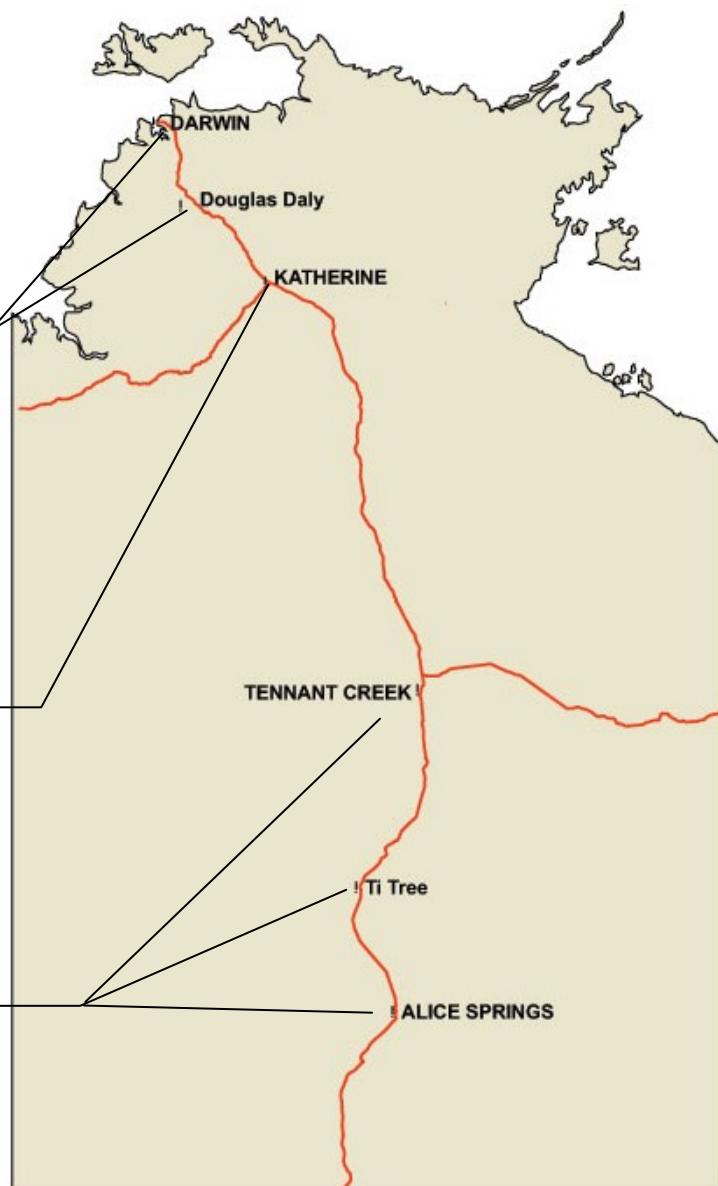


A Summary of Crops Investigated by the Department of Primary Industry, Fisheries & Mines from 1979 to 2006

Darwin & Daly Regions 77	
Crops	16
Cut-flowers	7
Forestry	3
Fruit	20
Nursery	1
Vegetables	29
Other	1

Katherine Region 85	
Crops	28
Forestry	3
Fruit	31
Vegetables	23

Central Australia 57	
Cut-flowers	7
Fruit	44
Vegetables	3
Other	3



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

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NOTES

Crop research typically has 3 phases:

1. **Varietal/Cultivar evaluation** - southern varieties are evaluated under NT conditions using southern agronomic practices. This generally lasts 1 to 3 years. If the varieties or cultivars look promising the 2nd phase of crop research follows.
2. **Agronomic practices** - more appropriate to NT conditions. These experiments include breeding programs, propagation techniques, population responses, pollination and yield studies, irrigation and nutritional research, growing systems, flowering and fruit quality studies, post harvest and supply chain research, pest and disease control, weed management, commercialisation of new crops and liaison concerning industry practices, strategies and issues. This phase of research can take 5 to 10 years.
3. **Systems research** - research at this stage investigates how to integrate the crop into local farming systems. Experiments include crop rotations, integrated pest management (insects, weeds and diseases) and possible incorporation of the crop with livestock enterprises. This phase is, and always is, on going; research no longer considers the crop isolation but part of a dynamic suite of options a farmer considers on an annual or seasonal basis.

