



**NATIONAL INSTITUTE OF  
AGRICULTURAL BOTANY**

**R&D Project OF0110  
Varieties for Organic Production  
and Marketing**

**Summary of reports of organic trials  
1994 - 1996**

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**NATIONAL INSTITUTE OF AGRICULTURAL BOTANY  
HUNTINGDON ROAD, CAMBRIDGE**

**Summary of reports of organic trials 1994 - 1996**

Trials were conducted with cabbage, maincrop carrots, parsnips potatoes and swedes. Cabbage and carrots as an extension of previous work were confined to one site per annum. Potatoes were continued at two sites. New series on parsnips and swedes were grown at two sites. All trials were grown on UKROFS approved sites and mostly within commercial crops at those sites. The detailed annual reports are attached.

**Cabbage** - winter types were grown, previous trials had confirmed that type was important in the level of pest attack. Yet again aphids were identified as the major problem causing loss of crop value and yield. Despite being situated in commercial crops the trials in 1995 and 1996 failed due to cutworms and drought respectively. Future work is looking at the autumn maturity period.

**Carrots** - we had previously identified the need for dedicated trials because of the different demands of organic production and marketing and with the rapid introduction of new varieties with this crop there is a need for a regular review. Important plant factors are vigour and large top size to compete with weeds. We specifically looked at the value of the claimed root fly resistant variety Flyaway. This proved to be no better than some other varieties in this respect and was inferior in other characteristics. After 1995 we were able to produce a list of better varieties. The trial in 1996 failed due to drought. Future work is looking at extending the period with early material planted under polythene.

**Potatoes** - Potato trials showed considerable variation across the sites with one site providing data from plots inoculated with blight. Blight resistance, identified from routine trials, was confirmed as being of considerable value under organic conditions. In 1996 early maturing varieties performed relatively well at the unirrigated site as they produced yield before water became a limiting factor. Future work is looking at the performance of organically produced seed as well as a range of varieties with high blight and virus resistance.

**Parsnips** - the trials investigated the characters important for organic growing conditions and identified the market demands. As with carrots, emergence and top growth were important to help smother weeds. The market would accept larger roots than for normal pre-pack production. Future work is looking at extending the marketing period and testing recently released varieties.

**Swedes** - the trials looked at new introductions of culinary swedes in comparison to older varieties. Establishment techniques of direct drilling and transplanting were used. Drilling was the preferred method.

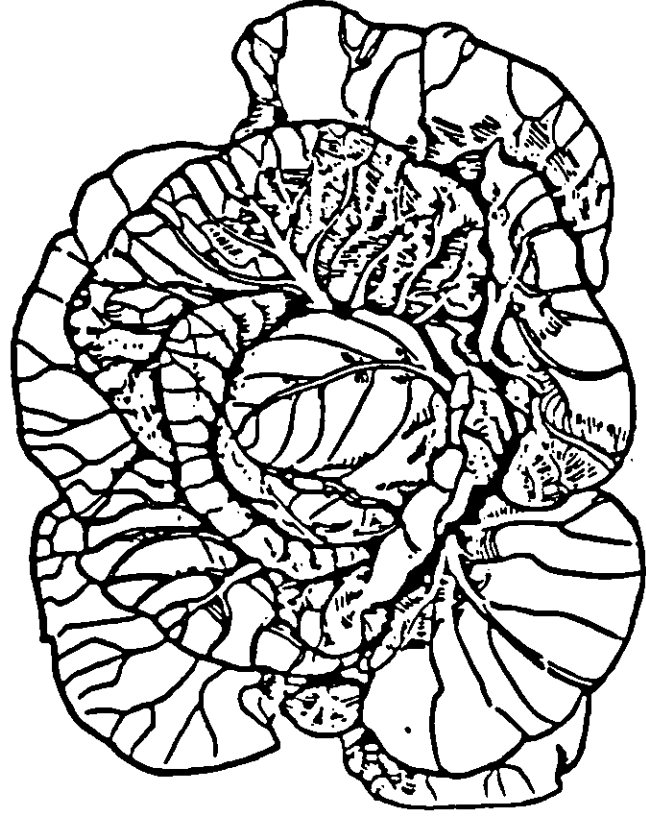
Each year, trials and produce were demonstrated and results presented to growers at a seminar held at Henry Doubleday Research Association. Attendance rose from 20 in 1994 to over 100 in 1995 and 1996 and this continues to be a valuable forum in which results are disseminated. In addition all results were circulated to the NIAB Vegetable Associate Scheme (300 members).



# National Institute of Agricultural Botany

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Issue 105



## ORGANIC CABBAGE

Summary of Trial Results 1994



# ORGANIC CABBAGE 1994

## TRIALS PROCEDURES

The trial was transplanted from modules using organic compost. 308 modules were used for plant raising. Two replicates of each variety were grown.

## TRIAL TECHNIQUE

Centre	ISLEHAM, CAMBS
Soil type	Peaty loam
Sowing date	6 May
Modules and compost	GPG 308s West Riding Organic Compost
Transplanting date	23 June
Spacing	45 x 45 cm (18 x 18 in)
Fertiliser	FYM
Weed control	Black Polythene
Pesticides	Savonna, Derris, BT

## Seed sources

BIO	-	BEJO ZADEN
NIZ	-	NICKERSON
RSL	-	ROYAL SLUIS
SAK	-	SAKATA
SEG	-	S&G SEEDS LTD

## COMMENTS ON THE TRIAL

Establishment was difficult due to the hot dry weather in June and July. Some plants were lost despite irrigation. The later weather encouraged good growth and final results were good with 87% heads marketable.

## COMMENTS ON VARIETIES

### a) Whites

**METINO.** Maturing at 84 days from transplanting this variety produced large flat round dense cabbage weighing over 1 kilo with a very high percentage of marketable heads. Heads were pale green with more internal stalk than other varieties in trial.

**STONEHEAD.** Of similar maturity to Metino. Round to oval medium green heads. Heads very dense with short internal stalk.

**PEDRILLO.** Similar maturity to Metino. Producing a very high percentage of marketable heads which were grey green in colour and dense.

**CASTELLO.** Two weeks later than Metino. Round to oval mid to dark green heads. Very dense heads, but with a proportion of small and immature heads.

### b) Savoy x White

**COLT.** Late maturing flat round dense heads of medium to dark green colour. Very dense heads with short internal stalk.

**ENFIELD.** Very late maturing round to oval medium to dark green heads. High proportion of immature heads.

### c) Savoys

**JULIUS.** Early maturing flat round medium to dark green large heads. Above average uniformity with a high percentage of marketable heads.

**FAMOSA.** Nearly two weeks later than Julius. Large flat round heads less heavy than Julius.

### d) Reds

**PRIMERO.** Medium to small dense flat round heads. High levels of small and immature heads.

**REDDY.** Similar maturity and shape as Primero but with heavier heads. Low percentage marketable with high proportions of small immature heads.

