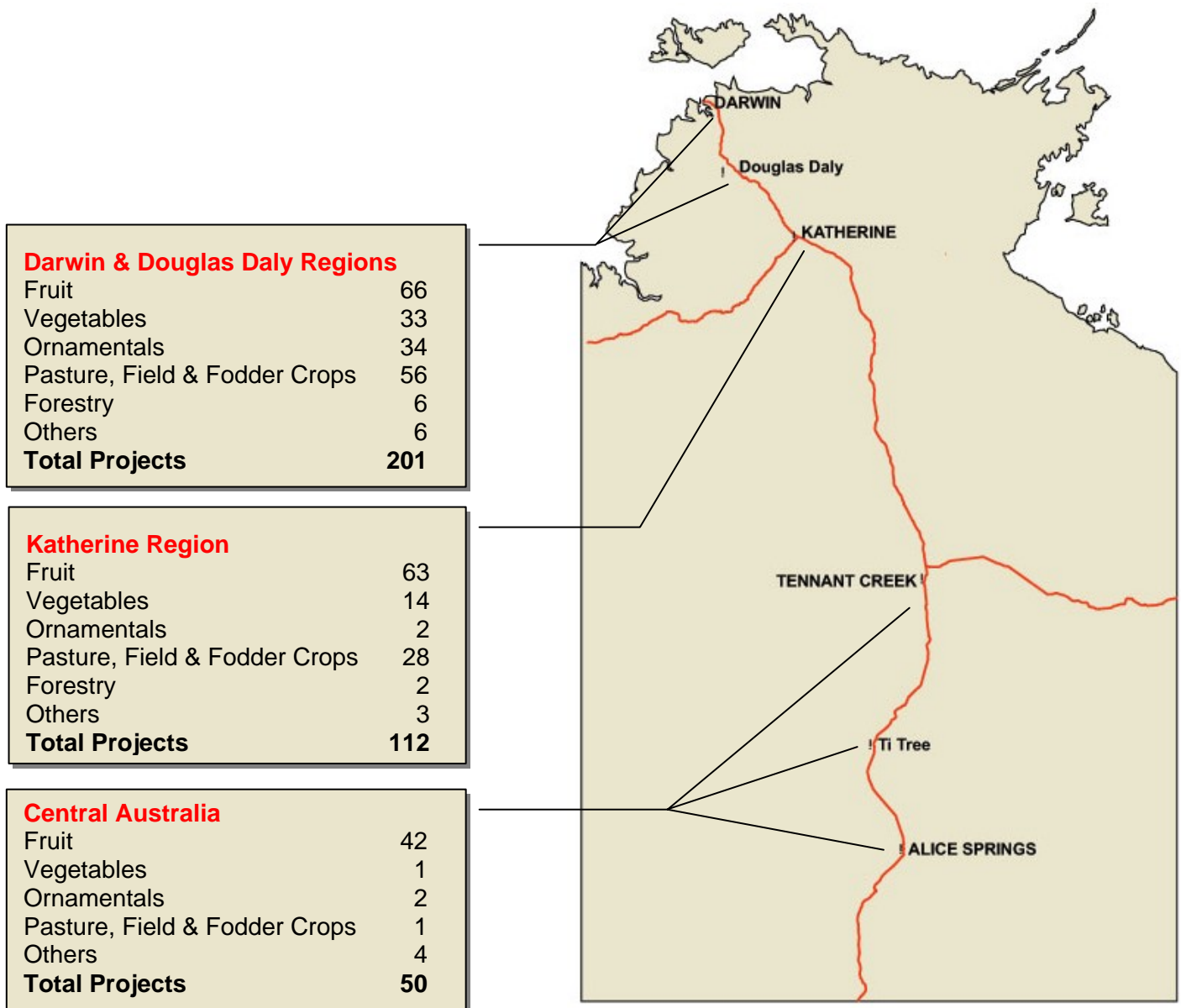


Research, Development and Extension undertaken in Plant Based Industries in the Northern Territory from 1997 to 2007



DEPARTMENT OF PRIMARY INDUSTRY, FISHERIES AND MINES
Crops, Forestry and Horticulture Division

GPO Box 3000 Darwin NT 0801 Tel: 08 8999 2357 Fax: 08 8999 2049 Email: horticulture@nt.gov.au Web: www.horticulture.nt.gov.au

Disclaimer:

While all reasonable efforts have been made to ensure that the information contained in this publication is correct, the information covered is subject to change. The Northern Territory Government does not assume and hereby disclaims any express or implied liability whatsoever to any party for any loss or damage caused by errors or omissions, whether these errors or omissions result from negligence, accident or any other cause.

This document outlines the research, development and extension projects undertaken by the Department of Primary Industry, Fisheries and Mines over the last two decades. Its purpose is to provide a consolidated snapshot of projects by type and crop, the objective and/or outcome and reference for further information should readers wish to follow up.

The source information is the Department's Technical Annual Reports and significant further information is available through specific Technical Reports, Agnotes and Scientific Papers available from the Department.

This foundation document is designed to highlight what work has been done, identify gaps in documented knowledge and outline the currency of that information for readers.

We acknowledge the significant effort in both the many years of significant research, development and extension undertaken for the development of plant industries in the Northern Territory and continuing projects by many dedicated professional staff. Many of the projects could not have been possible without ongoing support of commercial producers.

Table of Contents

Fruit	6	Ornamentals	25
Annonaceae	6	Cut-flowers.....	26
Banana.....	6	Nursery	27
Carambola	7	Palm.....	28
Cashew	7		
Citrus.....	7	Field Crops	28
Cocoa.....	10	Bio-fuel.....	29
Coconuts.....	10	Biological Farming	29
Cupuacu.....	10	Cotton	29
Dates.....	10	Fodder	30
Durian	11	Irrigation.....	31
Lychee	12	Maize	31
Mango	12	Pastures.....	31
Mangosteen	17	Peanuts.....	32
Rambutan	17	Sesame.....	33
Stonefruit/Pome Fruit	17	Soy Bean	34
Table Grapes	18	Weeds.....	34
Tree Crops	20		
Tropical Fruit.....	20	Forestry.....	35
Vegetable.....	21	Other	36
Asian	22	Indigenous Horticulture Development.....	36
Asparagus.....	22	Industry/Sector Liaison	37
Bamboo.....	23	Information Service.....	37
Basil	23	Local Best Practice	37
Bitter Melon.....	23	Post-Entry Quarantine	37
Bitter Melon and Okra	24	Product Description Language	37
Cucurbit.....	24		
Eggplant.....	24		
Green Manure.....	24		
Kabocha.....	24		
Potato.....	24		
Snake Bean	24		
Sweet Potato.....	25		
Taro.....	25		
Tomato.....	25		

Summary: Projects by topic and type – 1997 to 2007

Symbol	Topic	Fruit	Vegetables	Ornamentals	Pasture, Field & Fodder Crops	Forestry	Other	Total
V	Crop Varieties, Rootstocks and Evaluations	54	9	14	19	5	1	102
PD	Pest and Disease Management	18	12	5	24	1	1	61
PH	Post Harvest and Supply Chain	10	9	5	-	-	1	25
M	Management Systems	30	4	6	21	-	-	61
N	Nutrition Management	14	3	1	3	-	-	21
I	Irrigation Management	9	1	1	3	-	-	14
E	Environmental Management	4	3	-	3	-	1	11
Total Sustainability		57	11	8	30	-	1	107
EX	Extension and Capacity Building	10	4	3	1	-	5	23
TOTAL		149	45	35	74	6	9	318

Summary: Number of projects researched (per region, per crop)

Region	Fruit	Vegetables	Ornamentals	Pasture, Field & Fodder Crops	Forestry	Other	Total
Darwin & Douglas Daly	66	33	34	56	6	6	201
Katherine	63	14	2	28	2	3	112
Central Australia	42	1	2	1	-	4	50
TOTALS	171	45	38	85	8	13	*363

* Note some projects are listed in more than one region which has increased the total from 318 to 363

Fruit 149 Projects	Banana 9 projects	Citrus 30 projects	Mango 50 projects	Tropical Fruit 21 projects	Sub-Tropical Fruit 7 projects	Table Grapes 24 projects	Others 8 projects		
Vegetables 45 Projects	Asian Vegetables 23 projects		Asparagus 5 projects		Others 17 projects				
Ornamentals 35 Projects	Cut-flowers 19 projects		Nursery 7 projects		Others 9 project				
Pasture, Field & Fodder Crops 74 Projects	Pasture Crops 12 projects	Peanuts 12 projects	Cotton 12 projects	Fodder 6 projects	Sesame 3 projects	Soybean 2 projects	Weeds 16 projects	Maize 2 projects	Others 9 projects
Forestry 6 Projects	African Mahogany 1 project		Teak 1 project		Others 4 projects				
Others 9 projects	Indigenous Horticulture Development 3 projects		Post-entry Quarantine 2 projects		Others 4 projects				

Research, Development and Extension undertaken on Crops, Forestry and Horticulture in the NT 1997 – 2007

Topic	Crop	Year	Description	Location	Objective	Reference Source
V	Fruit - Annonaceae	1997-99	Management techniques for Annonaceae species	Katherine	Custard apple research.	TB273 – pg39-40
V	Fruit - Banana	1997-99	Banana cultivar evaluation	Katherine	A a database on the performance of different banana cultivars and identify cultivars suited to the climatic conditions of the Katherine region.	TB273 – pg32-33 TB278 – pg122
EX	Fruit - Banana	1997-98	Banana extension and industry support	Darwin	DPIF technology transfer project for the banana industry.	TB273 – pg36
E	Fruit - Banana	1997-00	Banana nutrient monitoring	CPHRF	Facilitate ongoing banana group discussion using the foundation of nutrient monitoring and comparison as the basis for discussion.	TB273 – pg33-34 TB278 – pg122-123 TB286 – pg148
M	Fruit - Banana	1997-99	Banana nurse-sucker selection experiment	Katherine	Implement nursery management as a tool to influence bunch production and to attempt to produce bunches through the Dry season months and thus have a continuous supply through the year.	TB273 – pg34-36 TB278 – pg123
PD	Fruit - Banana	1997-02	Survey for banana sigatoka and fusarium wilt (Panama disease)	CPHRF/ Darwin/ Katherine	Survey fusarium wilt in commercial banana plantations.	TB273 – pg228-229 TB278 – pg179-180 TB286 – pg221-222 TB295 – pg193 TB304 – pg259-260
V	Fruit - Banana	2001-02	Testing of Banana germplasm for resistance to fusarium wilt tropical race 4	CPHRF	Identify banana varieties with resistance/tolerance to tropical race 4 Fusarium wilt.	TB304 – pg257-258
PD	Fruit - Banana	2002-03 2004-07	Surveillance of banana leaf spot diseases	Darwin	Survey banana plants and collect samples of leaf spot diseases for laboratory identification to ensure freedom from Black Sigatoka.	TB313 – pg274 TB323 – pg186-187 TB325 – pg133