Industry potential for crops have been classified as followed:

- **None** – research shows the crop is not viable for various reasons
- **Unknown** – preliminary research is currently being done
- **Possible** – preliminary research looks promising but more needs to be done
- **Niche** – limited market windows, seasonal, not economically viable, small niche or local markets only, viability can depend on market prices/demand and competition from other states, limited Australian markets, high labour costs, high production costs, limited species viable in NT
- **Moderate to very good** – potential to be produced as a commercial crop

Summary: Number of crops researched per region

Region	Crops	Cut-flower	Forestry	Fruit	Nursery	Vegetables	Other	Total
Darwin & Daly	16	7	3	20	1	29	1	77
Katherine	28	0	3	31	0	23	0	85
Central Australia	0	7	0	44	0	3	3	57
TOTALS	44	14	6	95	1	55	4	219

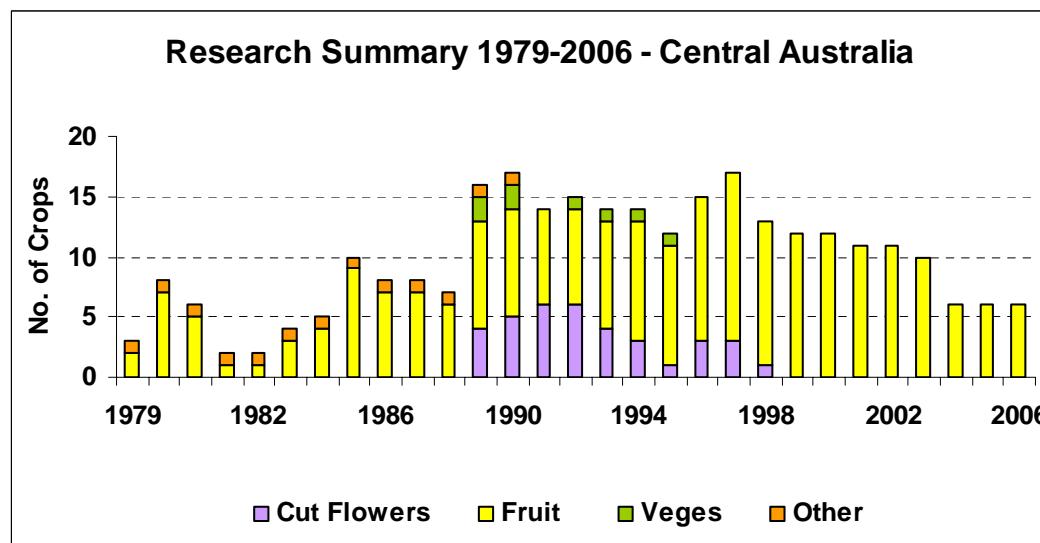
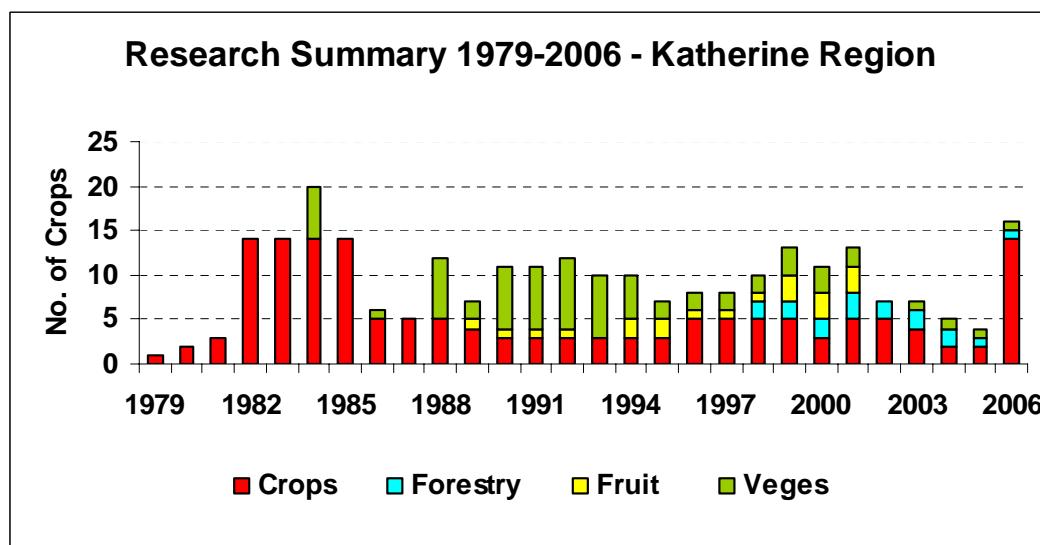
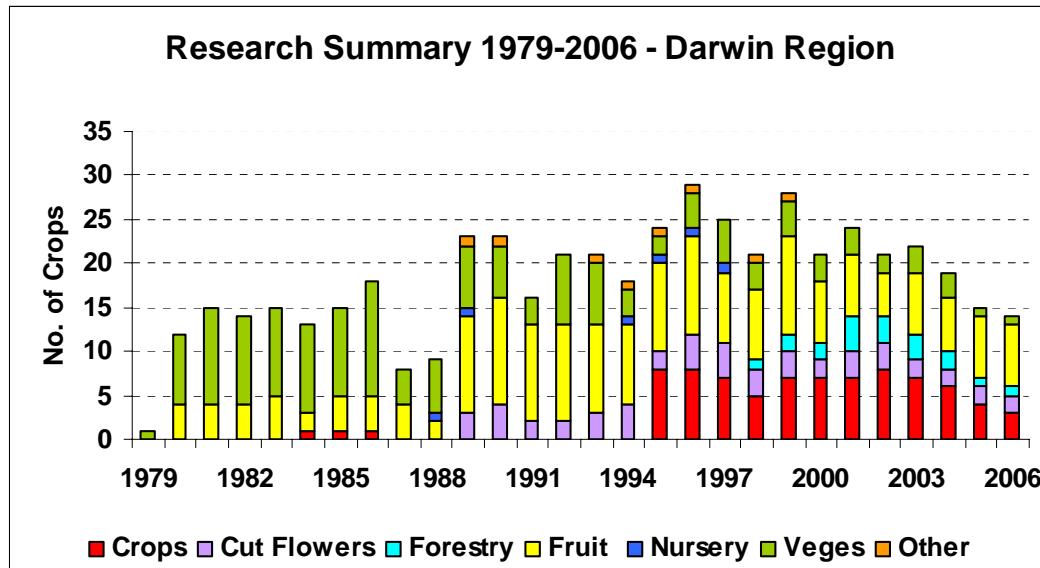
Total number of crops researched	
Crops	36
Cut-flowers	14
Forestry	5
Fruit	61
Nursery	1
Vegetables	35
Other	4
TOTAL	156