### e) January King x White

**SAVANNA.** Relatively early maturing with large flat heads. Below average density and low head weights.

### f) Christmas Drumhead

**RAPIER.** Round to oval medium green dense. Below average uniformity, main defects were small and immature heads.



ORGANIC CABBAGE TRIAL 1994

CENTRE: ISLEHAM

VARIETY	SEED SOURCE	DAYS FROM TRANSPLANTING TO 50% MATURITY	MEAN WEIGHTS PER MARKETABLE HEAD (KG)	% TOTAL NUMBER RECORDED AS:		
				MARKETABLE	SMALL	LOOSE/ IMMATURE/ ROSETTES
<u>WHITES</u>						
METINO	RSL	84	1.06	96	0	2
STONEHEAD	SAK	84	0.76	92	4	0
PEDRILLO	BJO	86	0.75	97	0	2
CASTELLO	NIZ	98	0.91	91	3	5
<u>SAVOY X WHITE</u>						
COLT	SEG	103	0.89	85	12	3
ENFIELD	SEG	118	0.75	83	2	15
<u>SAVOYS</u>						
JULIUS	SEG	85	0.90	92	0	8
FAMOSA	BJO	98	0.76	88	7	3
<u>REDS</u>						
PRIMERO	BJO	98	0.80	83	10	8
REDDY	SEG	98	0.94	75	15	10
<u>JANUARY KING X WHITE</u>						
SAVANNA	NIZ	93	0.66	90	7	3
<u>CHRISTMAS DRUMHEAD</u>						
RAPIER	NIZ	98	0.82	85	8	7
MEAN		95	0.83	87	6	6
LSD (VARIETY MEAN P=0.05)		17	0.24	NS	NS	NS

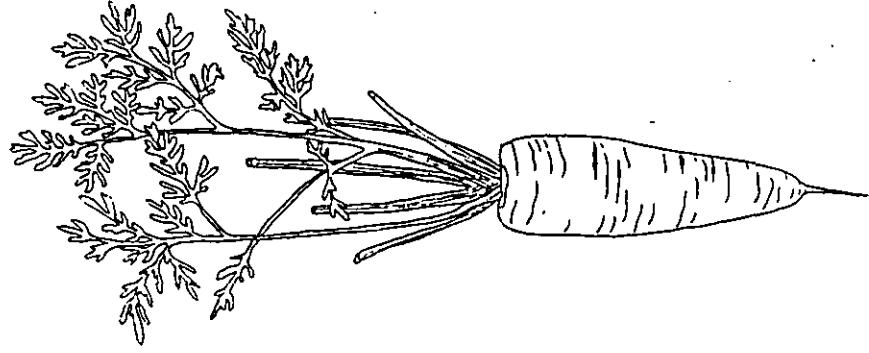
ORGANIC CABBAGE TRIAL. 1994

CENTRE: ISLEHAM

VARIETY	DIAMETER (cm)	DENSITY (1-9) 1=LOOSE 9=DENSE	PERCENTAGE OF STALK TO WHOLE HEAD	EXTERNAL COLOUR (1-9) 1=LIGHT 9=DARK	UNIFORMITY SCORE (1-9) 1=POOR 9=EXCELLENT	HEAD SHAPE
WHITES	14.2	8	58	4	6	FLAT ROUND
METINO	12.6	9	40	5	4	ROUND TO OVAL
STONEHEAD	12.5	8	48	6	6	ROUND TO OVAL
PEDRILLO	12.4	9	48	6	6	ROUND TO OVAL
CASTELLO						
SAVOY X WHITE						
COLT	13.6	9	36	6	5	FLAT ROUND
ENFIELD	12.4	8	42	6	5	ROUND TO OVAL
SAVOY						
JULIUS	15.0	8	42	6	7	FLAT ROUND
FAMOSA	14.6	8	43	6	7	FLAT ROUND
RED						
PRIMERO	12.2	9	45	-	5	FLAT ROUND
REDDY	12.4	9	45	-	4	FLAT ROUND
JANUARY KING X WHITE						
SAVANNA	14.5	7	49	7	6	FLAT
CHRISTMAS DRUMHEAD						
RAPIER	12.5	9	45	7	4	ROUND TO OVAL
MEAN	13.2	8	45	6	5	
LSD (VARIETY MEAN P=0.0 5)	2.1	1	8	1	3	



One-year  
**RESULTS**



Not for publication

Issue 106

# ORGANIC CARROTS

Summary of Trial Results 1994



## ORGANIC CARROTS 1994

### Trials procedure

This trial was sown using a Wolf drill maker, Wolf seed sower and the drills were covered by raking over. Four replicates of each variety were sown in three row plots mimicking a bed system. The trial was sown late to avoid carrot fly damage.

Seed rates were calculated using a 0.5 field factor, 1000 seed weight and % germination. Seedlings were not thinned.

### Trial technique

Site Henry Doubleday Research Association, Ryton, Coventry.

Soil type Sandy loam

Sowing date 8 June

Row widths 3 rows, 25 cms between rows, 50 cm between beds. (Total bed width 1.00m)

Previous crop 1992 grass/clover ley  
1993 Brussels sprouts (35 t/ha F.Y.M. 24/3/93)

Fertiliser None

Weed control Hand hoeing & hand pulling (15/7, 16/8 and 24/10)

Irrigation 9 June, 14 June, 28 June

Pest control None

Harvest date 10 November

### Seed sources

BJO -	Bejo Zaden BV	NIZ -	Nickersons
CLA -	Clause (UK) Ltd	NUN -	Nunhams Zaden
DAE -	L Daehmfeldt Havefro	RZA -	Rijk Zwaan BV
MCW -	G S McWalter	TOZ -	A L Tozer Ltd
		VIL -	Vilmorin-Andrieux

### Comments on trial

This trial was very successful with high yields and large roots. There was very little carrot fly and cut worm damage but there was some cavity spot and violet root rot damage. These were the best quality carrots so far produced at HDRA.

### Comments on varieties (Listed in alphabetical order).

**BALIN** Below average yield from slightly above average population. Roots tending to be long and slim with a high percentage of fanged and misshapen roots. Low levels of cut worm damage and cavity spot with below average skin texture and core colour. High levels of internal greening.

**BANGOR** High yield of marketable roots from below average populations which also resulted in a high proportion of oversized roots. Roots long and broad showing low levels of splitting but considerable fanging and internal greening. Low levels of carrot fly, cut worm, violet root rot and cavity spot.

**BARBADOS** Low yield from a below average population. Roots long and broad with high percentages broken and split. High level of cut worm damage, and below average skin texture but low levels of internal greening.

**BOLERO** Long roots of medium breadth with above average levels of broken and cracked roots. Low levels of carrot fly and cut worm damage but high incidence of violet root rot. Below average skin texture.

**BOSTON** Long broad roots with high level of split roots, carrot fly and cut worm damage. Low level of violet root rot damage. Poor skin texture and a high percentage of internal greening.

**CHANTENAY RED CORED - REDCO** Low marketable yield of short broad roots and a high percentage oversized. No cracking and very low levels of fanged and misshapen roots. Above average cut worm damage and cavity spot defects. Below average core colour.

**CORRIE** Low yield of medium to short roots from an average population. Above average percentages of oversized, split and cracked roots. Above average levels of cut worm and high levels of cavity spot defects. Poor skin texture and flesh colour. No internal greening.

**FLYAWAY** Low yield of medium length roots from a low population. Below average level of fanged roots and low level of carrot fly damage, but high percentage of cut worm damage. Below average flesh and core colour and high percentage of internal greening.