Topic	Crop	Year	Description	Location	Objective	Reference Source
PD	Fruit - Banana	1999-07	Banana tropical race 4 panama disease	Darwin	Find and develop a commercially acceptable banana variety resistant or tolerant to Panama tropical race 4 for the NT banana industry. Develop field management methods to reduce the spread of the disease and to extend the commercial life of existing plantations in the NT.	TB286 – pg221 TB286 – pg228 TB295 – pg139 TB295 – pg192-193 TB295 – pg197 TB304 – pg198-201 TB313 – pg162-165 TB313 - pg234-235 TB319 – pg195-197 TB319 – pg313-319 TB323 – pg180-181 TB323 – pg255-260 TB325 – pg125-128 TB325 – pg228-236 TB327 – pg7
PD	Fruit – Banana	2006-07	Implementation of the <i>Fusarium oxysporum F. sp. Cubense</i> Tropical Race 4 molecular diagnostic test	CPHRF	Implement a molecular diagnostic test to detect <i>Fusarium oxysporum f. sp. Cubense</i> Tropical Race 4.	TB327 – pg47
E	Fruit - Carambola	1998-99	Carambola fruit deformity – nutritional and pollination problems	CPHRF	Identify fruit deformity and pollination problems.	TB278 – pg126-127
M	Fruit - Carambola	1997-99	Trellised versus single tree carambola	CPHRF	Compare carambola trees which have been trellised with single trees.	TB273 – pg41 TB278 – pg128
V	Fruit - Cashew	1998-99	Cashew selection and evaluation	Katherine	800 trees of 450 different cashew hybrids were planted at King Producer's Venn Block – 1 of these hybrids showed potential for commercial production.	TB278 – pg142
M	Fruit - Cashew	1997-99	Management techniques for cashew	Katherine	Two cashew selections, one from Venn Block and one from CPHRF were outstanding.	TB273 – pg58 TB278 – pg142
V	Fruit - Citrus	1997-99	Breeding/selection of citrus cultivars	Katherine	Research work to date has demonstrated that much of the citrus germplasm currently in Australia is of limited commercial value under the hot dry conditions of the Katherine region.	TB273 – pg52-53 TB278 – pg137
V	Fruit - Citrus	1997-99	Citrus rootstock/cultivar evaluation	Katherine	Early cultivar assessments of mandarin production in Katherine were not encouraging due to poor flowering.	TB273 – pg52 TB278 – pg136

Topic	Crop	Year	Description	Location	Objective	Reference Source
V	Fruit - Citrus	1997-99	Citrus rootstock/cultivar evaluation	Katherine	Identify cultivar/rootstock combinations suitable for both existing and potential markets when grown in various regions of the NT.	TB273 – pg51 TB278 –pg135 TB278 – pg138-139 TB286 – pg164 TB295 – pg144
V	Fruit - Citrus	1997-99	Citrus rootstock/cultivar evaluation – grapefruit.	Katherine	Screen several new red cultivars for their production performance in the Katherine region.	TB273 – pg 50 TB278 – pg134-135
M	Fruit - Citrus	1999-00	Developing management strategies to manipulate cropping patterns in citrus in Northern Australia	Katherine	Assess water usage of lemons in Katherine. Determine if cropping can be manipulated through the regulation of water usage. Ascertain the most appropriate method of irrigation to optimise production of citrus in northern Australia.	TB286 – pg167-168
V	Fruit - Citrus	1999-00	Evaluation of citrus cultivars in the Top End – grapefruit	Katherine	Evaluate the performance of grapefruit cultivars with emphasis on summer lemon production.	TB286 – pg163-164
V	Fruit - Citrus	1999-00	Evaluation of citrus cultivars in the Top End – Pummelo	Katherine	Evaluate the performance of various pummelo selections and seedlings in the Katherine region with particular emphasis on summer lemon production.	TB286 – pg165-166
E	Fruit - Citrus	1997-98	Identify the potential for future expansion of the citrus industry	Central Australia	Future development of commercial citrus production in Central Australia will depend on the availability of suitable land and water resources.	TB273 – pg55-56
V	Fruit - Citrus	1997-00	National red-fleshed grapefruit cultivar trial evaluation in Central Australia	Central Australia	Enhance the profitability and productivity of a number of citrus fruit crops. Evaluate the adaptability of new grapefruit cultivars to growing conditions in Central Australia. Assess fruit quality and yields.	TB273 – pg48-49 TB278 – pg133 TB286 – pg160-163
EX	Fruit - Citrus	1999-00	Provide assistance to the citrus industry and assist with its future expansion in the Top End	Katherine/ Darwin	Conducted workshops on soil assessment, nutrition and irrigation – set up citrus discussion groups – conduct survey.	TB286 – pg168-169
V	Fruit - Citrus	1997-99	Red grapefruit rootstock trial	Katherine	Monitoring trial.	TB273 – pg55 TB278 – pg139
V	Fruit - Citrus	1997-02	National red-flesh grapefruit cultivar trial	Katherine	Identify the most appropriate rootstock for commercial grapefruit in some of the major soil types in the region.	TB273 – pg49 TB278 – pg132 TB295 – pg151-154 TB304 – pg216-219

Topic	Crop	Year	Description	Location	Objective	Reference Source
V	Fruit - Citrus	1997-03	Evaluation of navel and lemon cultivars in Central Australia	Central Australia	Evaluate the adaptability of navel, lemon and mandarin cultivars to growing conditions in Central Australia.	TB273 – pg54-55 TB278 – pg137-138 TB286 – 159-160 TB295 – pg146-148 TB304 – pg219-221 TB313 – pg166-167
V	Fruit - Citrus	1998-01	Improved citrus products for the NT – evaluation of citrus cultivars in the Top End – Pummelo	Katherine	Identify cultivar/rootstock combinations suitable for both existing and potential markets when grown in various regions of the NT.	TB278 – pg136-137 TB295 – pg144-145
V	Fruit - Citrus	1999-01	Evaluation of rootstocks for lemons and grapefruit in the Top End	Katherine	Determine which rootstocks are best suited to the alkaline pH which occurs in the Katherine area due to use of irrigation.	TB286 – pg166-167 TB295 – pg145-146
V	Fruit - Citrus	2000-01	Improved citrus products for the NT – evaluation of citrus cultivars in the Top End – Grapefruit	Katherine	Identify cultivar/rootstock combinations suitable for both existing and potential markets. Assist growers to optimise their returns.	TB295 - pg141-143
V	Fruit - Citrus	2000-01	Improved citrus products for the NT – evaluation of Mandarin cultivars in the Top End	Katherine	Identify cultivar/rootstock combinations suitable for both existing and potential markets. Assist growers to optimise their returns.	TB295 – pg140
M	Fruit - Citrus	2000-01	Management strategies for citrus in the NT – assistance to the citrus industry and its future expansion – Top End	Katherine/ Darwin	Survey conducted showed an estimated 70,000 citrus trees in the Top End in 2000-2001.	TB295 – pg149-150
M	Fruit - Citrus	2000-01	Management strategies for citrus in the NT – developing management strategies to manipulate cropping patterns in citrus in Northern Australia	Katherine	Determine a range of management strategies for various regions. Adoption of management strategies by industry.	TB295 – pg150-151
PD	Fruit - Citrus	2000-06	Development of IPM strategies for Citrus	Katherine	Identify arthropod problems in citrus tree crops and devise appropriate control measures in line with integrated pest management strategies.	TB295 – pg209-210 TB304 – pg283-284 TB313 – pg257-258 TB319 – pg214-215 TB323 – pg155-156 TB325 - pg100
M	Fruit - Citrus	2001-02	Management strategies for Citrus in the NT	NT wide	Workshops conducted to assist/train citrus growers in insect monitoring and control.	TB304 – pg223-224
EX	Fruit - Citrus	2001-03	Industry development strategies for the NT citrus industry	NT wide	Develop the NTCGA industry development plan – revised in 2003.	TB304 – pg221-223 TB313 – pg168-169

Topic	Crop	Year	Description	Location	Objective	Reference Source
V	Fruit - Citrus	2001-04	Improved citrus products for the NT	Katherine	Identify cultivar/rootstock combinations which when grown in various regions of the NT will be suitable for both current and potential markets.	TB304 – pg224-232 TB313 – pg169-171 TB319 – pg287-289
PD	Fruit - Citrus	2002-03	Development of IPM strategies for citrus – biological control of red scale	Katherine	Trial release of Aphytic lingnanensis Compere to control a heavy infestation of red scale on citrus in Katherine.	TB313 – pg258-260
PD	Fruit - Citrus	2002-06	Development of IPM strategies for citrus – control of citrus leaf miner	Katherine	Introduce and monitor <i>Ageniaspis citricola</i> , a parasite of citrus leaf miner.	TB313 – pg260-261 TB323 – pg155-156 TB325 – pg100
V	Fruit - Citrus	2003-04	Citrus evaluation trial	Central Australia	Evaluate the adaptability of navel orange, lemon and mandarin cultivars to growing conditions in Central Australia.	TB319 – pg276-278
EX	Fruit - Citrus	2003-04	Citrus plantings survey (NT)	Katherine/ Darwin	Survey the citrus industry in the NT for tree types and number.	TB319 – pg249-250
V	Fruit - Citrus	2004-05	Sub-tropical germplasm assessment – citrus evaluation trial	Central Australia	Evaluate the suitability of navel, lemon and mandarin cultivars for growing in Central Australia.	TB323 – pg230-234
EX	Fruit - Citrus	2004-06	Cittgroup activities	NT wide	Provide NT citrus growers with relevant workshops, seminars and field days to improve their knowledge.	TB323 – pg213 TB325 – pg190-191
V	Fruit - Citrus	2006-07	Elite rootstocks and scion cultivars for improved productivity in NT mango and citrus	Darwin/ Katherine	Identify elite rootstocks and scion cultivars for improved productivity in NT mango and citrus sectors.	TB327 – pg41
V	Fruit - Cocoa	1999-06	Northern Australia cocoa development	CPHRF	Conduct a feasibility study into developing a cocoa industry in North Australia with Cadbury-Schweppes.	TB286 – pg151-152 TB295 – pg166-167 TB304 – pg203-205 TB313 – pg199-200 TB319 – pg255-258 TB323 – pg223-224 TB325 – pg201-202
PD	Fruit - Coconuts	1997-98	Biological control of palm leaf beetle in coconut palms in Darwin	Darwin	Determine the level of infestation of Brontispa longissima in coconut palms before and after the release of a biological control agent.	TB273 – pg218-219
V	Fruit - Cupuacu	1997-99	Cupuacu research	CPHRF	Evaluate the commercial potential of Cupuacu.	TB273 – pg44 TB278 – pg125
V	Fruit - Dates	1998-99	Date production in Central Australia	Central Australia	Establish a collection of the world's best cultivars and evaluate their potential for production of high quality dessert fruit under Central Australian conditions.	TB278 – pg131-132

Topic	Crop	Year	Description	Location	Objective	Reference Source
V	Fruit - Dates	1997-98	Evaluation of cultivars and management techniques for dates	Central Australia	Establish a collection of the world's best cultivars, assess their performance under Central Australian conditions and determine their suitability as potential cultivars for commercial production.	TB273 – pg45-46
V	Fruit - Dates	1997-98	Identifying the potential for future expansion of the date industry	Central Australia	Future expansion of the dessert date industry in Central Australia will depend on the availability of suitable land and water resources.	TB273 – pg47
PD	Fruit - Dates	1997-98	Parlatoria scale eradication	Central Australia	Progress on the eradication of the scale has been minimal although the degree of scale infestation has been significantly reduced in treated areas.	TB273 – pg46-47
V	Fruit - Dates	1997-98	Using date palms as a means of diversification on pastoral properties and Aboriginal communities	Central Australia	Encourage the development of a commercial date industry in Central Australia in an attempt to broaden the industry base.	TB273 – pg47-48
E	Fruit - Dates	2000-03	Irrigation/nutrition management guidelines for Date Palms	Central Australia	Establish water use guidelines for date palms. Establish leaf and soil nutrient guidelines.	TB295 – pg177 TB304 – pg211 TB313 – pg203-204
M	Fruit - Durian	1997-98	Boosting durian productivity – summary of results of RIRDC project	CPHRF	Enhance the productivity of Durian in the NT.	TB273 – Pg37-38
V	Fruit - Durian	1998-99	Durian introduction and cultivar trial	CPHRF	Durian varieties and Durio species have previously been introduced from Thailand, Malaysia, Sarawak and Queensland. These collections resulted from efforts to find high-yielding and more adaptable species for the Darwin environment.	TB278 – pg123-124
M	Fruit - Durian	1998-99	Durian precocity trial	Darwin	New plantings added in 1998 to complete the four replications but could be included to the age difference and death of trees during the prolonged flooding.	TB278 – pg127
PD	Fruit - Durian	1999-03	Improving Durian productivity	CPHRF/ Darwin	Develop an integrated disease management system for controlling Phytophthora related diseases of durian.	TB286 – pg152-153 TB295 – 174-176 TB304 – pg206-207 TB313 – pg201-202