Other points to note:

- Staff involved in researching pastoral and forestry crops amalgamated with the Horticulture Division in 2005 to form the Crops, Forestry and Horticulture (CFH) Division. In this report, research in pastoral and forestry crops is documented from 2001 to 2006.
- For ease of reporting some products have been grouped generically and counted as a single item.
- Information from some of the research in this report is either not easily accessible or more time is required to read through Technical Bulletins/Technotes produced prior to the use of electronic devices for storage.
- Some research results are produced in formats such as Information Sheets, Fact Sheets and Growing Notes that are accessible on the CFH website below.

Note: Available research can be accessed via www.horticulture.nt.gov.au

Summary of Findings:



Crop Research Summary – Darwin Region

(including Berrimah Farm, Coastal Plains Horticulture Research Farm and Douglas Daly Research Farm)

Crop	Description of Research in the Darwin Region	Years	Industry Potential	Currently a Commercial Crop
Pasture, Field & Fodder Crops				
Blue Pea (pasture legumes)	Agronomic practices	1995-97	Niche	No
Bundey (pasture legumes)	Agronomic practices	1995-97	Good	Yes - minor
Cavalcade (pasture legumes)	Agronomic practices	1995-06	Good	Yes
Dry land maize	Varietal/Cultivar evaluation, agronomic practices	mid 1980s	Moderate to good	Yes
Dry land Sorghum	Varietal/Cultivar evaluation, agronomic practices, systems research	1995-05	Low to moderate	No
Forage sorghum	Varietal/Cultivar evaluation, agronomic practices	1995-04	Moderate	Yes
Irrigated maize	Varietal/Cultivar evaluation, agronomic practices	1999-02	Moderate to good	Yes
Jarra Grass Pasture	Sucker control	2005-06	Very good	Yes
Lucerne	Varietal/Cultivar evaluation, agronomic practices	1995-04	possible	No
Other Irrigated fodder/forage crops - including guinea grass, peanut, lablab, stylo	Varietal/Cultivar evaluation	1995-96	Niche	No
Peanuts	Varietal/Cultivar evaluation, agronomic practices	1999-06	Very good	Yes
Rhodes grass	Agronomic practices	1995-04	Very good	Yes
Sesame	Varietal/Cultivar evaluation	see Katherine Region		No
Wynn Cassia	Varietal/Cultivar evaluation	2002-03	Low to moderate	No
Cut-flowers				
Anthuriums	Varietal/Cultivar evaluation	1989-90	Niche	Yes
Euphorbia	Varietal/Cultivar evaluation	2001-02	Good	Yes (AQIS restrictions)
General Research	Varietal evaluation, agronomic practices	1996-97 1999-01	N/A	N/A
Gerberas	Varietal/Cultivar evaluation, agronomic practices	1989-92	Niche	Yes – small scale
Gingers	Varietal/Cultivar evaluation, agronomic practices	1993-94 1996-00 2002-06	Very good	Yes
Heliconias	Varietal/Cultivar evaluation, agronomic practices	1989-90 1993-94 1996-06	Very good	Yes

Crop	Description of Research in the Darwin Region	Years	Industry Potential	Currently a Commercial Crop
Hippeastrum	Agronomic practices	1994-95	Niche	No
Orchids	Varietal/Cultivar evaluation, agronomic practices	1990-98	Niche	Yes - small scale
Forestry				
African Mahogany	Varietal/Cultivar evaluation, agronomic practices	1999-06	Moderate to good	Yes
African mahogany timber evaluation	Agronomic practices	2002-04	N/A	N/A
General (mixed species)	Varietal/Cultivar evaluation, agronomic practices	2001-04	Possible	No
High Value Hardwood (NHT)	Varietal/Cultivar evaluation, agronomic practices	1998-01	Possible	No
Teak	Varietal/Cultivar evaluation	2001-03	Moderate	No
Fruit				
Abiu	Varietal/Cultivar evaluation, agronomic practices	1989-93	Niche	No
Banana	Varietal/Cultivar evaluation, agronomic practices	1995-06	Niche	Yes - local market only
Carambola	Varietal evaluation, agronomic practices	1989-99	Moderate	Yes – small scale
Cupucau	Varietal/Cultivar evaluation, agronomic practices	1993-99	Unknown	No
Cocoa	Varietal/Cultivar evaluation, agronomic practices	1989-90 1999-06	None	No
Durian	Varietal/Cultivar evaluation, agronomic practices	1990-03	Niche	No
Fruit - Tropical	Varietal/Cultivar evaluation, agronomic practices	1996-99	Niche	No
Green-Flesh Melons	Varietal/Cultivar evaluation	1984-85 1992	Niche	No
Lime	Varietal/Cultivar evaluation		Moderate	Yes – small scale
Longan	Varietal/Cultivar evaluation	1999-01 2003-06	Niche	No
Mandarin	Varietal/Cultivar evaluation	2005 ongoing	Unknown	No
Mango	Varietal/Cultivar evaluation, agronomic practices	1989 ongoing	Very good	Yes
Mangosteen	Agronomic practices	1990-99	Niche	No
Hami Melon	Varietal/Cultivar evaluation, agronomic practices	1980-83 1985-87 1989-96	Niche	Yes - local market only
Honey Dew Melon	Varietal/Cultivar evaluation, agronomic practices	1980-83 1985-87 1989-96	Niche	Yes - local market only
Pitaya	Varietal/Cultivar evaluation, agronomic practices	1999-01 2003-06	Very good	Yes
Rambutans	Varietal/Cultivar evaluation, agronomic practices	1989 ongoing	Moderate	Yes