**KAMARAN** Very high yield from a very high population, giving a very low level of oversized roots. Above average carrot fly damage. Very deep core colour and no internal greening.

**LAGOR** Low yield of medium to short roots from a below average population which resulted in an above average percentage of oversized roots. No carrot fly damage was recorded and roots were free of internal greening.

**MAGNO** Below average yield of long roots from a low population which resulted in an above average percentage of oversized roots. Above average carrot fly and cut worm damage, but very little internal greening.

**NAIROBI** High marketable yield of medium to short roots from an above average population. Low levels of cutworm and cavity spot defects. Below average skin texture.

**NARBONNE** Below average yield of long roots from a below average population with some fanging. Above average cut worm damage and below average skin texture. Very deep core colour.

**NERAC** High yield of marketable roots from an average population. Very low levels of over sized roots, splits and cracks and cavity spot damage. Below average skin texture. Very deep core colour.

**NEWMARKET** Above average yield from a low population but the level of oversized remained low. Low level of internal greening.

### Summary

BANGOR, NERAC and NEWMARKET showed high yield potential at average or lower populations and the latter did not produce oversized roots at low populations.

Generally the shorter rooted varieties produced fewer fanged and misshapen roots but NEWMARKET had low levels of these defects although of above average length.

BANGOR, BOLERO, FLYAWAY and LAGOR all showed the least carrot fly damage, whilst BANGOR and NAIROBI had least cut worm damage.

BALIN, NAIROBI and NERAC had the least cavity spot of the trialled varieties.



**Results**  
**ORGANIC CARROT TRIAL 1994**

**CENTRE: HENRY DOUBLEDAY RESEARCH ASSOCIATION**  
Varieties listed in alphabetical order

VARIETY	SEED SOURCE	POPULATION AS % TRIAL MEAN	MARKETABLE YIELD AS % TRIAL MEAN	DEFECTS (% BY WEIGHT)					FANGS & MISSHAPEN
				UNDER-SIZED (<19mm)	OVER-SIZED (>45mm)	BROKEN	SPLITS	CRACKS	
BALIN	NUN	108	94	1.1	2.5	4.0	2.6	0.0	37.8
BANGOR	BJO	86	114	0.3	17.3	4.5	1.1	0.0	31.0
BARBADOS	BJO	88	75	0.2	11.9	7.9	7.8	0.0	26.4
BOLERO	NIZ/VIL	102	109	0.6	9.1	5.7	1.4	5.3	20.4
BOSTON	BJO	99	94	0.6	8.1	4.1	4.8	0.0	28.9
CRC REDCO	DAE	101	82	0.4	37.6	0.5	3.0	0.0	9.1
CORRIE	TOZ/MCW	106	78	0.6	21.6	1.9	6.2	3.6	15.4
FLY AWAY	TOZ	86	84	1.3	11.7	1.6	3.6	0.0	16.6
KAMARAN	BJO	168	135	1.6	3.3	1.6	2.2	0.0	25.3
LAGOR	CLA	90	80	0.5	17.4	3.5	3.7	0.0	26.6
MAGNO	RZA	79	87	0.7	17.4	3.5	3.0	0.0	24.4
NAIROBI	BJO	111	129	0.7	13.2	1.2	1.0	0.0	25.9
NARBONNE	BJO	92	93	0.6	7.7	1.5	0.8	0.0	29.5
NERAC	BJO	98	129	0.6	2.0	1.6	0.6	0.0	24.0
NEWMARKET	BJO	85	118	0.4	7.6	2.8	1.8	0.0	15.7
MEAN		110 plants /M <sup>2</sup>	42.5 t/ha	0.7	12.6	3.0	2.9	0.6	23.8

Results  
ORGANIC CARROT TRIAL 1994

Centre: HENRY DOUBLEDAY RESEARCH ASSOCIATION

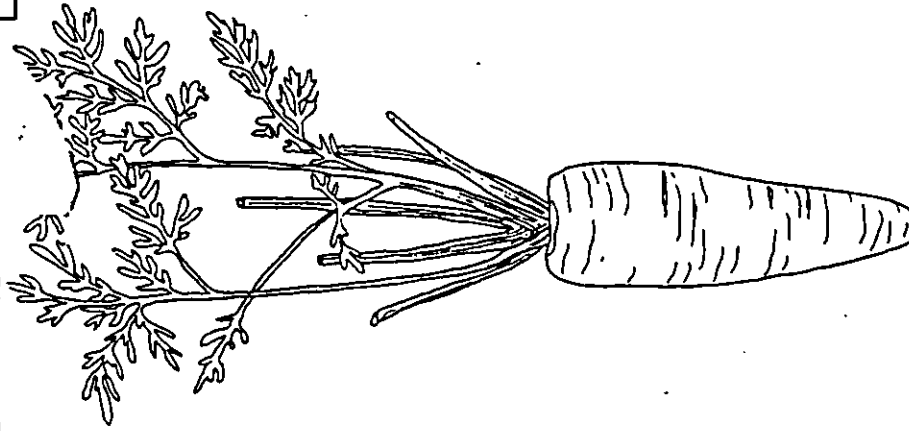
Variety	Defects (% by weight)					Quality					
	Carrot Fly	Cut Worm	Violet Root Rot	Cavity Spot	Mean Length (cm)	Mean Breadth (cm)	Skin Texture (1-9) 9=smooth	Flesh Colour (1-9) 9=dark	Core Colour (1-9) 9=dark	Internal Greening %	
BALIN	0.5	3.3	0.6	0.1	16.3	2.8	3.0	7.0	5.0	37.8	
BANGOR	0.2	2.1	0.1	0.3	16.8	3.4	5.0	7.0	7.0	40.0	
BARBADOS	0.5	9.6	1.1	1.2	16.5	3.4	3.0	7.0	7.0	6.7	
BOLERO	0.2	3.7	2.5	1.0	16.3	3.1	3.0	7.0	7.0	20.0	
BOSTON	0.9	9.2	0.1	0.8	16.8	3.4	3.0	7.0	7.0	33.3	
CRC REDCO	0.5	9.0	0.9	1.5	10.6	3.4	5.0	7.0	5.0	11.1	
CORRIE	0.4	9.6	1.8	2.4	12.4	3.3	3.0	5.0	7.0	0.0	
FLYAWAY	0.2	10.2	2.0	1.4	14.0	3.3	5.0	5.0	3.0	31.1	
KAMARAN	1.1	8.4	0.9	0.4	15.4	3.1	5.0	7.0	9.0	0.0	
LAGOR	0.0	6.8	0.9	0.5	14.3	3.3	5.0	7.0	7.0	0.0	
MAGNO	1.5	9.0	0.6	0.7	16.7	3.2	5.0	7.0	7.0	4.4	
NAIROBI	0.4	1.8	0.7	0.2	14.3	3.1	5.0	7.0	7.0	11.1	
NARBONNE	0.5	9.5	0.8	0.9	16.7	3.3	3.0	7.0	9.0	15.6	
NERAC	0.5	5.5	1.2	0.2	15.8	3.2	3.0	7.0	9.0	15.6	
NEWMARKET	0.4	7.6	0.8	1.1	15.8	3.2	5.0	7.0	7.0	6.7	
	0.5	6.9	1.0	0.8	15.2	3.2	4.1	6.7	6.9	15.6	



One-year

**RESULTS**

Not for publication



Issue 109  
**Organic Carrots 1995**

## ORGANIC CARROTS 1995

### Trials Procedure

The trial was drilled with a Wolf Amateur Seed Sower after marking out with a Wolf Row Maker. Four replicates of each variety were drilled in beds containing three rows. The sides of each replicate block were protected by a guard row.