Topic	Crop	Year	Description	Location	Objective	Reference Source
V	Fruit - Lychee	1997-99	Lychee cultivar and flower induction assessment	Katherine	Lychee trees have been growing in the Katherine region for many years but with few exceptions, they seldom fruit. Opportunities for crop phenology manipulation and the identification of cultivars better suited to the environment are two areas where some research is justified.	TB273 – pg39 TB278 – pg125
M	Fruit - Mango	1997-99	Calcium and mango fruit quality	Darwin	There is considerable interest in pre-harvest nutrition effects on mango productivity, especially of calcium on fruit quality.	TB278 – pg15-16 TB278 – pg103
PD	Fruit - Mango	1997-98	Compatibility and toxicity symptoms of common chemicals used in mango	Darwin	Determine the effects of foliar nitrogen application on the yield and quality of mangoes.	TB273 – pg21
PD	Fruit - Mango	1998-99	Fruitset in mango as affected by copper and non-copper fungicides at flowering	Darwin	Investigated the response to copper fungicides in terms of fruit set and retention in KP.	TB278 – pg104
V	Fruit - Mango	1997-98	High density planting for mango seedling evaluation	Katherine	Maintain seedling size to maximise vegetative growth until they commence fruiting.	TB273 – pg24-25
M	Fruit - Mango	1997-98	Improvement of mango productivity through use of paclobutrazol and pruning	Darwin	Manipulate flowering and vegetative growth to improve mango productivity through research on the physiology of flowering, growth and growth regulators.	TB273 – pg13-14
N	Fruit - Mango	1998-99	Leaf nutrient deficiency or Anthracnose	Darwin	Controlled experiments so that we can be sure of whether or not we are dealing with a disease or nutrient deficiency.	TB278 – pg104-105
V	Fruit - Mango	1997-00	Mango cultivar trials	CPHRF/ Darwin	Introduction, testing and identification of new cultivars and species for commercial and research purposes. Development and release of new cultivars with potential in domestic and export markets. Extension of the harvest season with cultivars maturing earlier and later than KP.	TB273 – pg3-4 TB278 – pg99 TB286 – pg130-131
I	Fruit - Mango	1997-00	Mango drip irrigation	Darwin	Evaluate the proof drip technology for mango irrigation in the Top End. Development of irrigation strategies utilising drip irrigation.	TB278 – pg17-18 TB278 – pg108-109 TB286 – pg131
I	Fruit - Mango	1997-99	Mango pre-flowering irrigation trial	Darwin	Objective of the trial is to answer questions raised by growers and researchers as to whether this stress had a negative effect on fruit set.	TB278 – pg16-17 TB278 – pg107-108

Topic	Crop	Year	Description	Location	Objective	Reference Source
N	Fruit - Mango	1997-00	Mango productivity survey in the NT	NT wide	Over 5 years, assess the productivity and nutrient levels of different orchards against management practices to determine what factors contribute to increased productivity.	TB278 – pg20-21 TB278 – pg103-104 TB286 – pg127-128
V	Fruit - Mango	1999-00	Mango research at Ti Tree – cultivar evaluation	Central Australia	Evaluate the commercial potential for late season production of mangoes in the southern region of the NT.	TB286 – pg136-137
M	Fruit - Mango	1997-99	Mango research in Central Australia – cultivar evaluation	Central Australia	Evaluate the commercial production of mangoes in the southern region of the NT for lucrative late season domestic markets.	TB273 – pg7 TB278 – pg105-106
V	Fruit - Mango	1997-98	Monoembryonic seedling selection – fruit trait correlations in a population of open pollinated Glenn seedlings	Katherine	Obtain and understand the correlations between characters in order to estimate population sizes required in tree breeding programs.	TB273 – pg8-9
V	Fruit - Mango	1997-99	Monoembryonic seedling selection	Katherine	Although KP enjoys a strong preference in the Australian market, it exhibits some poor attributes that could be improved through breeding and selection.	TB278 – pg7 TB278 – pg106
V	Fruit - Mango	1997-98	Monoembryonic seedling selection – trait distributions in a population of open pollinated Glenn seedlings	Katherine	Understand how traits are distributed within a population and how these traits are correlated it should be possible to estimate what size populations are required in breeding programs.	TB273 – pg9-10
PH	Fruit - Mango	1998-99	Post-harvest application of waxes to mango fruit	Darwin	Determine whether the application of waxes to mature green mango fruit would increase their shelf-life while maintaining colour, firmness and eating quality.	TB278 – pg111-112
V	Fruit - Mango	1997-99	Propagation and rootstock trials for vigour control in the Darwin region	Darwin	Explore the potential of clonal rootstocks and also to develop a simple and commercially feasible system of propagating such rootstocks.	TB278 – pg11-12 TB278 – pg100-101
V	Fruit - Mango	1997-99	Rootstocks for saline soil conditions	Katherine	Assess the performance of KP on a small number of different rootstocks at sites spread across northern Australia.	TB278 – pg12-13 TB278 – pg107
V	Fruit - Mango	1997-98	Use of KP as seed parent in mango breeding	Katherine	Overcome some of the problems associated with the cultivar rather than completely abandon it.	TB273 – pg25-27
V	Fruit - Mango	1997-98	Use of the bouquet-method in mango breeding	Katherine	Examine an alternative means of generating progeny from two parents without the expense of controlled manual pollination.	TB273 – pg22-24

Topic	Crop	Year	Description	Location	Objective	Reference Source
V	Fruit - Mango	1997-98	Variation in the length of the juvenile period for mangoes derived from different seed parents	Katherine	Understand genetic control of juvenility and prospects for shortening the generation interval may offer considerable and long-term advantage in tree crop breeding.	TB273 – pg27-28
M	Fruit - Mango	1997-00	Variations in mango productivity	Katherine	Determine the relations between tree performance and climatic and management factors.	TB278 – pg18-19 TB278 – pg109 TB286 – pg132-133
N	Fruit - Mango	1997-01	Foliar nitrogen nutrition trials in mango	Katherine	Investigate the role of nutrition in the productivity of trees. Standardise nutrition management practices.	TB278 – pg21 TB278 – pg109 TB286 – pg135-136 TB295 – pg132-133
V	Fruit - Mango	1997-01	Rootstock effects on mango productivity – new rootstocks for KP	Katherine	Evaluate potential rootstocks to control tree vigour and performance. Identify salinity tolerant rootstocks for Mataranka region.	TB278 – pg10 TB278 – pg106-107 TB286 – pg134-135 TB295 – pg134-135
M	Fruit - Mango	1997-06	The Australian National Mango Breeding Project	CPHRF/ Darwin	Develop improved mango cultivars for the domestic and export markets through a hand-pollination hybridisation program. Develop hybrid cultivars with superior fruit quality and suitable production characteristics.	TB273 – pg4-6 TB278 – pg100 TB286 – pg128-129 TB295 – pg125-126 TB304 – pg148-152 TB313 – pg147-151 TB319 – pg251254 TB325 – pg198-199
V	Fruit - Mango	1998-01	Evaluation of mango selections and lines in the Katherine region	Katherine	Develop and release new cultivars with potential in identified domestic and export markets. Expand the harvest season with cultivars maturing earlier and later than KP.	TB278 – pg110 TB286 – pg133-134 TB295 – pg123-125
M	Fruit - Mango	1998-03	Improvement of mango productivity through manipulation of flowering	CPHRF	Improve productivity in mango by understanding the key factors that affect it and by addressing limitations imposed by these factors.	TB278 – pg101-102 TB286 – pg129-130 TB295 – pg127-131 TB295 – pg131-132 TB313 – pg151
PH	Fruit - Mango	2000-01	Effect of temperature on mango quality	Darwin	Replicate various handling scenarios on mangoes and record the effects on fruit quality.	TB295 – pg135-138
M	Fruit - Mango	2001-02	Mango flowering project	Darwin/ Katherine	Examine the effect of flowering treatment and paclobutrazol in commercial orchards.	TB304 – pg153-159

Topic	Crop	Year	Description	Location	Objective	Reference Source
PH	Fruit - Mango	2001-02	Mango sea-freight trial	Darwin	Extend the shelf life of mangoes and maintain the quality through the use of a controlled modified atmosphere system during the transportation phase of the export process.	TB304 – pg159-161
M	Fruit - Mango	2001-06	Mango crop forecasting evaluation 2001	Darwin	Develop a crop forecasting system for the Australian mango industry.	TB304 –pg161-164 TB313 – pg144-146 TB319 – pg338-339 TB323 – pg269-270 TB325 – pg240-141
M	Fruit - Mango	2002-03	Collaborative research project with the University of Florida	Darwin	Characterise the floral stimulus in mango	TB313 – pg152-159
PH	Fruit - Mango	2003-04	Endorsed wholesaler program/quality outturn reporting service	Darwin	Assist mango industry to take on more of an administrative support service role for industry projects. Assist industry to better deal with disputes between growers/packers and wholesalers.	TB319 – pg245
PH	Fruit - Mango	2003-05	Mango sea-freight trial in Katherine	Katherine	Identify issues that affect long-term storage of Katherine mangoes and assist Katherine growers to export mangoes to Europe by sea using modified atmosphere containers.	TB319 – pg340-341 TB323 – pg217-218
EX	Fruit - Mango	2003-05	Mango supply chain code of practice	Darwin	Assist NTMIA with the development of a mango industry code of practice document that addressed commercial relationships between supply chain members and best practice handling.	TB319 – pg243-244 TB323 - pg214
EX	Fruit - Mango	2004-04	Mango skills audit survey 2004	Darwin	Assist the NTMIA to identify the training needs of growers through a survey and audit of skills and knowledge. Approximately 30% of members responded to the survey.	TB323 – pg216
V	Fruit - Mango	2004-05	Improved mango varieties for the NT	Katherine	Test the field mango varieties developed and identified in previous breeding work.	TB323 – pg222-223
EX	Fruit - Mango	2004-05	Mango Labour Harvest Strategy	Darwin/ Katherine	Facilitate the development of self-directed industry/ stakeholder groups to address mango harvest labour issues.	TB323 – pg215