Crop	Description of Research in the Darwin Region	Years	Industry Potential	Currently a Commercial Crop
Rockmelons	Varietal/Cultivar evaluation, agronomic practices	1980-92 1995	Very good	Yes
Sapodilla	Varietal/Cultivar evaluation, agronomic practices	1989-92	Niche	Yes - local market only
Strawberry	Varietal/Cultivar evaluation	1988-89	None	No
Watermelon	Varietal/Cultivar evaluation, agronomic practices	1981-83 1985-87 1989-96	Very good	Yes
Table grapes		1983-?	None	No
Nursery				
Ornamentals	Varietal/Cultivar evaluation, agronomic practices	1989-90 1994-97	Good	Yes
Vegetables				
Asian (Taro, Bitter Melon, Kang Kong, Luffa, Sinquar etc.)	Varietal/Cultivar evaluation, agronomic practices	1996-06	Very good	Yes - seasonal
Asparagus	Varietal/Cultivar evaluation, agronomic practices	1989-93	Unknown	No
Beans	Varietal/Cultivar evaluation	1988	None	No
Bamboo	Varietal/Cultivar evaluation, agronomic practices	1994-04	Niche	No
Broccoli	Varietal/Cultivar evaluation, agronomic practices	1980-86 1992-93	None	No
Cabbage	Varietal/Cultivar evaluation, agronomic practices	1980-86 1992-93	None	No
Capsicum	Varietal/Cultivar evaluation	1982 1984-86 1990	None	No
Carrot	Varietal/Cultivar evaluation	1980-82	None	No
Cauliflower	Varietal/Cultivar evaluation, agronomic practices	1980-86 1992-93	None	No
Chinese Cabbage	Varietal/Cultivar evaluation, agronomic practices	1980-86 1992-93	Niche	No
Cucumbers (Lebanese & Continental)	Agronomic practices	1981 1989-95 1997-99	Very good	Yes
Eggplant	Varietal/Cultivar evaluation, agronomic practices	1984 1986 1996-97	Moderate	Yes
Lettuce	Varietal/Cultivar evaluation	1980	None	No
Okra	Varietal/Cultivar evaluation	1986	Very good	Yes
Onion	Varietal/Cultivar evaluation, agronomic practices	1980-88	None	No
Pumpkin (butternut)	Varietal/Cultivar evaluation, agronomic practices	1981 1983 1989-90 1992	Good	Yes

Crop	Description of Research in the Darwin Region	Years	Industry Potential	Currently a Commercial Crop
Snake beans	Varietal/Cultivar evaluation	1988	Moderate	Yes
Squash	Varietal/Cultivar evaluation	1986	Niche	No
Sweet corn	Varietal/Cultivar evaluation	1981-83 1985-87	Niche	No
Sweet Potato	Varietal evaluation, agronomic practices	1983-85 1988-94 2003-04	Moderate	No
Tomato	Varietal/Cultivar evaluation, agronomic practices	1976-89 1991-95	Niche	No
Vegetable General (includes vanilla & cassava)	Varietal/Cultivar evaluation, agronomic practices	1989-90 1996-97 1999-01	Niche	No
White Potato	Varietal/Cultivar evaluation	1982-89	None	No
Zucchini	Varietal/Cultivar evaluation	1981 1986	Niche	No
Others				
Cashew	Varietal/Cultivar evaluation, agronomic practices	1989-90 1993-96 1998-99	Low to moderate	No
General - nursery	Enhancing profitability & diversity, industry development, accreditation scheme, agronomic practices	1989-90 1994-95 1997-02	N/A	N/A
Indigenous Horticulture - NT wide	Community gardens in indigenous communities	2004-06 ongoing	N/A	N/A
Industry liaison - NT wide	Improve communication with industry	2000 ongoing	N/A	N/A
Information service - NT wide	CFH information dissemination	2003 ongoing	N/A	N/A