### Trial Technique

Site Henry Doubleday Research Association, Ryton, Coventry, Warks.

Soil Type Sandy Loam

Previous Crop Cabbage (until March 1995)

Sowing Date 7 June 1995

Row Widths 25cm (10in)  
50cm (20in) between beds

Fertiliser None

Weed Control Hand weeded and hoed (12/7 & 30/7)

Irrigation 9/6 - 118 litres/sq.m  
11/8 - 21 litres/sq.m  
14/8 - 21 litres/sq.m

Pest control Sown late to avoid carrot fly.  
Electric fencing around the trial.

Harvest dates 14 & 27/11/95

## Comments on the trial

Establishment at 91.5 plants per sq.m was close to the target population of 108 plants per sq. Some replicates of the varieties **Lagor**, **Kazan**, **Bangor** and **Nerac** were thinned. The trial gave a lower yield of marketable roots at 26.0 t/ha than last year. High levels of oversized, and fanged and mishapen roots as well as cavity spot and slug and cutworm damage reduced the marketable yield. As in 1994 carrot fly damage at 1% was again very low. A few processing varieties were included in trial this time. Most were grown at the normal population but **Kamaran** was targeted at two populations, normal at 108 and low at 80 plants per square metre.

## Comments on varieties (in alphabetical order)

**Balin (Nunhems)** Above average population and yield of medium length uniform roots. Low levels of oversized roots but roots prone to internal greening.

**Bangor (Bejo)** A very high population resulted in a very high yield of medium length roots with very low levels of growth splits and little cavity spot. Can be used for processing.

**Barbados (Bejo)** Below average yield of short slim roots with good flesh and very good core colour. Low levels of oversized roots but high incidence of cavityspot and very high levels of roots with growth splits. Can be used for juice.

**Bolero (Nickerson)** Below average yield of medium length uniform roots with good flesh and core colour. Low levels of over sized and split roots, low incidence of cavity spot but very high level of fanged and mishapen roots.

**Boston (Bejo)** Low population gave a very low yield of long roots with good flesh colour and very good core colour. High level of fanged and mishapen roots.

**Chantenay Red Cored 2 - Redco (Daehnfeldt)** A below average population gave an above average yield of very short broad conical roots with poor core colour. Very low levels of fanged and mishapen roots were recorded but there was a very high level of broad over sized roots and a high level of cavity spot.

**Corrie (Tozer/McWalter)** A very low population resulted in a very low yield of short broad roots with a very low incidence of internal greening. Low levels of fanged, mishapen and growth splits were recorded but very high incidences of cavity spot and slug and cutworm damage were found. Can be used for processing.

**Flyaway (Tozer)** An above average population gave an above average yield of short slim roots with smooth skins but poor core colour and high levels of internal greening. Very little growth splitting was recorded but the incidence of cavity spot was high.

**Kamaran 80 (Bejo)** Low population and consequently a low yield. Very long roots with good flesh and core colour but pronounced cambiums. High levels of fanged and misshapen roots, and cavity spot. Mainly used for processing.

**Kamaran 108 (Bejo)** Below average yield of medium length roots. Low level of growth splits but a high percentage of fanged and misshapen roots.

**Karotan (Rijk Zwaan)** Below average yield of very long roots with good core and flesh colour but poor skin texture. A low level of cavity spot, no growth splits but high percentage of fanged and misshapen roots were recorded. High dry matter variety mainly used for processing.

**Kazan (Bejo)** Long roots with very good flesh and core colour and little internal greening. Low levels of growth splits but above average cavity spot. Mainly used for processing.

**Lagor (Clause)** Below average yield from an above average population of short roots with little internal greening. Low level of growth splits and oversized roots but a high incidence of cavity spot and a high level of violet root rot especially in two of the four replicates.

**Magno (Rijk Zwaan)** Above average population of long roots with good flesh and core colour. Low levels of growth splits and cavity spot.

**Nairobi (Bejo)** Very high yield from an above average population of long roots. Very low levels of growth splits and low incidence of cavity spot.

**Narbonne (Bejo)** Above average yield of medium length roots with good flesh and very good core colour. Very low levels of growth splits.

**Nerac (Bejo)** High yield of uniform medium length roots. Low levels of oversized roots and very low incidence of growth splits.

**Newmarket (Bejo)** Below average yield from a below average population of uniform medium length roots. Very low level of growth splits but the highest incidence of carrot fly in the trial was recorded.

**Summary of best performances for market and freeflow use:**

a) Bankers: Bangor, Nairobi\*, Narbonne\*

b) Recent: Newmarket\*, Nerac\*, Balin\*, Magno.

c) Processing: Kamaran, Corrie, Kazan, Karotan, Barbados, Bangor.

\* = also well suited to pre-pack use

**ORGANIC CARROTS 1995 - HENRY DOUBLEDAY**

In order of marketable yield

Variety	Source	Population	Marketable yield (t/ha)	% Recorded as:									
				Undersized	Oversized	Broken	Growth splits	Growth cracks	Fanged and Misshapen	Carrot fly	Cavity spot	Cutworm and slug	Violet root rot
BANGOR	BJO	128.1	40.7	1	12	3	1	2	31	1	3	3	8
NAIROBI	BJO	106.4	40.1	1	15	2	2	0	32	0	3	2	3
NERAC	BJO	96.9	34.5	1	4	2	0	0	29	0	6	8	5
BALIN	NUN	104.6	31.9	1	2	2	9	2	32	0	6	5	5
NARBONNE	BJO	95.6	29.5	1	7	3	2	0	30	0	6	7	2
CRC2-REDCO	DAE	84.7	28.9	0	33	0	7	1	11	0	10	4	2
FLY AWAY	TOZ	103.8	27.5	2	7	3	2	1	26	1	12	6	1
KAZAN	BJO	90.7	26.9	1	17	3	3	2	29	1	7	6	2
MAGNO	RZA	101.3	26.6	1	15	3	3	2	34	1	4	6	2
NEWMARKET	BJO	67.0	24.7	0	11	2	1	1	35	3	6	5	2
LAGOR	CLA	107.9	24.4	1	5	2	6	3	25	0	8	7	11
KAMARAN	BJO	90.4	23.6	1	14	2	4	2	39	0	6	4	3
BOLERO	NIZ	95.9	21.8	1	8	3	3	1	49	0	2	3	3
BARBADOS	BJO	88.8	21.7	0	9	2	21	2	25	0	7	4	4
KAROTAN	RZA	88.5	21.2	1	17	3	0	1	44	0	3	2	1
KAMARAN-80	BJO	71.6	17.1	0	11	3	7	0	38	1	9	5	3
BOSTON	BJO	67.6	14.9	0	12	2	13	1	42	1	4	4	1
CORRIE	TOZ/MCW	56.9	11.6	0	22	2	7	1	20	1	13	14	3
Mean		91.5	26.0	1	12	2	5	1	32	1	6	5	3
LSD (P=0.05)		30.1	13.6	1	9	2	7	2	11	2	6	6	7







One-year  
**RESULTS**

**Not for publication**

# Organic Potatoes 1994



National Institute of Agricultural Botany, Huntingdon Road, Cambridge, CB3 0LE



## ORGANIC POTATOES 1994

### Trials Procedures

The trials were planted at two UKROFS registered sites. The Henry Doubleday Research Association (HDRA) farm at Ryton, and Mildenhall, Cambridgeshire.