Topic	Crop	Year	Description	Location	Objective	Reference Source
EX	Fruit - Mango	2004-05	NTMIA communications project	Darwin	Assist NTMIA to develop a communications plan to inform members, government and stakeholders about its business and to promote to non-members the benefits of joining.	TB323 – pg215-216
N	Fruit - Mango	2004-06	Evaluating the use of the SPAD-502 meter to measure nitrogen levels in mango trees	Katherine	Calibrate relationship between leaf nitrogen content & SPAD values. Observe leaf content trends during the growing season. Monitor leaf levels to assist in adequate fertiliser application. Optimise overall tree health & increase long-term cumulative fruit yield.	TB323 – pg248-252 TB325 – pg213-226
PD	Fruit - Mango	2004-06	Management system for diseases of mangoes – post-harvest storage diseases	Katherine	Assess post-harvest quality of sea-freighted mangoes. Determine the causal organisms associated with sea-freighted mangoes from Katherine and Kununurra. Determine the effects of time on the prevalence of causal organisms on diseased mangoes.	TB323 – pg174-176 TB325 – pg133-137
M	Fruit - Mango	2004-06	The effect of calcium hydroxide, Surround®, Mangocote® and Envy® on the incidence and severity of sunburn in KP mangoes in Katherine	Katherine	Evaluate the effectiveness of sprayed films of calcium hydroxide, Surround®, Mangocote and Envy® to protect mangoes from sunburn.	TB323 – pg252-255 TB325 – pg238-240
PH	Fruit - Mango	2005-06	Improving market outcomes for NT mangoes	Darwin	Improve the quality of fruit received in the packing facility so as to maximise its attractiveness in southern markets.	TB325 – pg191-192
PD	Fruit - Mango	2005-06	Integrated pest management in mangoes	Darwin/ Katherine	Provide an extension and pest identification service to mango growers.	TB325 – pg94-99
V	Fruit - Mango	2005-06	Mango rootstock and parent tree assessment in the NT	Katherine	Test various rootstocks and parent trees for total yield, marketable, unmarketable and fallen fruit.	TB325 – pg199-201
M	Fruit - Mango	2005-07	Develop crop forecasting system for the Australian mango industry	Darwin	Develop a crop forecasting systems for the Australian Mango Industry	TB325 – pg240-241 TB327 – pg62
PH	Fruit - Mango	2005-07	Implementing a Top End better mangoes project	Darwin	Top End better mangoes project aims to use some of the techniques developed in Queensland to map the performance of current supply chains. It also aims to establish the SLI for Top End fruit and use this as the benchmark to evaluate other systems.	TB325 – pg190-191 TB327 – pg64
EX	Fruit - Mango	2006-07	Delivering Mango Technology (Deliverance)	Darwin/ Katherine	Increase the adoption of existing and new production technology by mango growers and packers, and improve the profitability of the mango industry.	

Topic	Crop	Year	Description	Location	Objective	Reference Source
V	Fruit - Mango	2006-07	Elite rootstocks and scion cultivars for improved productivity in NT mango and citrus	Darwin/ Katherine	Identify elite rootstocks and scion cultivars for improved productivity in NT mango and citrus sectors.	TB327 – pg41
PD	Fruit – Mango	2006-07	Mango flower insects and their effect on fruit quality	Darwin/ Katherine	Determine the main pests attacking mango flowers and fruit and their effect on yield.	TB327 – pg25
M	Fruit - Mangosteen	1998-99	Mangosteen precocity and phenology	CPHRF	From the results after five years, it can be concluded that a well-managed seedling tree may grow well provided there is adequate shade, fertiliser and water. It is recommended that residual herbicides should not be sprayed around the root area and on trunks of mangosteens.	TB278 – pg127-128
PH	Fruit - Rambutan	1998-99	Effect of temperature on the storage life of rambutans	CPHRF	Storing at 10°C is still the best for storage of rambutans.	TB278 – pg131
M	Fruit - Rambutan	1997-99	Rambutan pruning	CPHRF	The variability of results between varieties is a concern as it suggests that pruning practices may have to be examined for the major commercial varieties.	TB273 – pg42-43 TB278 – pg129-130
I	Fruit - Rambutan	1998-99	Rambutan rootstock/scion interactions and crop water use	CPHRF	Collect data on differences of tree and scion height, rootstock and scion diameters.	TB278 – pg130-131
PH	Fruit - Rambutan	1999-00	Ramubutan temperature monitoring project	Darwin	Investigate temperatures that Rambutans are exposed to during handling.	TB286 – pg150-151
M	Fruit - Rambutan	2000-02	Improving rambutan productivity	CPHRF	Develop rootstock/scion combinations and pruning strategies that control flowering and tree size and develop grower knowledge and use of irrigation monitoring.	TB295 – pg178-180 TB304 – pg207-210
PH	Fruit - Rambutan/ Mangosteen	1997-98	Rambutan and mangosteen quality standards	CPHRF/ Darwin	Produce quality assurance posters for maturity and quality.	TB273 – pg41
V	Fruit – Stonefruit/ Pome Fruit	1997-06	Sub-tropical germplasm assessment – evaluation of Stone and Pome Fruit in Central Australia	Central Australia	Research, identify and evaluate suitable sub-tropical crops for production in Central Australia.	TB273 – pg 56-57 TB278 – pg140-142 TB286 – pg156-158 TB295 – pg170-173 TB304 – pg212-215 TB313 – pg204-210 TB319 – pg279-282 TB323 – pg234-237 TB325 – pg203-205

Topic	Crop	Year	Description	Location	Objective	Reference Source
M	Fruit - Table grapes	1999-00	Assessing the effect of gypsum on sodium and chloride levels in vines and soil at TTRF	Central Australia	Improve the productivity and profitability of the table grape industry in the NT.	TB286 – pg140-141
I	Fruit - Table grapes	1999-00	Evaluating the effectiveness of leaching applications of water to reduce salt in vine root zones	Central Australia	Improve the productivity and profitability of the table grape industry in the NT.	TB286 – pg141-143
M	Fruit - Table grapes	1997-98	Identify the potential for future expansion of the table grape industry	Central Australia	DPIF is actively involved in identifying land with suitable resources for further expansion.	TB273 – pg32
N	Fruit - Table grapes	1998-99	Identifying grapevine nutrition issues in the Ti Tree/Pine Hill areas	Central Australia	Establish petiole and soil nutrient standards for different vine varieties grown at Ti Tree.	TB273 – pg112-113
N	Fruit - Table grapes	1999-00	Improving grapevine nutrition at Ti Tree	Central Australia	Determine the effect of potassium fertiliser on petiole potassium levels – identify nutrient problems in grapevines at Ti Tree.	TB286 – pg144-146
I	Fruit - Table grapes	1998-99	Improving irrigation efficiency and reducing salt toxicity in grapevines at Ti Tree	Central Australia	Managing irrigation at Ti Tree because the climate is arid, the root system is restricted in drip irrigated vines and the irrigation water quality is low.	TB278 – pg114-115
I	Fruit - Table grapes	1999-00	Irrigation and salinity studies in grapevines at Ti Tree	Central Australia	Monitor soil moisture levels in a vineyard, measure sodium and chloride levels in bore water, monitor sodium and chloride levels in grapevines and the soil through the growing season and compare the salt exclusion capacity of different cultivars.	TB286 – pg143-144
M	Fruit - Table grapes	1997-99	Management techniques for Red Globe in a tropical environment	Katherine	Determine if Red globe grapes could be produced successfully as well as the optimum pruning method for this cultivar in a tropical environment.	TB273 – pg 31-32 TB278 – pg119
N	Fruit - Table grapes	1997-98	Monitoring and development of nutrition management programs for the table grape industry in Central Australia	Central Australia	Monitor vine nutrition levels on all table grape properties.	TB273 – pg 31
PD	Fruit - Table grapes	1998-99	Nematode survey in table grape plantings and the use of rootstocks	Central Australia	Survey table grape plantings in the Ti Tree/Pine Hill areas to assess the extent of nematode populations in established vine plantings.	TB278 – pg120-121
I	Fruit - Table grapes	1998-99	Root distribution patterns in drip irrigated red globe, flame and Menindee grapevines	Central Australia	A study was carried out regarding vine root growth, effect of depth on root growth and soil characteristics in the root zone.	TB278 – pg116-118

Topic	Crop	Year	Description	Location	Objective	Reference Source
M	Fruit - Table grapes	1999-00	Root distribution patterns in grapevines at Ti Tree	Central Australia	Compare lateral root growth into the traffic low relative to root growth along the vine row, study vertical root growth in the soil and compare the root systems in different cultivars.	TB286 – pg146-147
I	Fruit - Table grapes	1998-99	Survey of irrigation practices in table grapes in the Ti Tree area	Central Australia	The main objective of this project is to gain information which could be used to assist in determining what effects current practices are having on these issues.	TB278 – pg118-119
V	Fruit - Table grapes	1997-99	Table grape cultivar evaluation in a tropical climate	Katherine	Screen various table grape cultivars to determine those suitable for the tropical environment of the Katherine region and to identify suitable management strategies.	TB273 – pg28-29
M	Fruit - Table grapes	1997-04	Evaluation of dormancy breaking agents	Central Australia	Improve productivity, quality and profitability of the table grape industry in the NT.	TB273 – pg 29-30 TB286 – pg138-140 TB295 – pg160-165 TB304 – pg194-197 TB313 – pg183-189 TB319 – pg330-337
N	Fruit - Table grapes	2000-01	Improving nutrition of table grapes – nutrient problems in Ti Tree vineyards	Central Australia	Identify nutrient problems in Ti Tree vineyards.	TB295 – pg158
N	Fruit - Table grapes	2000-01	Improving nutrition of table grapes – petiole nutrient standards	Central Australia	Establish grapevine petiole nutrient standards for table grape cultivars.	TB295 – pg155-157
N	Fruit - Table grapes	2000-01	Improving nutrition of table grapes – potassium sulphate	Central Australia	To study the response of grapevines to potassium fertiliser.	TB295 – pg159
N	Fruit - Table grapes	2000-01	Improving nutrition of table grapes – rapid sap nutrient tests	Central Australia	Develop rapid sap nutrient tests to measure phosphate, calcium, sodium and chloride.	TB295 – pg157-158
N	Fruit - Table grapes	2000-01	Improving nutrition of table grapes – response to phosphorus fertiliser	Central Australia	Study the response of grapevines to phosphorus fertiliser.	TB295 – pg159-160
I	Fruit - Table grapes	2000-05	Develop irrigation management guidelines for table grapes	Central Australia	Validate or modify crop factors used in Central Australia for table grape production. Improve current irrigation practices used in commercial horticulture production in Central Australia.	TB295 – pg155 TB304 – pg185-191 TB313 – pg189-193 TB319 – pg320-324 TB323 – pg260-263

Topic	Crop	Year	Description	Location	Objective	Reference Source
N	Fruit - Table grapes	2001-03	Develop nutrition/salt management guidelines for Table grapes	Central Australia	Determine the response of grapevines to potassium fertiliser.	TB304 – pg165-184 TB313 – pg172-183
V	Fruit - Table grapes	2001-04	Evaluation of various table grape scion/rootstock combinations	Central Australia	Evaluate the performance of various table grape scion/rootstock combinations in Ti Tree.	TB304 – pg184-185 TB304 – pg191-193 TB313 – pg193-195 TB319 – pg325-329
V	Fruit - Table grapes	2004-05	Developing best-practice management in Table Grapes in Central Australia	Central Australia	Evaluate the performance of various table grape scion/rootstock combinations growing on properties in Ti Tree area for production of high quality, early-maturity fruit.	TB323 – pg263-268
PD	Fruit - Tree Crops	1998-05	Control of arthropods and development of IPM in tropical Tree Crops	Darwin	Identify potential arthropod problems in mangoes and other tropical tree crops and devise appropriate control measures.	TB278 – pg186-187 TB286 – pg245 TB295 – pg218-220 TB304 – pg282-283 TB313 – pg253-255 TB319 – pg208-211 TB323 – pg157-160
PD	Fruit - Tree Crops	2002-06	Management and control of termite pests of horticultural crops in the NT	NT wide	Develop effective environmentally sustainable control methods against <i>Mastotermes darwiniensis</i> and other termites in horticultural crops in the NT.	TB313 – pg261-264 TB319 – pg215-217 TB323 – pg164-167 TB325 – pg109-110
M	Fruit - Tree Crops	2003-06	Productivity improvement of tree crops	Darwin/ Katherine	Identify and understand critical factors affecting tree crop productivity and fruit quality and develop and deliver suitable solutions to the industry.	TB319 – 303-312 TB325 – pg196-197
M	Fruit – Tree crops	2003-06	Productivity improvement of tree crops	Darwin/ Katherine	Identify and understand critical factors affecting tree crops productivity in the Darwin/Katherine regions and to provide suitable solutions to the industry to address them.	TB319 – pg303-312 TB325 – pg196-197
V	Fruit - Tree Crops	1997-99	Avocado cultivar evaluation	Katherine	Investigate low land tropical environment in Katherine for avocado production.	TB273 – pg38 TB278 – pg124-125
N	Fruit - Tropical fruit	1997-98	Leaf sampling and crop nutrient requirement of selected tropical fruit	CPHRF	Rationalise and standardise leaf-sampling procedures in the study of crop nutrient requirements of selected tropical fruits.	TB273 – pg40