Crop Research Summary - Katherine Region

Crop	Description of Research In the Katherine Region	Years	Industry Potential	Currently a Commercial Crop
Broad Acre Crops				
Adzuki	Varietal/Cultivar evaluation	1982-85	None	No
African Oil Palms	Varietal/Cultivar evaluation	2006 ongoing	Unknown	No
Black Gram	Varietal/Cultivar evaluation	1982-85	None	No
Canola	Varietal/Cultivar evaluation	2006	Unknown	No
Cassava	Varietal/Cultivar evaluation	2006 ongoing	Unknown	No
Coconuts	Varietal/Cultivar evaluation	2006 ongoing	Unknown	No
Cotton	Systems research	1995-05	Nil at this stage	No
Cowpea	Varietal/Cultivar evaluation	1982-85 2006	Niche	No
Culinary Beans / Navy Beans	Varietal/Cultivar evaluation	1988-89	Unknown	No
Drumstick Tree	Varietal/Cultivar evaluation	2006-07	None	No
Forage Crops - various	Varietal/Cultivar evaluation	1996-99	Moderate	Yes - local industry
Guar	Agronomy research	1981-86	Niche	No
Hay Crops (various)	Varietal/Cultivar evaluation	1996-99 2001-02	Very good	Yes – local industry
Kenaf	Agronomy research	1987-89	Niche	No
Lab Lab	Systems evaluation	1982-85 1989-04	Niche	No
Linseed	Varietal/Cultivar evaluation	2007 ongoing	Unknown	No
Maize	Systems research	1982-85	Niche	Yes – small scale
Millet	Varietal/Cultivar evaluation	1982-87 2006-07	Used as a green manure crop	Yes
Mung Beans	Systems research	1979-88	Niche	No
Mustard	Varietal/Cultivar evaluation	2006	Unknown	No
Peanuts	Systems research	1982-85 2006-07	Very good	Yes
Pigeon Pea	Agronomy research	1982-88 2001-02	None	No
Pongamia pinnata	Varietal/Cultivar evaluation	2006 ongoing	Unknown	No
Safflower	Varietal/Cultivar evaluation	2003 2006	Possible	No
Sesame	Systems research	1981-07	Niche	No / possible 2008
Sorghum	Systems research	1982-85 1990-94 2006-07	Niche	No

Crop	Description of Research In the Katherine Region	Years	Industry Potential	Currently a Commercial Crop
Soybean	Systems research	1982-85 2007	Niche	No
Sunflower	Varietal/Cultivar evaluation	1982-85 2006-07	Unknown	No
Forestry				
African Mahogany	Varietal/Cultivar evaluation, agronomic practices	1999-06	Moderate to good	Yes
Chukrasia velutina (Indian mahogany)	Varietal/Cultivar evaluation	1998	Possible	No
General species - Eucalypts	Varietal/Cultivar evaluation, agronomic practices	2001-04	Possible	No
High Value Hardwood (NHT)	Varietal/Cultivar evaluation, agronomic practices	1998-01	N/A	N/A
Fruit				
Annona species	Varietal/Cultivar evaluation, agronomic practices	1996-01	Niche	No
Atemoya	Varietal/Cultivar evaluation	1994-95 1999-01	Niche	No
Avocado	Varietal/Cultivar evaluation	1994-95 1999-01	Niche	No
Banana	Varietal/Cultivar evaluation, agronomic practices	1989-1992?	Niche	No
Camito	Varietal/Cultivar evaluation	1994-95 1999-01	Niche	No
Cashew	Varietal/Cultivar evaluation, agronomic practices	1989-99	Low to moderate	No
Carambola	Varietal/Cultivar evaluation	1994-95 1999-01	Niche	No
Casimiroa	Varietal/Cultivar evaluation	1994-95 1999-01	Niche	No
Grapefruit	Varietal/Cultivar evaluation	1996-01	Niche	Yes
Green Fleshed Melon			Niche	No
Guava	Varietal/Cultivar evaluation	1994-95 1999-01	Niche	No
Hami Melon			Niche	No
Honey Dew Melon	Varietal/Cultivar evaluation	1984 1996-97	Niche	No
Jackfruit	Varietal/Cultivar evaluation	1999-07	Niche	No
Lemon	Varietal/Cultivar evaluation	1987-01	Moderate	No
Lime	Varietal/Cultivar evaluation	1996-97	Niche	No
Lychee	Varietal/Cultivar evaluation, agronomic practices	1996-01	None	No
Mandarin	Varietal/Cultivar evaluation	1993-01	Possible	No
Mango	Varietal/Cultivar evaluation, agronomic practices	1989 ongoing	Very good	Yes
Orange			None	No