The trial carried out at was inoculated with blight infected plants during the early season and irrigated to encourage the development of the disease.

	HDRA	Mildenhall
Soil type	Sandy loam	Gravelly peat
Previous crop	Grass/clover ley	Fallow
Planting date	21 April 1994	20 May 1994
Fertiliser	FYM at 30 t/ha	FYM at 30 t/ha
Weed control	Mechanical	Mechanical
Irrigation	2 hours per day after 8 July when no rain.	None
Defoliation date	22 September 1994 - by hand and blight infected haulms removed	Not required
Harvest date	27 September 1994	2 September 1994

### Comments on the trial

The trial at HDRA had irrigation applied regularly to provide a suitable environment for the spread and development of blight. Under these conditions there were high levels of foliage blight recorded and the variety differences noted are from records from this site. Wireworms were severe at this site causing appreciable damage in all varieties. Those least affected were Pentland Squire, Stirling and Wilja. Yield data includes tubers affected by wireworm. At the Mildenhall site little foliage blight was recorded and drought caused the relatively early senescence of the crop. Tuber size at this site was relatively small with no variety producing tubers greater than 85mm.

### Comments on the varieties performance (in alphabetical order)

**Bright** - medium length dormancy with slow emergence and good ground cover and haulm development. Moderate levels of recorded foliage blight. Tubers with white flesh, moderate appearance and uniformity. Outgrades mainly due to greens with some tuber blight at HDRA. Relatively high total yields at both sites.

**Brodie** - medium length dormancy with moderate emergence and good ground cover and haulm development. Relatively low levels of recorded foliage blight. Tubers with cream flesh and moderate uniformity. Outgrades mainly due to slug damaged tubers and common scab at Mildenhall.. Little tuber blight. Relatively low total yields at Mildenhall, high yields at HDRA.

**Cara** - medium length dormancy with good emergence, good cover and extensive haulm development. late foliage maturity. Very low levels of recorded foliage blight. Uniform attractive tubers. Outgrades mainly due to greens and slug damage. Very little tuber blight. Very high total yields at HDRA, relatively low at Mildenhall.

**Desiree** - medium length dormancy with moderate emergence, cover and haulm development. Very high levels of recorded foliage blight. Yellow fleshed tubers with poor appearance and uniformity. Outgrades mainly due to common scab, slug damage and blight. Relatively high yields at both sites.

**Duke of York (Mildenhall only)** - medium length dormancy with moderate emergence, cover and good ground cover. Relatively early foliage maturity. Little foliage blight. Cream fleshed uniform shaped tubers. Relatively high yields but a large proportion of tubers less than 45mm.

**Estima** - medium length dormancy with rapid emergence and moderate cover and haulm development. Relatively high levels of recorded foliage blight. Tubers with good appearance and moderate uniformity. Outgrades mainly greens, common scab and relatively high levels of tuber blight. Relatively high yields at both sites.

**Kerrs Pink (Mildenhall only)** - Moderate emergence and ground cover. Some foliage blight recorded. Tubers with moderate appearance and uniformity. Outgrades mainly due to common scab. Low yields.

**Maris Piper** - medium length dormancy with rapid emergence and good ground cover and haulm development. Very high levels of recorded foliage blight. Tubers with moderate appearance and uniformity. Outgrades mainly due to common scab and slug damage with some tuber blight. Relatively low yield at both sites.

**Nadine** - medium length dormancy with moderate emergence and low ground cover and haulm development. Relatively low levels of recorded foliage blight. Tubers with moderate appearance and uniformity. Low levels of outgrades and little tuber blight. Very high yields at HDRA.

**Pentland Squire** - medium length dormancy with moderate emergence, ground cover and haulm development. Very high levels of recorded foliage blight. Tubers with moderate appearance and uniformity. Relatively high levels of outgrades at HDRA with little tuber blight. High levels of common scab at Mildenhall.. High yields at both sites.

**Remarka** - long dormancy with moderate emergence, good ground cover and haulm development. Low levels of recorded foliage blight. Tubers with relatively poor appearance and uniformity. High levels of outgrades due to misshapen tubers. Very high yields at HDRA relatively low at Mildenhall.

**Sante** - medium length dormancy with rapid emergence and good ground cover. Relatively poor haulm development. Moderate levels of recorded foliage blight. Tubers with moderate appearance and uniformity. Relatively low levels of outgrades with some tuber blight. Very high yields at HDRA, relatively low at Mildenhall.

**Stirling** - medium length dormancy with slow emergence and moderate ground cover and haulm development. Very low levels of recorded foliage blight. Tubers with moderate appearance and relatively good shape uniformity. Outgrades due to growth cracks, blight and greens. Relatively high yield at HDRA, very low yields at Mildenhall.

**Wilja** - medium length dormancy with moderate emergence, ground cover and haulm development. Very high levels of recorded foliage blight. Tubers with moderate appearance and uniformity and with a rough skin. Outgrades mainly due to greens. Very high yields at both sites.