Topic	Crop	Year	Description	Location	Objective	Reference Source
V	Fruit - Tropical Fruit	1998-03	Miscellaneous exotic fruit research (Darwin)	CPHRF	Identify and evaluate suitable fruit crops for Top End production.	TB278 – pg125-126 TB286 – pg149 TB295 – pg167-168 TB304 – pg202-203 TB313 – pg196-199
V	Fruit - Tropical Fruit	1999-01	Miscellaneous exotic fruits research (Katherine)	Katherine	Identify and evaluate suitable fruit crops for Top End properties.	TB286 – pg153-155 TB295 – pg168-170
V	Fruit - Tropical fruit	2003-06	Tropical germplasm assessment	CPHRF	Evaluate the phenology and yield of selected lowland Longan varieties.	TB319 – pg283-286 TB323 – pg238-240 TB325 – pg202-203
PH	Vegetable	1999-00	Vegetable cool chain	Darwin	Investigate the effects of cool handling of Asian vegetables on quality.	TB286 – pg170-171
V	Vegetable	1999-00	Cultivar evaluation of a host of annual crops	Katherine	Screen several new vegetable cultivars for production in the Katherine region.	TB286 – pg175-176
E	Vegetable	1999-00	Management of annual crops and asparagus	Katherine	Develop management strategies for annual crops and asparagus.	TB286 – pg178-179
N	Vegetable	1998-00	Plant nutrition studies on a host of annual crops – farm production efficiency improvement – petiole sap monitoring of annual crops	Katherine	Provide growers with better understanding of plant nutrition. Improve crop production and assist growers with nutrition and irrigation programs.	TB278 – pg145 TB286 – pg177
EX	Vegetable	1999-01	Provide assistance to the vegetable industry and assist with its future expansion	Katherine	Identify cultivars suitable for growing in various regions of the NT, determine a range of vegetable management strategies and assist growers to optimise their returns.	TB286 – pg179-181 TB295 – pg119-120
M	Vegetable	2000-01	Improved management strategies and vegetable products for the NT (identify vegetable types suitable to the Helen Springs region)	Katherine	Identify cultivars suitable for the NT, determine a range of vegetable management strategies and assist growers to optimise their returns.	TB295 – pg118
M	Vegetable	2000-01	Vegetable management trial 2000	CPHRF	Demonstrate the yield and quality advantages of the DPIF vegetable package which includes plastic mulch 'T' tape, cover crops, hybrid varieties and fertigation. Improve the adoption of more sustainable and profitable vegetable production techniques through quantifiable treatment effects.	TB295 – pg113-117

Topic	Crop	Year	Description	Location	Objective	Reference Source
PD	Vegetable	2000-04	Pest management in tropical vegetables	Darwin	Advise on management of major pests of tropical vegetables.	TB295 – pg227-228 TB304 – pg291 TB313 – pg266 TB319 – pg220
EX	Vegetable - Asian	1999-00	Asian vegetable extension service	Darwin	Determine the efficacy of Petroleum spray oil, Potassium soaps and Bacillus thuringiensis for the control of insect pests.	TB286 – pg238-239
PD	Vegetable - Asian	1997-98	Crop disease surveys – Asian vegetables	Darwin	Monitor fungal diseases in Asian vegetables.	TB273 – pg226-227
PH	Vegetable - Asian	1999-00	Optimising storage conditions for selected Asian vegetables	Darwin	Determine optimum storage temperatures for some Asian vegetables.	TB286 – pg171-173
PH	Vegetable - Asian	1998-99	Post-harvest handling of Asian vegetables – vegetable cool chain	Darwin	Monitor temperature loggers in Asian vegetables going to interstate markets.	TB278 – pg147
PH	Vegetable - Asian	1997-98	Studies on the effects of storage temperature and packaging on the shelf life of selected Asian vegetables	Darwin	Investigate the effects of storage temperature and packaging on the shelf-life of selected Asian vegetables.	TB273 – pg63-64
PD	Vegetable - Asian	1997-05	Management system for major diseases of Asian vegetables	Darwin	Develop a management system for diseases of Asian vegetables.	TB273 – pg233 TB278 – pg183 TB304 – pg255 TB313 – pg231-232 TB319 – pg192-193 TB323 – pg176-177
EX	Vegetable - Asian	2000-01	Asian vegetable demonstration plot	Darwin	Demonstrate the difference in productivity that can be gained by using best practice vegetable growing methods.	TB295 – pg111-113
EX	Vegetable - Asian	2002-03	Asian vegetables – industry development	CPHRF	Publish information in English/Vietnamese. Produce posters on pests and diseases in Asian vegetables.	TB313 – pg142-143
E	Vegetable - Asian	2003-06	Asian vegetables – best practice	Darwin	Develop capacity in the industry and promote past trial results through direct contact, tapping into industry social and commercial groups.	TB319 – pg290-291 TB323 – pg241-243 TB325 – pg226-227
PD	Vegetable - Asparagus	1997-00	Asparagus colletotrichum control	Katherine	Management issues addressed for control of <i>Colletotrichum</i> , although elimination of the disease is not possible, control during the times the disease is most virulent looks possible.	TB273 – pg67 TB278 – pg149 TB286 – pg179

Topic	Crop	Year	Description	Location	Objective	Reference Source
V	Vegetable - Asparagus	1997-00	Asparagus cultivar evaluation	Katherine	Evaluate the performance of asparagus cultivars in the Katherine region.	TB273 – pg64 TB286 – pg178
PH	Vegetable - Asparagus	1997-99	Asparagus post-harvest field herbicides	Katherine	Weed control is essential in management of the crop.	TB273 – pg66 TB278 – pg149
I	Vegetable - Asparagus	1997-99	Asparagus response to droughting	Katherine	Investigate growing asparagus in northern Australia as growers need to induce dormancy prior to cutting back the fern to allow build up of the plant reserves necessary for spear production.	TB273 – pg64-66 TB278 – pg148
PD	Vegetable - Asparagus	1997-01	Management system for Asparagus anthracnose	Darwin/ Katherine	Develop a management system for diseases of asparagus with initial emphasis on anthracnose.	TB273 – pg232 TB278 – pg183 TB286 – pg225-226 TB295 – pg197-198
PH	Vegetable – Bamboo	1997-99	Preliminary post-harvest studies on fresh bamboo shoots	CPHRF	Conduct experiments on the effect of chlorine dip and storage life of bamboo shoots at several temperatures.	TB273 – pg60-61 TB278 – pg146
PH	Vegetable – Bamboo	1997-04	Bamboo research	CPHRF	Trial irrigation and fertiliser inputs and scheduling for optimum shoot production for bamboo shoots. Investigate thinning rates in relation to shoot size and yield.	TB273 – pg59-60 TB278 – pg144-145 TB295 – pg121-122 TB304 – pg236-237 TB313 – pg139-142 TB319 – pg291-296
PD	Vegetable - Basil	1999-01	Management system for major diseases of Asian vegetables – fusarium wilt and base rot of Basil	Darwin	Develop a management system for diseases of basil with the emphasis on Fusarium wilt and base rot.	TB286 – pg226-227 TB295 – pg199-201
E	Vegetable – Bitter melon	1999-00	Alternative growing techniques – double production of bitter melon	Darwin	Demonstrate increased yield by adopting improved farming techniques.	TB286 – pg174
PH	Vegetable – Bitter melon	1998-99	Bitter melon harvest maturity	Darwin	Develop harvest maturity stages that optimise post-harvest storage life, minimise ripening in transit and maximise final eating quality to the consumer.	TB278 – pg147-148
V	Vegetable – Bitter melon	1999-00	Bitter melon selection trial	CPHRF	Assess suitability of a range of hybrid and open pollinated bitter melon cultivars in an observation trial under local conditions.	TB286 – pg173-174
V	Vegetable – Bitter melon	2000-01	Bitter melon hybrid yield evaluation trial	CPHRF	Determine the yield potential of two selected hybrid bitter melon varieties and the local open pollinated line and to compare production peaks, fruit maturity indicators, fruit uniformity and general plant performance.	TB295 – pg101-104

Topic	Crop	Year	Description	Location	Objective	Reference Source
PH	Vegetable - Bitter Melon and Okra	1998-99	Post-harvest handling of Asian vegetables – effect of temperature and packing on the shelf-life of Bitter Melon and Okra	Darwin	Conduct experiments to examine the effects of four types of packaging on the shelf-life.	TB278 – pg147
N	Vegetable - Cucurbit	1997-99	Farm production efficiency improvement – petiole sap monitoring of cucurbit crops	CPHRF	Develop nutrient levels trends over several crop cycles were refined and extended. Both rockmelon and button squash production was high under the improved growing systems.	TB273 – pg62 TB278 – pg143-144
PD	Vegetable - Cucurbit	2005-06	Management system for diseases of vegetables – cucurbit powdery mildew	Katherine	Determine whether the powdery mildew pathogen that affected watermelons in the Katherine region was different from those on other cucurbit crops.	TB325 – pg122-124
PD	Vegetable - Cucurbits	1999-01	Management system for major diseases of Asian vegetables – Cucurbit mosaic viruses	Darwin	Identify the viruses affecting cucurbit crops in the Darwin area.	TB286 – pg226-227 TB295 – pg201-202
PD	Vegetable - Eggplant	1997-00	Thrips palmi karny integrated pest management on eggplant	Darwin	Develop effective control methods against insect pests that show multiple resistance to chemical insecticides.	TB273 – pg224-225 TB286 – pg252 TB278 – pg196
M	Vegetable - Green manure	1999-00	Legume green manure development	Katherine	Determine the effect of green manure crops on the performance of vegetable cultivars in the Katherine region.	TB286 – pg178
V	Vegetable - Kabocha	1999-01	Kabocha variety trial	Katherine	Determine whether viable yields could be produced from kabocha cultivars in the Katherine region.	TB286 – pg174-175 TB295 – pg105-107
V	Vegetable - Potato	2003-04	Potato observation trial 2003	NT wide	Assess the suitability of various potato cultivars for the Katherine region. Compare drip tape irrigation with overhead irrigation practices and identify any crop management issues.	TB319 – pg300-302
PD	Vegetable - Snake Bean	1997-00	Integrated pest management of vegetables with particular reference to snake bean	Darwin	Control two spotted mite and other bean pests by means of natural enemies and lower toxicity pesticides.	TB273 – pg223-224 TB278 – pg195-196 TB286 – pg246
PD	Vegetable - Snake Bean	1999-05	Management system for major diseases of Asian vegetables – Snake Bean wilt	Darwin	Develop a management system for Fusarium wilt of snake beans.	TB286 – pg227-228 TB295 – pg198-199 TB304 – pg256 TB313 – pg232-234 TB319 – pg194-195 TB323 – pg178-179 TB325 – pg120-121