Crop	Description of Research In the Katherine Region	Years	Industry Potential	Currently a Commercial Crop
Passionfruit	Varietal/Cultivar evaluation, agronomic practices	1994-95	Niche	No
Pawpaw	Varietal/Cultivar evaluation, agronomic practices	1989-90	Niche	No
Pomegranate	Varietal/Cultivar evaluation	1994-95 1999-01	Niche	No
Pummelo	Varietal/Cultivar evaluation	1998-01	Niche	No
Rockmelon	Varietal assessment, agronomy research	1988-89 1992-93	Very good	Yes
Rollina	Varietal/Cultivar evaluation	1999-01	Niche	No
Sapodilla	Varietal/Cultivar evaluation	1994-95 1999-01	Niche	No
Strawberry			Niche	No
Table Grapes	Varietal/Cultivar evaluation, agronomic practices	1992-99	Niche	Yes – small scale
Tangelo	Varietal/Cultivar evaluation	1989-92	Niche	No
Watermelon	Varietal/Cultivar evaluation, agronomic practices	1989-99	Very good	Yes
Vegetables				
Asparagus	Varietal/Cultivar evaluation, agronomic practices	1988-00	Unknown	No
Brassicas (Broccoli, Chinese cabbage)	Varietal/Cultivar evaluation	1990-93	None	No
Brassicas (Asian)	Varietal/Cultivar evaluation	1990-93	Unknown	No
Cabbage	Varietal/Cultivar evaluation	1988	Niche	No
Capsicum	Varietal/Cultivar evaluation, agronomic practices	1988 1990-93	Very good	No
Carrot	Varietal/Cultivar evaluation	1984-07	Niche	No
Cauliflower	Varietal/Cultivar evaluation	1990-94	Niche	No
Cucumber	Agronomic practices	1992	Niche	No
Eggplant			Moderate	Yes – small scale
French Beans	Varietal/Cultivar evaluation	1984 1988	Niche	No
Green Manure Crops (Mungbean)	Agronomic research	1992	Niche	No
Irish Potato	Varietal/Cultivar evaluation	1984 1990-91	Niche	No
Kabocha (a)	Varietal/Cultivar evaluation	1999-01	Niche	No
Lettuce	Varietal/Cultivar evaluation, agronomic practices	1984 1988 1993-94	None	No
Onion	Varietal/Cultivar evaluation	1984	Niche	No
Potato	Cultivar/varietal evaluation	1989-05	Niche	No

Crop	Description of Research In the Katherine Region	Years	Industry Potential	Currently a Commercial Crop
Pumpkin			Very good	Yes
Squash			Niche	No
Sweet Corn	Varietal/Cultivar evaluation	1986 1988	Niche	No
Sweet Potato			Moderate	No
Tomato	Varietal/Cultivar evaluation	1984 1988	Niche	No
Zucchini	Agronomic practices	1994	Niche	No
Other				
Best Practice	Improving the sustainability of the local industry	2003 ongoing	N/A	N/A
Biological Farming Systems	Systems to improve soil health & soft chemical options	2006 ongoing	N/A	N/A