	BRIGHT	BRODIE	CARA	DESIREE	ESTIMA	M PIPER	NADINE	P SQUIRE	REMARKA	SANTE	STIRLING	WILJA
SPROUTS PER TUBER(1-3 >6)		2.5		2.5		1.5			1.6	1.8		
SPROUT LNTH (MM)												
EMERGENCE%	57	42	90	80	57	80	90	55	88	100	23	60
GROUND COVER%	80	92	94	88	82	95	63	87	98	86	68	82
HAULM DEVELOPMENT (1-9 DENSE)	6.7	8.3	9	7.3	6.7	8	4.7	8	8.3	7	6	5.7
BLIGHT FOLIAGE %	15	4.7	1.5	83.3	46.7	83.3	15	99.3	5	16.7	0.8	100
SKIN APPEARANCE(1-9)	5	6	4	3	7	6	6	5	3	6	5	5
EYE DEPTH (1-9 SHALLOW)	4	5	1	1	7	2	3	4	6	5	6	4
TUBER SHAPE (1-9 LONG)	7	2	4	6	5	3	3	4	7	3	2	6
UNIFORMITY SHAPE(1-9 UNIFORM)	6	7	6	4	4	6	8	6	3	6	4	7
UNIFORMITY SIZE(1-9 UNIFORM)	3	6	3	3	5	5	7	5	5	6	6	7
SKIN TEXTURE (1-9 SMOOTH)	2	2	5	5	7	6	4	5	7	6	3	1
FLESH COLOUR (1-9 YELLOW)	1	2	4	7	5	4	3	1	9	7	2	5
GROWTH CRACKS(T/H)	1.11	0.34	0	0.25	0.06	0.09	0.37	0.15	4.69	0.46	3.58	0.25
GREENS(T/H)	8	1.7	2.0	1.7	4.9	2.6	3.7	2.4	3.6	2.1	4.9	3.4
MISSHAPEN(T/H)	0.56	0.3	0.8	1.0	0.7	0.7	0.4	0.3	9.6	1.1	0.4	0.0
SLUG DAMAGE(T/H)	1.9	5.7	3.8	1.0	2.3	3.0	2.3	0.9	4.2	3.3	6.3	6.4
COMMON SCAB(T/H)	0.7	0.8	0.5	1.3	0.2	1.6	0.0	0.1	0.0	0.5	2.9	0.1
BLIGHT(T/H)	2.7	0.9	0.4	1.2	5.4	2.8	0.5	1.2	1.4	4.4	6.1	1.5
WET ROT(T/H)	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL UNMARKETABLE (T/H)	15.1	9.7	7.5	6.5	13.6	10.8	7.3	5.1	23.5	11.9	24.1	11.7
SOUND YIELD > 85 (T/H)	18.1	11.0	16.8	7.5	10.9	2.7	4.0	6.7	24.4	13.2	21.4	13.8
SOUND YIELD 65-85 (T/H)	16.1	15.0	14.9	9.2	7.2	8.5	16.5	13.3	8.5	14.2	5.4	11.9
SOUND YIELD 45-65 (T/H)	6.5	6.1	7.6	4.0	3.1	6.3	10.2	6.1	2.4	8.0	1.8	6.1
SOUND YIELD < 45 (T/H)	0.9	1.5	2.3	1.1	0.8	1.3	2.0	1.2	0.7	1.3	0.4	0.8
SOUND YIELD 45-85 (T/H)	22.6	21.1	22.5	13.2	10.3	14.8	26.7	19.4	11.0	22.3	7.2	18.0
TOTAL SND YIELD (T/H)	41.6	33.6	41.6	21.8	22.1	18.7	32.7	27.3	36.1	36.8	29.0	32.5
% TUBERS WITH H.HEART	0	1.7	0	0	0	0	1.7	0	0	0	10	0
% TUBERS WITH INT.R.SPOT	0	3.3	6.7	5	1.7	1.7	0	8.3	0	11.7	11.7	0
% TUBERS WITH VASC.BR.	15	11.7	10	21.7	13.3	33.3	10	23.3	26.7	10	1.7	13.3
TUBERS/10 PLANTS	143	140	179	110	110	138	163	99	120	141	91	113
WARE TUBERS/10 PLANTS	79	72	86	52	42	48	77	60	56	69	38	68

	NADINE	P SQUIRE	REMARKA	SANTE	STIRLING	WILJA
SPROUTS PER TUBER(1-3 >6)	1	1	1	1	1	1
SPROUT LNTH (MM)	12	6.5	10	10	9	11
EMERGENCE%	27.5	45	42.5	27.5	15	32.5
GROUND COVER%	40	70	55	72.5	40	65
BLIGHT FOLIAGE %	0	0.5	0.5	1	1	3.5
DROUGHT STRESS(1-9 NONE)	5.5	6	6	5	4.5	6.5
FOLIAGE MATURITY %	90	20	25	50	50	45
SKIN APPEARANCE(1-9 SMOOTH)	4	4	4	5	5	4
STOLONS (1-9 DETACHED)	7	5	5	6	6	6
EYE DEPTH (1-9 SHALLOW)	6	5	6	4	6	6
TUBER SHAPE (1-9 LONG)	4	5	5	4	5	6
UNIFORMITY SHAPE(1-9 UNIFORM)	7	6	5	6	7	6
UNIFORMITY SIZE(1-9 UNIFORM)	6	5	5	5	6	6
SKIN TEXTURE (1-9 SMOOTH)	6	5	6	6	6	4
FLESH COLOUR (1-9 YELLOW)	4	3	5	5	4	5
BLIGHT(T/H)	0.0	0.0	0.0	0.0	0.0	4.2
COMMON SCAB(T/H)	10.9	24.9	12.4	17.9	8.3	7.8
GREENS(T/H)	0.8	0.3	2.4	0.3	0.3	4.0
GROWTH CRACKS(T/H)	0.0	3.5	0.0	0.0	0.3	0.3
MISSHAPEN(T/H)	0.2	0.2	1.3	1.2	0.7	1.7
SLUG DAMAGE(T/H)	2.6	4.4	1.5	0.3	1.6	3.9
WET ROT(T/H)	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL UNMARKETABLE (T/H)	28.1	36.9	23.0	24.9	15.3	25.1
TOTAL SOUND YIELD (T/H)	34.1	41.4	29.4	30.9	18.2	57.7
SOUND YIELD 45-85 (T/H)	6.1	4.5	6.4	6.0	3.0	32.6
SOUND YIELD 45-65 (T/H)	6.1	3.1	6.4	6.0	3.0	22.5
SOUND YIELD 65-85 (T/H)	0.0	1.4	0.0	0.0	0.0	10.2
SOUND YIELD > 85 (T/H)	0.0	0.0	0.0	0.0	0.0	0.0
SOUND YIELD < 45 (T/H)	13.5	3.6	5.4	5.3	4.0	3.2
% TUBERS WITH H.HEART	0	0	0	0	0	0
% TUBERS WITH INT.R.SPOT	0	0	0	0	0	0
% TUBERS WITH VASC.BR.	0	0	0	0	0	0
TUBERS/10 PLANTS	78.5	51	45	57.5	33.5	55
WARE TUBERS/10 PLANTS	10	6.5	10.5	6.5	6.5	31.5