Topic	Crop	Year	Description	Location	Objective	Reference Source
V	Vegetable - Snake Bean	2000-01	Development of vegetable production systems – snake bean variety evaluation 2000	CPHRF	Bulk up seed for future testing for Fusarium – conduct preliminary assessment of agronomic characteristics using the variety Green pod Kaohsiung as a standard.	TB295 – pg107-110
PD	Vegetable - Snake Bean	2000-01	Snake bean fusarium survey	Darwin	Determine the spread of Fusarium on snake beans in the Darwin region.	TB295 – pg104-105
V	Vegetable - Sweet Potato	2003-04	Sweet potato variety trial 2003	CPHRF	Determine the potential yield and root quality of untrials varieties in the Top End. Compare the performance of these varieties with current recommendations and demonstrate cultural practices to potential growers.	TB319- 297-300
V	Vegetable - Taro	2001-02	Japanese Taro observation trial 2002	CPHRF	Compile basic yield and quality data under local conditions and compare yields of different sized corms.	TB304 – pg233-235
N	Vegetable - Taro	2004-05	Taro fertiliser rate trial 2004	Darwin	Establish fertiliser response trend for “Bun Long” taro under local dry season conditions.	TB323 – pg244-248
M	Vegetable - Tomato	2005-06	Management systems for diseases of vegetables – tomatoes	Darwin	Develop a management system for diseases of tomatoes.	TB325 – pg121
V	Ornamentals	1998-00	Cut-Flower Product Diversity	Darwin	Assess new cultivars and species of the genera Curcuma and Globba.	TB278 – pg151 TB286 – pg186
V	Ornamentals	1997-98	Nursery and cut-flower product diversity	Darwin	Evaluate the suitability of hybrid seedlings for the nursery industry.	TB273 – pg69
EX	Ornamentals	1998-00	Nursery and flower industry promotion	Darwin	Assistance provided to Niant for forth coming conference.	TB278 – pg152 TB286 – pg17
V	Ornamentals	2002-03	Commercialising New Ornamentals	Darwin	Assist ornamental industry to identify and to commence commercialising five new nursery lines and three improved cut-flower products by 2004.	TB313 – pg224
M	Ornamentals	2002-03	Curcuma Crop Development and Improvement	Darwin	Provide local ornamental industry with new and unique Curcuma hybrid varieties for cut-flower and “potted colour”.	TB313 – pg211-218
PD	Ornamentals	2002-06	Pest management in ornamentals	NT wide	Advise on the management of pests of ornamentals and conduct research on key pests.	TB313 – pg267 TB319 – pg221 TB323 – pg163-164 TB325 – pg98-99

Topic	Crop	Year	Description	Location	Objective	Reference Source
V	Ornamentals	2006-07	New and improved ornamental crops	Darwin	Enhance the market opportunities of the NT ornamental industry by providing new and unique cut flowers and ornamental plants.	TB325 – pg205-212 TB327 – pg48
PD	Ornamentals – Cut-flowers	1999-00	Developing plant disease management systems – heliconias and related species	Darwin	Develop a management system for disease of Heliconias and related species with initial emphasis on Fusarium wilt.	TB286 – pg224
PH	Ornamentals – Cut-flowers	1997-98	Effect of benzyladenine pulsing treatment on vase-life of <i>H.Psittacorum</i>	Darwin	Evaluate the use of a post-harvest pulsing dip in BA (benzyladenine) on the vase-life of selected <i>H. psittacorum</i> cultivars.	TB273 – pg71
PH	Ornamentals – Cut-flowers	1998-99	Effect of vase solution additives on the vase-life of tropical cut-flowers	Darwin	Examine whether Benzyl adenine (BA) will increase the vase-life of <i>H. psittacorum</i> .	TB278 – pg151-152
V	Ornamentals – Cut-flowers	1997-98	Evaluation of native species endemic to Central Australia	Central Australia	Identify potential native species as cut-flowers.	TB273 – pg71
EX	Ornamentals – Cut-flowers	1998-99	Federation flower	Darwin	The cut-flower growers group and the Federation Flower Committee chose the <i>Alpinia purpurata</i> from “Darwin Collection” as the flower for the “Celebration of Federation”.	TB278 – pg152
V	Ornamentals – Cut-flowers	1998-00	Heliconia cultivar improvement	Darwin	Twenty five new Heliconia accessions were introduced for evaluation.	TB278 – pg150 TB286 – pg185
V	Ornamentals – Cut-flowers	1997-98	Improving dendrobium orchid productivity	CPHRF	Identify major concerns of the local industry in relation to orchid production.	TB273 – pg68
PD	Ornamentals – Cut-flowers	1997-00	Improving heliconia productivity	CPHRF	Initial investigations in Fusarium wilt is being investigated and tissue culturing has commenced.	TB273 – pg68 TB278 – pg150 TB286 – pg185
M	Ornamentals – Cut-flowers	1997-99	Management system for heliconia wilt	Darwin	A pilot trial to test the efficacy of hot water treatment of heliconia rhizomes for control of Fusarium wilt.	TB273 – pg230-231 TB278 – pg181-182
V	Ornamentals – Cut-flowers	1997-00	Ornamental ginger breeding	CPHRF	Promising hybrids selected from the trial will be evaluated on commercial growers properties.	TB273 – pg68-69 TB278 – pg150 TB286 – pg186
PH	Ornamentals – Cut-flowers	1999-00	Temperature logging of cut-flowers during transport and handling.	Darwin	Investigate the temperatures that cut-flowers are exposed to during handling.	TB286 – pg182
PH	Ornamentals – Cut-flowers	1999-00	The effect of low temperatures on the vase life of <i>Heliconia psittacorum</i> .	Darwin	Determine optimum storage temperature for two <i>H. psittacorum</i> cultivars.	TB286 – pg182-184

Topic	Crop	Year	Description	Location	Objective	Reference Source
PH	Ornamentals – Cut-flowers	1999-00	Vase life extension for <i>C. australasica</i> .	Darwin	Determine whether sucrose solutions are suitable for increasing the vase-life of <i>Curcuma australasica</i> and other new cut-flower species.	TB286 – pg184-185
V	Ornamentals – Cut-flowers	2000-01	Improvement and Development of New and Locally Adapted Cut Flowers for the Top End.	Darwin	Provide industry with new, improved and locally adapted cut-flower cultivars. Determine heritability for commercial traits in the genus Zingiber.	TB295 – pg183-189
V	Ornamentals – Cut-flowers	2001-02	Expanding the product range of Heliconia and Ginger flowers.	CPHRF	To have industry partners “on-farm” and market testing, new and diverse heliconia and ginger flower selections by Dec 2002. Screen the large Curcuma gene pool for suitable commercial cut-flower products by July 2002.	TB304 – pg238-241
V	Ornamentals – Cut-flowers	2001-02	Improving Cut-flower Zingibers	CPHRF / Darwin	Quantify the heritability of commercial cut-flower traits in the genera <i>Zingiber</i> by July 2002. To have industry partners to finalise “best bet” selections of <i>Zingiber</i> hybrids after “on farm” evaluation and test marketing over the next two years.	TB304 – pg245-248
I	Ornamentals – Cut-flowers	2003-04	Irrigation and nutrition management in Alpinia as a possible control of Alpinia leaf scorch	Darwin	Identify if improved irrigation and nutrition management can assist in reducing the level of Alpinia leaf scorch.	TB319 – pg272-275
V	Ornamentals – Cut-flowers	2003-05	New Heliconia and Ginger varieties for the Ornamental Industry	Darwin	Enhance market opportunities for the ornamental industry by providing new and unique Zingiberale (Heliconia and Ginger) varieties over the next three years.	TB319 – pg259-271 TB323 – pg224-228
PD	Ornamentals – Cut-flowers	2004-05	Pest management in ornamentals – Alpinia borer	Darwin	Management of pests of ornamentals and to carry out research on key pests.	TB323 – pg163-164
M	Ornamentals - Nursery	1997-99	Development of alternative growing media ingredients	Darwin	This project compared imported pine bark with locally produced potting media components.	TB273 – pg70 TB278 – pg151
EX	Ornamentals - Nursery	1997-98	Nursery market development	Darwin	Evaluate a range of product currently produced by the local industry for the Sydney market.	TB273 – pg70
M	Ornamentals - Nursery	1997-01	Implementation of the nursery industry accreditation scheme, Australia (NIASA)	Darwin	NT nurseries have become accredited.	TB273 – pg70-71 TB278 – pg152 TB286 – pg187 TB295 – pg181

Topic	Crop	Year	Description	Location	Objective	Reference Source
M	Ornamentals - Nursery	1997-06	Assessment and pathogen testing for nursery industry accreditation scheme	Darwin/ Katherine	Samples of nursery potting mixes were tested for pathogens.	TB273 – pg227 TB278 – pg179 TB286 – pg231 TB295 – pg192 TB304 – pg253 TB313 – pg227-228 TB319 – pg189 TB323 – pg171 TB325 – pg118
V	Ornamentals - Nursery	1998-01	Nursery product diversity	Darwin	Identify new nursery products and produce a palm poster.	TB278 – pg151 TB286 – pg187 TB295 – pg181-182
V	Ornamentals - Nursery	2001-02	Commercialisation of new <i>Euphorbia</i> hybrids	Darwin	Facilitate the introduction and release of new and diverse <i>Euphorbia milii</i> hybrids to benefit the nursery industry in the NT.	TB304 – pg242-244
M	Ornamentals - Nursery	2001-02	Enhancing profitability of the nursery industry	Darwin	Assist Nursery IDO with NIASA guidelines.	TB304 – pg249
PD	Ornamentals - Palm	2000-01	Chemical control of zamia palm	Darwin	Determine herbicide formulations for the effective control of <i>Zamia</i> palm.	TB295 – pg21-22
N	Ornamentals - Palm	1997-98	Quality seed production for <i>Wodyetia</i>	CPHRF	Clarify if nutrition plays a role in seed yield and palm decline.	TB273 – pg69
M	Field Crops	1999-00	Grain legume seed multiplication	Douglas Daly	Maintain stocks and purity and certified seed of certain grain legumes.	TB286 – pg49
V	Field Crops	1997-04	Grain Sorghum varieties for the Douglas Daly District	Douglas Daly	Trial new commercially available grain sorghum varieties at DDRF and monitor which varieties are suitable for the district.	TB273 – pg166-167 TB278 – pg25-26 TB286 – pg32-33 TB295 – pg51-52 TB304 – pg57-58 TB319 – pg12-13
M	Field Crops	1998-01	Evaluate the effects of no-tillage and conventional tillage practices on yield of an annual grain and grain legume rotation and its long-term effects on soil properties	Douglas Daly	Evaluate the effects of tillage versus no-tillage practices on Tippera soil in the Douglas-Daly region in terms of soil properties, weed infestation, grain yields and insect activity.	TB278 – pg24-25 TB295 – pg50-51