Crop Research Summary – Central Australia

Crop	Description of Research in Central Australia	Years	Industry Potential	Currently a Commercial Crop
Cut-flowers				
Centralian Native Species	Varietal/Cultivar evaluation	1995-98	Niche	No
Kangaroo Paw	Varietal/Cultivar evaluation	1989-94 1996-97	Niche - See above	No
Floriculture	General research in Central Australia	1989-94	N/A	N/A
Gypsophilla	Varietal/Cultivar evaluation	1991-92	Niche	No
Geraldton Wax	Varietal/Cultivar evaluation	1996-97	Niche	No
Rose	Varietal/Cultivar evaluation	1990-93	None	No
Thryptomene Maisonneuvii	Agronomic practices	1989-92	None	No
WA Native Flower Species	Agronomic practices	1989-94	Possible	No
Fruit				
Annona	Varietal/Cultivar evaluation	1985	Niche	No
Apple	Varietal/Cultivar evaluation	1979	None	No
Apricot	Varietal/Cultivar evaluation	1972	Possible	No
Avocado	Varietal/Cultivar evaluation	1985	None	No
Canistel	Varietal/Cultivar evaluation	1986	None	No
Carambola	Varietal/Cultivar evaluation	1985	None	No
Casimoroa	Varietal/Cultivar evaluation	1985 ongoing	Niche	No
Dates	Varietal/Cultivar evaluation, Agronomic practices	1991-03	Good	Yes
Feijoa	Varietal/Cultivar evaluation	1979	Unknown	No
Figs	Varietal/Cultivar evaluation, assistance to industry	1979 1996-97	Moderate	Yes
Grapefruit	Varietal/Cultivar evaluation	1993-02	Niche	No
Grumichama	Varietal/Cultivar evaluation	1986	Niche	No
Guava	Varietal/Cultivar evaluation	1976	Niche	No
Jaboticaba	Varietal/Cultivar evaluation	1985	None	No
Jojoba	Varietal/Cultivar evaluation	1976-80	None	No
Jujube	Varietal/Cultivar evaluation	1983 ongoing	Possible	No
Kiwi fruit	Varietal/Cultivar evaluation	1985-88	None	No
Lemon	Varietal/Cultivar evaluation	1987-03	Possible	No
Lime	Varietal/Cultivar evaluation, Agronomic practices	1987-97	Niche	No
Longan	Varietal/Cultivar evaluation	1984	None	No
Loquat	Varietal/Cultivar evaluation	1986	None	No
Lychee	Varietal/Cultivar evaluation	1984	None	No
Mandarin	Varietal/Cultivar evaluation	1991-03	Niche	No

Crop	Description of Research in Central Australia	Years	Industry Potential	Currently a Commercial Crop
Mango	Varietal/Cultivar evaluation, Agronomic practices	1992-00	Moderate	Yes
Melons - Honey Dew, Rockmelon, Watermelon	Varietal/Cultivar evaluation	1989-90	Honeydew - Niche Watermelon - Moderate for seeded varieties Rockmelon - Niche	Yes
Nashi Pear	Varietal/Cultivar evaluation	1987	None	No
Olives	Varietal/Cultivar evaluation	1972 ongoing	Good	Yes
Oranges	Varietal/Cultivar evaluation	1997-03	Possible	Industry Trial
Passion fruit	Varietal/Cultivar evaluation	1979-80	None	No
Pear	Varietal/Cultivar evaluation	1972-?	Possible potential	No
Phalsa	Varietal/Cultivar evaluation	1983	None	No
Pomefruit/Stonefruit (Peach, Nectarine, Persimmon, Plum, Peacherine)	Varietal/Cultivar evaluation	1972 1980 1989-91 1997-06 ongoing	Moderate	Industry Trial
Pomegranates	Varietal/Cultivar evaluation	1980	Niche	No
Prune	Varietal/Cultivar evaluation	1979	Unknown	No
Sapodilla	Varietal/Cultivar evaluation	1985	Niche	No
Tangelo	Varietal/Cultivar evaluation	1996-06	Good	No
Strawberry	Varietal/Cultivar evaluation	1989-90	Possible	No
Table Grapes	Agronomic practices, systems research	1989-90 1994-05	Very Good	Yes
Vegetables				
Asparagus	Varietal/Cultivar evaluation	1992-?	Very Good	No
Squash - button	Varietal/Cultivar evaluation	1989-90	Niche	No
Tomato	Varietal/Cultivar evaluation	1989-90	None	No
Others				
Almond	Varietal/Cultivar evaluation	1972	Niche	No
Extension Services (Fruit)	General industry extension services & industry development	1996-06	N/A	N/A
Extension Services (Australian natives)	Assistance with developing a cut flowers growers group and extension service to home gardeners & horticulture industry	1996-98	N/A	N/A
Pecan	Varietal/Cultivar evaluation	1977	None	No
Pistachio	Varietal/Cultivar evaluation, agronomic practices	1976-90	None	No

NOTES

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