	BRIGHT	BRODIE	CARA	DESIREE	DUKE OF YORK	ESTIMA	KERRS PINK	M PIPER
SPROUTS PER TUBER(1-3 >6)	1	1	1	1	1	1	1	1
SPROUT LNTH (MM)	7	7.5	8	10	11	6.5	10	8
EMERGENCE%	10	42.5	42.5	40	35	30	42.5	57.5
GROUND COVER%	50	60	55	70	72.5	60	70	65
BLIGHT FOLIAGE %	5	3	2	1.5	0.5	1.5	3.5	1.5
DROUGHT STRESS(1-9 NONE)	6.5	5.5	5	6	6	6	6.5	6
FOLIAGE MATURITY %	27.5	27.5	17.5	50	85	77.5	22.5	22.5
SKIN APPEARANCE(1-9 SMOOTH)	5	4	4	4	4	4	5	4
STOLONS (1-9 DETACHED)	6	5	4	5	6	7	5	5
EYE DEPTH (1-9 SHALLOW)	5	6	5	4	5	6	3	6
TUBER SHAPE (1-9 LONG)	5	5	4	5	4	5	4	4
UNIFORMITY SHAPE(1-9 UNIFORM)	7	7	7	6	7	7	7	7
UNIFORMITY SIZE(1-9 UNIFORM)	6	5	5	5	4	5	5	5
SKIN TEXTURE (1-9 SMOOTH)	6	5	5	5	6	6	6	6
FLESH COLOUR (1-9 YELLOW)	3	3	4	5	4	5	3	4
BLIGHT(T/H)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COMMON SCAB(T/H)	3.7	13.9	11.7	19.5	10.0	14.9	9.8	16.8
GREENS(T/H)	1.4	0.3	0.3	0.2	1.3	2.5	0.2	0.3
GROWTH CRACKS(T/H)	1.0	0.0	0.6	0.4	0.7	1.2	0.0	0.3
MISSHAPEN(T/H)	0.0	0.0	0.2	1.2	0.7	1.5	0.3	0.0
SLUG DAMAGE(T/H)	0.3	2.4	3.1	3.3	1.6	2.5	0.0	2.1
WET ROT(T/H)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
TOTAL UNMARKETABLE (T/H)	15.2	22.9	21.5	29.2	27.9	29.8	21.2	31.3
TOTAL SOUND YIELD (T/H)	40.1	25.6	26.9	33.1	34.7	36.0	25.8	32.8
SOUND YIELD 45-85 (T/H)	24.9	2.7	5.4	3.9	6.8	6.2	4.5	1.5
SOUND YIELD 45-65 (T/H)	20.1	2.7	5.4	3.9	5.8	5.5	4.5	1.5
SOUND YIELD 65-85 (T/H)	4.8	0.0	0.0	0.0	1.0	0.7	0.0	0.0
SOUND YIELD > 85 (T/H)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SOUND YIELD < 45 (T/H)	8.8	6.3	5.7	4.7	13.5	7.2	11.0	11.6
% TUBERS WITH H.HEART	0	0	0	0	0	0	0	0
% TUBERS WITH INT.R.SPOT	0	0	0	0	0	0	0	0
% TUBERS WITH VASC.BR.	0	0	0	0	0	0	0	0
TUBERS/10 PLANTS	61.5	53	56.5	60	100.5	47.5	70.5	75.5
WARE TUBERS/10 PLANTS	33.5	6	8.5	4.5	10.5	4	11.5	3





One-year  
**RESULTS**

**Not for publication**



# Organic Potatoes 1995

National Institute of Agricultural Botany, Huntingdon Road, Cambridge, CB3 0LE



## ORGANIC POTATOES 1995

### Trials Procedures

The trials were planted at two UKROFS registered sites. The trial at Mildenhall was hand planted on the 15th May and plot recording was carried out until August when the trial was destroyed by sheep. Plot material was harvested but it proved impossible to separate individual varieties.

The trial carried out at Henry Doubleday Research Association, Ryton was inoculated with blight infected plants during the early season and irrigated to encourage the development of the disease.

Soil type	Sandy loam
Previous crop	Grass/clover ley
Planting date	18 April 1995
Fertiliser	FYM at 3 t/ha
Weed control	Mechanical
Irrigation	25 mm in each of June and July, 40 applications of 14mm from 1 July to 25 September
Defoliation date	25 September 1995 - by hand and blight infected haulms removed
Harvest date	9 October 1995

### Comments on the trial

The trial received a high level of management with irrigation being applied regularly to provide a suitable environment for the spread and development of blight. Under these optimum growing conditions there was high yields recorded from some varieties with a large proportion of the yield being in the >85mm fraction. There were appreciable levels of internal rust spot in some varieties. Levels of vascular browning was also widespread but not at a severe level.

**Comments on the varieties performance from the HDRA trial (in alphabetical order)**

**Bright** - medium length dormancy with slow emergence and good ground cover and haulm development. Moderate levels of recorded foliage blight. Tubers with white flesh, moderate appearance and uniformity. Relatively high levels of outgrades mainly due to blight and greens. Moderate totals yields - 82% of controls.

**Brodie** - medium length dormancy with moderate emergence, ground cover and haulm development. Moderate levels of recorded foliage blight. Tubers with cream flesh and moderate uniformity but rather deep eyes. Low levels of outgrades mainly due to green tubers. High levels of internal rust spot. Low total yields - 59% of controls.

**Cara** - medium length dormancy with moderate emergence, good cover and extensive haulm development. Low levels of recorded foliage blight. Uniform attractive tubers. Relatively high levels of outgrades due to blight, and greens. Very high levels of internal rust spot. Very high total yields - 148% of controls, very high levels of tubers >85mm.

**Desiree** - medium length dormancy with moderate emergence, cover and haulm development. Relatively low levels of recorded foliage blight. Yellow fleshed tubers with poor appearance and uniformity. Moderate levels of outgrades due to blight. Moderate yields - 79% of controls, high levels of tubers >85mm.

**Estima** - medium length dormancy with rapid emergence and moderate cover and haulm development. Moderate levels of recorded foliage blight. Tubers with moderate appearance and uniformity. Relatively high levels of outgrades due to tuber blight. Moderate yields - 79% of controls.

**Maris Piper** - medium length dormancy with moderate emergence and good ground cover and haulm development. Moderate levels of recorded foliage blight. Tubers with moderate appearance and uniformity. Relatively low levels of recorded foliage blight. Moderate levels of outgrades due to blight. High yields - 95% of controls.

**Nadine** - medium length dormancy with moderate emergence and low ground cover and haulm development. High levels of recorded foliage blight. Tubers with moderate appearance and uniformity. Moderate levels of outgrades due to blight and greens. Relatively high yields - 91% of controls.

**Pentland Squire** - medium length dormancy with rapid emergence and moderate ground cover and haulm development. High levels of recorded foliage blight. Tubers with relatively poor appearance and uniformity. Relatively high levels of outgrades due to blight and greens. High levels of internal rust spot. Moderate yields - 80% of controls.

**Remarka** - long dormancy with relatively slow emergence and moderate ground cover and haulm development. Very low levels of recorded foliage blight. Tubers with relatively poor appearance and very poor uniformity. High levels of outgrades due to greens, growth cracks and misshapen tubers. Very high yields - 131% of controls, very high levels of tubers >85mm.

**Sante** - medium length dormancy with rapid emergence and good ground cover. Relatively poor haulm development. Moderate levels of recorded foliage blight. Tubers with moderate appearance and uniformity. Relatively low levels of outgrades due to blight and greens. High levels of internal rust spot. High yields - 100% of controls.

**Stirling** - medium length dormancy with slow emergence and moderate ground cover and haulm development. Very low levels of recorded foliage blight. Tubers with moderate appearance and relatively good shape uniformity. Relatively high levels of outgrades due to blight and greens. Very high levels of internal rust spot. High yields - 102% of controls.

**Wilja** - medium length dormancy with moderate emergence, ground cover and haulm development. Very high levels of recorded foliage blight. Tubers with poor appearance and moderate uniformity. Relatively high levels of outgrades due to blight and growth cracks. Low yields - 75% of controls.