Topic	Crop	Year	Description	Location	Objective	Reference Source
V	Field Crops	1998-02	Evaluation of short season legumes	Darwin	Evaluate a range of early-maturing forage legumes for their potential use as a pasture or ley cultivars in regions of the NT receiving less than 900mm rainfall.	TB278 – pg8 TB286 – pg7-8 TB295 – pg7 TB304 – pg11-12
M	Field Crops	2001-03	Producer initiated research and development project – evaluation of Wynn Cassia as a pasture and fodder for Douglas Daly area	Douglas Daly/ Darwin	Determine the productive capacity of Wynn Cassia as a pasture and fodder species in commercial enterprise in the Douglas Daly area.	TB304 – pg17-18 TB313- pg17-18
PD	Field Crops	2003-04	Broad-acre field crop entomology	Katherine/ Douglas Daly	Sample and identify insect species found on irrigated field crops to determine their pest status and where possible to give advice on IPM options.	TB319 – pg217-220
V	Field Crops - Bio-fuel	2005-07	Bio-fuel crops for the NT	Katherine	Provide farmers with shortlist of potential crops suitable for producing bio-fuels.	TB325 – pg252-253 TB327 – pg16
E	Field crops - Biological Farming	2005-07	Biological farming systems for the Top End	Katherine	Develop practical methods based on sound scientific understanding of crop-biological interactions which will significantly improve crop performance and profit.	TB325 – pg237 TB327 – pg17
V	Field Crops - Cotton	1997-00	Cotton industry development	Katherine/ Douglas Daly	14 varieties of cotton were trialled and yields recorded.	TB273 – pg168-170 TB278 – pg30-32 TB286 – pg19-23
PD	Field Crops - Cotton	1999-00	Entomology of dry season irrigated Cotton production	Katherine	Improve knowledge of local insect populations for better use in developing an IPM system.	TB286 – pg242-244
PD	Field Crops - Cotton	1999-00 2004-05	Management system for diseases of Cotton in the Katherine region	Katherine	Record major diseases of cotton and compare the incidence/severity of leaf spot in cotton under conventional pivot irrigation to that under drip tape irrigation.	TB286 – pg229 TB323 – pg182-185
PD	Field Crops - Cotton	1998-99	Survey of cotton insects	Katherine	Identify insects found in cotton.	TB278 – pg191-192
PD	Field Crops - Cotton	1999-01	Northern cotton disease survey	Katherine	Develop sustainable cotton farming systems.	TB286 – pg222 TB295 – pg194-195
PD	Field Crops - Cotton	2000-04	Insect dynamics of the Cotton ecosystem in the NT	Katherine	Benchmark ecology of key pests and beneficial insects that are likely to impact on a future cotton industry in the Katherine area before assessing preliminary IPM system.	TB295 – pg28 TB304 – pg23-24 TB313 - pg25-27 TB319 – pg48-53

Topic	Crop	Year	Description	Location	Objective	Reference Source
M	Field Crops - Cotton	2000-04	Research of dry season Cotton production	Katherine	Develop an agronomic package for efficient and sustainable field production systems for cotton. Identify the most appropriate varieties of cotton in terms of yield, quality and maturity. Develop suitable irrigation systems for commercial scale cotton production.	TB295 – pg20-21 TB304 – pg21-22 TB313 - pg21-24 TB319 – pg43-47
M	Field Crops - Cotton	2001-03	Australian Cotton CRC	Katherine	Develop sustainable cotton farming in Northern Australia.	TB304 – pg260 TB313 – pg235
PD	Field Crops - Cotton	2005-06	Management systems for Cotton diseases – alternaria leaf spot	Katherine	Determine the effects of timing of Mancozeb applications on disease severity of Alternaria leaf spot.	TB325 – pg128-131
PD	Field Crops - Cotton	2005-06	The role of IPM in sustainable cotton farming systems in the NT	Katherine	Monitor key pests weekly – monitor for Bt resistance – develop companion cropping protocols for sucking insects and assess the impact.	TB325 – pg242-243
E	Field Crops - Cotton	2006-07	Monitoring of deep drainage and pesticides in Katherine cotton soils	Katherine	Cotton - environmental footprint with respect to water and pesticides.	TB327 – pg18
M	Field Crops – Cotton	2001-02	Weed management in cotton production systems	Katherine/ Darwin	Evaluate a range of herbicides for control of weeds in a cotton production system.	TB304 – pg28-29
M	Field Crops - Fodder	1999-00	Herbicide/tillage strategy for use on Cavalcade	Douglas Daly	Evaluate Flame® and Spinnaker® for use on Cavalcade on a commercial property and to examine the effect of tillage on herbicide activity and the interaction with weed control.	TB286 – pg25-27
I	Field Crops - Fodder	1989-00	Irrigation fodder production evaluation on Helen Springs Station	Central Australia	Preliminary evaluation of fodder species and fertiliser requirements for growing forage crops at Helen Springs Station.	TB278 – pg165 TB286 – pg55-56
M	Field Crops - Fodder	1997-02	Ley farming systems	Douglas Daly	Evaluate a sustainable farming system which integrates pasture, crop and cattle production.	TB273 – pg173-176 TB278 – pg27-29 TB286 – pg39-41 TB295 – pg37-39 TB304 – pg42-44
V	Field Crops - Fodder	1998-02	Assessment of pasture cultivars on pre-release in Queensland	Darwin	Determine if forage cultivars intended for release commercially elsewhere are suitable for use in the NT.	TB278 – pg8 TB286 – pg6-7 TB295 – pg6 TB304 – pg10
V	Field Crops - Fodder	2003-06	Evaluation of irrigated fodder crops at DDRF	Douglas Daly	Determine the yield potential, agronomic requirements and viability of forage crops under centre pivot irrigation.	TB319 – pg31-35 TB325 – pg248-252

Topic	Crop	Year	Description	Location	Objective	Reference Source
I	Field Crops - Fodder	2006-07	Evaluation of irrigated forages on blain soils at DDRF	Douglas Daly	Identified species which have potential for commercial production and highlighted agronomic issues.	TB327 – pg53
I	Field Crops - Irrigation	1999-03	Industry development and extension (Agriculture and irrigation development)	Douglas Daly/ Katherine	Identify important issues such as crop options and rotations for irrigation, agronomy, crop management advice, nutrition and weed control strategies and long-term sustainability.	TB286 – pg45-46 TB295 – pg14-15 TB313 – pg18-20
M	Field Crops - Maize	1997-98	Evaluate the effects of non-tillage and conventional tillage on the yield of Maize and its long-term effects on soil properties	Douglas Daly	Zero till showed slightly higher yields.	TB273 – pg165-166
V	Field Crops - Maize	1998-07	Irrigated maize production on blain soils at DDRF	Douglas Daly	The evaluation demonstrated that high irrigated maize yields can be achieved on sandy surfaced soils in the Daly Basin. The evaluation also identified serious pest and disease issues and effective control practices.	TB278 – pg22-23 TB286 – pg50-52 TB295 – pg11-14 TB313 – pg14-16 TB304 – pg15-17 TB327 – pg24
V	Field Crops - Pastures	1998-00	Assessment of newly released Australian pasture cultivars under NT conditions	Darwin	Determine if forage cultivars released commercially elsewhere in Australia are suitable for use in the NT.	TB278 – pg7 TB286 – pg5-6 TB295 – pg4-5
N	Field Crops - Pastures	1997-98	Evaluate the response of nitrate level on Buffel Grass when 6 companion pasture legume species are planted to the pasture	Douglas Daly	Monitor the value of a companion legume to Buffel grass in terms of nitrogen availability, Buffel grass quality, total biomass yield and sustainability of the legume species.	TB273 – pg164-165
V	Field Crops - Pastures	1997-02	Evaluation of new pasture lines and seed increase of early generation seed of released pasture cultivars	Darwin	Evaluate new lines in a confined non-grazed environment. Bulk-up seed from promising lines for further evaluation.	TB273 – pg156-157 TB278 – pg4-5 TB286 – pg3-4 TB304 – pg8-9
V	Field Crops - Pastures	1997-06	Pasture species evaluation under grazing at DDRF	Douglas Daly	Evaluate pasture species and mixtures under a continuous grazing regime.	TB273 – pg72-76 TB286 – pg34 TB286 – pg36-38 TB295 – pg39-42 TB295 – pg48-49 TB304 – pg46-49 TB313 – pg52-54 TB319 – pg9-11 TB319 – pg16-18 TB325 – pg45-49

Topic	Crop	Year	Description	Location	Objective	Reference Source
V	Field Crops - Pastures	1998-01	Characteristics of tropical tall grasses	Darwin	Document growth and seed production of common native perennial floodplain grasses found in the Darwin region and provide a nursery of plant material for further research.	TB278 – pg10 TB286 – pg9-10 TB295 – pg9
V	Field Crops - Pastures	1998-01	Drought tolerant grasses	Darwin	Evaluate a range of drought tolerant grasses for their potential use as pasture or lay cultivars in regions of the NT receiving less than 900mm annual rainfall.	TB278 – pg9 TB286 – pg8 TB295 – pg8
V	Field Crops - Pastures	2000-06	Seed increase of early generation seed of released pasture cultivars	Darwin	Evaluate new lines in a confined non-grazed environment. Bulk-up seed from promising lines for further evaluation. Bulk-up early generation seed of pasture cultivars released in the NT.	TB295 – pg4 TB313 – pg8 TB319 – pg27 TB325 – pg55-56
V	Field Crops - Pastures	2001-02	Characteristics of tropical floodplain grasses	Darwin	Document growth and seed production of common native perennial floodplain grasses found in the Darwin region and provide a nursery of plant material for further experimentation.	TB304 – pg12-13
V	Field Crops - Pastures	2001-02 2005-06	Pasture species evaluation under grazing at DDRF – Buffel/Legumes	Douglas Daly	Monitor the value of a companion legume to Buffel grass in terms of nitrogen availability, Buffel grass quality, total biomass yield and sustainability of the legume species.	TB304 – pg55-56 TB325 – pg52-54
V	Field Crops - Pastures	2001-03	Assessing the potential of native grass species for revegetation of tropical wetland habitats	Darwin	Identify the most efficient and effective methods of collecting processing and storage of seed of native perennial floodplain grasses.	TB304 – pg13-14 TB313 – pg10-11
EX	Field Crops - Pastures	2002-06	Pasture development extension	Darwin	Maintain extension services to industry, assist to increase and manage areas of improved pastures and continue producing high quality seed.	TB313 – pg12-13 TB319 – pg30 TB325 – pg39-40
M	Field Crops - Pastures	2003-04	Feeding trials at Berrimah Farm	Darwin	Evaluate pasture grass species as hay for growth of penned cattle and determine the value of stockfeed pellets based on Wynn cassis.	TB319 – pg19-24
V	Field Crops - Peanuts	1998-00	Evaluation of four peanut varieties	Douglas Daly	Evaluate and compare the performance and characteristics of four peanut lines at DDRF.	TB278 – pg21-22 TB286 – pg47-48
N	Field Crops - Peanuts	1998-99	Fertiliser placement and its effect on yield and quality of irrigated peanuts	Douglas Daly	There was no significant difference in peanut yield or quality between treatments.	TB278 – pg17-18
PD	Field Crops - Peanuts	1998-00	Herbicides for peanut production	Douglas Daly	Identify herbicides suitable for peanut production, evaluate efficacy on a range of weeds and observe possible negative crop interactions.	TB278 – pg19-20 TB286 – pg43-45

Topic	Crop	Year	Description	Location	Objective	Reference Source
PD	Field Crops - Peanuts	1997-99	Maintenance of PMV-free peanut crops through inspection and indexing	Darwin/ Katherine	Routine monitoring of peanuts crops for peanut mottle virus.	TB273 – pg227 TB278 – pg179
PD	Field Crops - Peanuts	1999-01	Management system for diseases of Peanuts	Katherine/ Douglas Daly	Sustainable peanut farming systems.	TB286 – pg229-230 TB295 – pg202
N	Field Crops - Peanuts	2000-01	Examination of varying rates of three macro elements for Peanuts on ruby blain soil	Douglas Daly	The effects of low, medium and high rates of Potassium, Magnesium and Calcium on kernel development, quality and yield.	TB295 – pg16-19
PD	Field Crops - Peanuts	2000-01	The Entomofauna of Peanuts	Katherine/ Douglas Daly	Identify insect species found on <i>Arachis hypogaea</i> to determine their pest status. Expand on existing data to assess insect species of greatest threat to the development of a peanut industry.	TB295 – pg226-227
M	Field Crops - Peanuts	2001-02	Evaluation of an expert management program for irrigated Peanuts	Douglas Daly	Suitability of an expert management program for NT irrigated peanut production.	TB304 – pg18-20
PD	Field Crops - Peanuts	2001-03	Peanut entomology	Katherine/ Douglas Daly	Identify insect species found on peanut crops and determine their pest status.	TB304 – pg288-289 TB313 – pg264-266
M	Field Crops - Peanuts	2003-04	Weed management in peanut production system	Katherine	Evaluate the efficacy of a range of pre- and post-emergent herbicides for weed control in peanuts.	TB319 – pg80-83
V	Field Crops - Peanuts	2003-06	Peanut varieties for Northern Australia	Douglas Daly	Identify suitable peanut varieties for production in the NT.	TB319 – pg36-42 TB325 – pg244-247
PD	Field Crops - Peanuts	2005-07	Management of leaf spot disease in Peanuts	Katherine/ Douglas Daly	Develop a fungicide spray model on the basis of weather variables for the management of leaf spot disease of peanuts in the Katherine and Douglas Daly region.	TB325 – pg132 TB327 – pg66
PD	Field Crops - Sesame	1999-01	Management system for diseases of Sesame	Katherine	Sustainable peanut farming systems.	TB286 – pg230 TB295 – pg202-203
PD	Field Crops - Sesame	1999-02	Sesame entomology	Katherine	Survey insects found on sesame crops and to identify pest and beneficial species.	TB286 – pg250-252 TB295 – pg230-232 TB304 – pg289-290
M	Field Crops - Sesame	1999-06	Sesame industry development	Katherine	Identify and develop new sweet sesame genotypes suitable for northern New South Wales, central Queensland and northern Australia.	TB286 – pg24-25 TB304 – pg61 TB313 – pg59 TB319 – pg54 TB325 – pg253-254

Topic	Crop	Year	Description	Location	Objective	Reference Source
V	Field Crops - Soy Bean	1999-00	Preliminary soybean evaluation	Douglas Daly/ Darwin	Assess the potential of new soybean varieties for Top End farming systems, compare them to existing lines and assess the potential of soybeans on the sandy textured soils of the Daly Basin.	TB286 – pg52-54
M	Field Crops - Soybean	2006-07	Weed control in soybean	Katherine	Evaluate herbicides for weed control in Wet season soybean production and compare oil yields between soybean and sunflower.	TB327 – pg34
PD	Field Crops - Weeds	1999-00	Grass establishment in conjunction with herbicide control of weeds	Darwin	To cost-effectively control weeds and establish sown grass pastures on floodplain fringe country in the Top End.	TB286 – pg30-31
M	Field Crops - Weeds	1999-00	Weed study of dryland and irrigated crops and pastures for the Top End	Katherine/ Douglas Daly	Trace and determine the weeds that may be a potential threat to dryland and irrigated crop[production. Develop an integrated weed management package for both dryland and irrigation in the Top End, which is sustainable, environmentally friendly and economically viable.	TB286 – pg27-29
PD	Field Crops - Weeds	1997-98 2003-04	Herbicides for use on Cavalcade	Darwin	Identify suitable herbicides for use in Cavalcade and assess their effect on weeds.	TB273 – pg171-173 TB319 – pg74-76
M	Field Crops - Weeds	1997-04	Weed management strategy demonstration site	Douglas Daly	Demonstrate a “best bet” pasture rehabilitation/weed management strategy on a severely weed infested Cavalcade paddock.	TB273 – pg176-177 TB278 – pg29-30 TB286 – pg41-42 TB304 – pg51-53 TB319 – pg76-77
M	Field Crops - Weeds	1998-02	Gamba grass mapping	Darwin/ Katherine	Map the results of gamba grass surveys undertaken by Weeds Branch, Agriculture Branch and Specialist Weed Control Pty Ltd.	TB278 – pg9 TB286 – pg9 TB295 – pg9 TB304 – pg12
PD	Field Crops - Weeds	1999-02	Weed control using herbicide rolling and slashing	Douglas Daly	Trial, monitor and record the short and long-term effectiveness of weed control methods in pastures using herbicide rolling and slashing techniques.	TB286 – pg32 TB295 – pg44-45 TB304 – pg53-54
PD	Field Crops - Weeds	2000-01	Evaluation of the herbicide metsulfuron methyl for the control of senna obtusifolia	Darwin	Test the suitability of Metsulfuron methyl for the control of <i>Senna obtusifolia</i> in a rangeland situation.	TB295 – pg26-27

Topic	Crop	Year	Description	Location	Objective	Reference Source
M	Field Crops - Weeds	2000-01	Identification of weed species development under pivot irrigation system	Katherine/ Douglas Daly	Determine the weed species which pose a threat to intensive crop production. Develop an integrated weed management package for their control.	TB295 – pg22-25
M	Field Crops - Weeds	2000-01	Systems research	Douglas Daly	Trial and monitor and record the short and long-term effectiveness of weed control methods in pastures using herbicide rolling and slashing techniques.	TB295 – pg46-48
PD	Field Crops - Weeds	2001-07	Broadleaf weed control in grass pastures	Douglas Daly	Determine the optimum herbicide or herbicide combination for effective broadleaf control in newly sown and established perennial grass pastures and provide a basis for herbicide recommendations to farmers.	TB304 – pg25-27 TB319 – pg77-80 TB325 – pg259-261 TB327 – pg68
E	Field Crops - Weeds	2002-04	Predicted environmental weed risk of exotic grasses in Northern Australia	Darwin	A database of over 200 exotic grass accessions in northern Australia has been compiled.	TB313 – pg9 TB319 – pg28-29
M	Field Crops - Weeds	2002-04	Weed control using herbicide wipes	Douglas Daly	Trial, monitor and record the short and long-term effectiveness of weed control methods in pastures and fodder crops using herbicide wipers.	TB313 – pg51-52 TB319 – pg14-15
M	Field Crops - Weeds	2002-04	Weed management in Cavalcade production systems	Darwin	Evaluate integrated weed management strategies in a Cavalcade production system.	TB313 – pg28-34 TB319 – pg67-70
PD	Field Crops - Weeds	2003-04	Pre-wet season herbicide application in cavalcade	Douglas Daly	Determine the suitability of pre-wet application of Spinnaker® or Flame® for weed management of self-sown Cavalcade.	TB319 – pg71-73
PD	Field Crops - Weeds	2005-06	Sucker control in newly-sown Jarra Grass pasture	Douglas Daly	Determine if there is a cost-effective chemical option for control of sucker regrowth prior to the establishment of improved pasture.	TB325- pg262-263
PD	Field Crops – Weed	1997-00	Chemical control of Kent Gamba Grass	Darwin	Velpar® was found to be the most effective control of gamba grass.	TB273 – pg157-159 TB286 – pg4-5
V	Forestry	1998-00	Top End regional tropical hardwood forestry	CPHRF/ Katherine/ Douglas Daly	Species evaluation trials on various sites which address a number of criteria to meet industry requirements for both short and long rotation crops.	TB278 – pg14-15 TB286 – pg12-13

Topic	Crop	Year	Description	Location	Objective	Reference Source
V	Forestry	1997-04	Agroforestry	CPHRF/ Douglas Daly	Research and development, extension, education and training in agroforestry.	TB273 – pg160-163 TB278 – pg11-14 TB286 – pg15-18 TB295 – pg29-32 TB304 – pg32-34 TB319 – pg59-61
V	Forestry	1998-03	Species testing and genetic improvement of forest trees for the NT RIRDC/ LWRRDC/ FWPRDC joint venture agroforestry program	CPHRF	Develop a farm forestry industry in the NT by providing information on adaptability and potential growth rates of existing high quality native and exotic genotypes on a range of sites in the region.	TB278 – pg16 TB286 – pg14 TB304 – pg34-38 TB313 - pg35-39
PD	Forestry	1999-01	Insect pests of <i>Acacia mangium</i> plantations on Melville Island	Melville Is/Darwin	Identify insect species found on <i>Acacia mangium</i> and determine their pest status.	TB286 – pg237-238 TB295 – pg204-205
V	Forestry	2001-03	Evaluation of teak	Douglas Daly	Evaluate a number of propagation methods to determine the most suitable for teak when planted in Blain soil type.	TB304 – pg38-39 TB313 - pg40-41
V	Forestry	2003-07	African mahogany tree improvement program	Darwin/ Katherine	Improve stem straightness. Establish grafted clones of these trees. Establish clonal seed orchard. Plant a second-cycle, base population as open-pollinated, GRO families and infusions to enable future selection of superior, second - generation trees.	TB319 – pg62-64 TB325 – pg254-258 TB327 – pg4
EX	Other – Indigenous Horticulture Development	2004-07	Community gardens	Darwin	Facilitate the establishment of community market gardens on Indigenous Communities and to use the experience gained in the process to refine the Crops, Forestry and Horticulture Indigenous development strategy and methodologies.	TB325 – pg194-195 TB323 – pg220-221 TB325 – pg194-195 TB327 – pg51
EX	Other - Indigenous Horticulture Development	2005-07	Development of skills for indigenous employment in commercial horticulture	Central Australia	Facilitate training for Anmatjere people to enable them to develop skills in horticulture production to gain employment in the industry in the Ti Tree region.	TB325 – pg195-196 TB327 – pg50
E	Other - Indigenous Horticulture Development	2006-07	An environmental management plan for Centrefarm Aboriginal horticulture programs	Central Australia	Produce a series of Environmental Management Plans that will provide environmental policies, strategies and guidelines for individual Centrefarm projects at all stages of development.	TB327 – pg52

Topic	Crop	Year	Description	Location	Objective	Reference Source
EX	Other – Industry/Sector Liaison	2004-07	Industry liaison	NT wide	NTHA and DPIFM have developed an effectively operational partnership that can develop practice change capabilities to primary producers by way of field days/workshops/displays.	TB323 – pg208-212 TB325 – pg184-190 TB327 – pg54
EX	Other – Information Service	2003-07	Horticulture Information Service	NT wide	Develop, package and efficiently deliver information for industry development.	TB319 –pg342-344 TB323 – pg272-273 TB325 – pg241-242
EX	Other - Local Best Practice	2003-07	Local best practice project – improving the sustainability of the Katherine horticultural industry through local best practice groups	Katherine	The local best practice group activities are providing a level of learning and group interactions that help growers to continue to improve farm management practices in the Katherine region.	TB319 – 246-249 TB323 – pg218-219 TB325 – pg192-193 TB327 – pg61
PD	Other - Post-entry Quarantine	1999-03	Inspections and indexing of plants in PEQ for interception of diseases	Darwin	The facility was closed in November 2001 pending a decision on its future. It was reopened in May 2003.	TB286 – pg220 TB295 – pg191 TB304 – pg253-243 TB313 – pg273
V	Other - Post-entry Quarantine	2006-07	PEQ	Darwin	Facilitate the importation of tropical plant material providing an opportunity for tropical crops, forestry and horticultural industries to continue to introduce innovative material and expand the industries.	TB327 – pg
PH	Other - Product Description Language	2006-07	Product description languages for Asian vegetables and minor tropical crops	Darwin	Produce Product Description Language (PDL) posters for a range of Asian vegetables and minor tropical crops.	TB327 – pg46