NATIONAL INSTITUTE OF AGRICULTURAL BOTANY

ORGANIC TRIALS 1995

RESULTS FROM HDRA

	BRIGHT	BRODIE	CARA	DESIREE	ESTIMA	M PIPER	NADINE	P SQUIRE	REMARKA	SANTE	STIRLING	WILJA
DATE DORMANCY BREAK	161	161	161	156	155	156	154	155	191	154	156	161
SPROUT LNTH (MM)	9.5	13.4	10.8	14	17.2	10.4	19.5	15.4	10.3	18.8	12.7	15
SPROUTS PER TUBER(1-3)	2	2	2	2	3	2	2	3	2	3	2	2
EMERGENCE%	3.3	58.3	51.7	66.7	78.3	35	36.7	70	16.7	90	8.3	36.7
GROUND COVER%	86.7	83.3	99	90	97.7	94.7	80	90	90	93.3	91.7	93.3
HAULM DEVELOPMENT(1-9)	8	6.7	9	7	8.7	8.3	6	7	7.7	6.3	7.7	7
BLIGHT FOLIAGE %	43.3	46.7	7.5	28.3	48.3	30	90	80	6.3	31.7	8.5	98.3
FLESH COLOUR (1-9)	1	3	6	9	6	5	3	3	9	8	2	7
SKIN APPEARANCE(1-9)	6	5	8	3	6	6	6	5	6	6	6	4
SKIN TEXTURE (1-9)	6	6	4	8	4	6	7	6	5	5	7	4
TUBER SHAPE (1-9)	5	4	3	6	6	5	7	4	8	4	4	8
UNIFORMITY SHAPE(1-9)	5	6	8	4	6	6	6	5	3	5	7	7
UNIFORMITY SIZE(1-9)	5	5	8	7	5	6	4	6	4	5	5	6
EYE DEPTH (1-9)	5	7	4	3	5	5	5	5	6	4	5	5
TUBERS/10 PLANTS	100.7	58.2	144.1	60.2	80.8	110.7	135.1	80.1	95.3	120.8	87.7	89.3
WARE TUBERS/10 PLANTS	63.1	43.3	94.2	47.2	48.7	80	84	52.1	61.7	89.2	54.6	64.9
BLIGHT(T/H)	4.05	0.61	3.56	3.63	12.05	3.27	2.5	5.75	0.66	3.1	2.25	3.13
COMMON SCAB(T/H)	0	0.09	1.36	0.08	0	0.16	0	0.17	0	0	1.74	0
CUTWORM(T/H)	0.42	0.93	2.73	1.1	0.98	1.5	0.12	1.57	1.67	0.11	0.16	0
GREENS(T/H)	5.05	2.03	9.73	1.06	0.81	2	5.27	3.54	6.93	2.53	7.77	1.39
GROWTH CRACKS(T/H)	0.77	0	0	0.61	0.26	0.27	0.5	1.16	6.2	0.39	1.45	3.4
MECH. DAMAGE(T/H)	0	0	0	0	0	0	0	0	0	0	0	0
MISSHAPEN(T/H)	0.74	0.05	0.45	1.6	0.77	0.44	0.12	0.49	11.34	0.57	2.35	0
SLUG DAMAGE(T/H)	0	0	0	0	0	0.5	0	0	0	0	0.14	0.31
TOTAL UNMARKETABLE (T/H)	11.03	3.71	17.83	8.08	14.87	8.14	8.51	12.68	26.8	6.7	15.86	8.23
SOUND YIELD 45-65 (T/H)	7.66	4.03	6.6	2.37	3.77	11.66	12.79	6.12	3.05	13.61	6.16	4.06
SOUND YIELD 65-85 (T/H)	18.96	11.43	25.52	9	13.68	25.41	23.71	16.99	12.66	26.45	15.44	14.12
SOUND YIELD 45-85 (T/H)	26.63	15.52	34.49	11.37	17.7	37.27	36.49	23.44	15.71	40.06	21.59	18.25
SOUND YIELD GT 85 (T/H)	17.55	19.97	47.5	33.82	20.87	17.33	14.86	18.07	47.08	20.24	31.39	24.61
SOUND YIELD LT 45 (T/H)	1.25	1.48	1.69	0.69	0.63	2.34	2.36	0.66	0.62	1.44	1.12	0.64
TOTAL YIELD (T/H)	56.46	40.68	101.52	53.96	54.06	65.09	62.23	54.86	90.21	68.45	69.96	51.74
% TUBERS WITH H.HEART	1.7	0	0	0	0	0	0	5	0	1.7	5	0
% TUBERS WITH INT.R.SPOT	3.3	33.3	58.3	10	13.3	8.3	15	26.7	0	50	65	8.3
% TUBERS WITH OTH.DIS.	0	0	0	0	0	0	0	0	0	0	0	0
% TUBERS WITH VASC.BR.	16.7	26.7	13.3	30	18.3	13.3	1.7	31.7	38.3	28.3	10	13.3

RESULTS FROM HDRA

YIELDS AS PERCENTAGE OF VARIETY TOTAL YIELD

	BRIGHT	BRODIE	CARA	DESIREE	ESTIMA	M PIPER	NADINE	P SQUIRE	REMARKA	SANTE	STIRLING	WILJA
TOTAL UNMARKETABLE	20	9	18	15	28	13	14	23	30	10	23	16
SOUND YIELD 45-65	14	10	8	4	7	18	21	11	3	20	9	8
SOUND YIELD 65-85	34	28	25	17	25	39	38	31	14	39	22	27
SOUND YIELD 45-85	47	38	34	21	33	57	59	43	17	59	31	35
SOUND YIELD GT 85	31	49	47	63	39	27	24	33	52	30	45	48
SOUND YIELD LT 45	2	4	2	1	1	4	4	1	1	2	2	1
TOTAL YIELD	100	100	100	100	100	100	100	100	100	100	100	100

YIELDS AS PERCENTAGE OF THE MEAN OF CARA, DESIREE, ESTIMA & MARIS PIPER

UNMARKETABLE	90	30	146	66	122	67	70	104	219	55	130	67
SOUND YIELD 45-65	115	61	129	36	57	178	192	92	46	205	93	61
SOUND YIELD 65-85	103	62	139	49	74	138	129	92	69	144	84	77
SOUND YIELD 45-85	106	62	137	45	70	148	145	93	62	159	86	72
SOUND YIELD GT 85	59	67	159	113	70	58	50	60	158	68	105	82
SOUND YIELD LT 45	93	111	126	52	47	175	176	49	46	108	84	48
TOTAL YIELD	82	59	148	79	79	95	91	80	131	100	102	75

RESULTS FROM MILDENHALL

	BRIGHT	BRODIE	CARA	DESIREE	ESTIMA	M PIPER	NADINE	P SQUIRE	REMARKA	SANTE	STIRLING	WILJA
EMERGENCE%	60	55	62.5	77.5	75	92.5	95	47.5	85	97.5	65	87.5
GROUND COVER%	50	20	45	40	60	50	45	35	55	70	30	50
HAULM DEVELOPMENT(1-9)	4	2	4.5	4	6	5.5	4	3.5	5	6	2.5	5
DROUGHT STRESS(1-9)	4	2	4.5	4	6	5.5	4	4.5	5	6	2.5	5.5

46  
430  
100  
48







One-year  
**RESULTS**

**Not for publication**

# Organic Potatoes 1996





## ORGANIC POTATOES 1996

### Trials Procedures

The trials were planted at two UKROFS registered sites. The Henry Doubleday Research Association (HDRA) farm at Ryton, and Mildenhall, Cambridgeshire.

	HDRA	Mildenhall
Soil type	Sandy loam	Gravelly peat
Previous crop	Grass/clover ley	Fallow
Planting date	17 April 1996	17 May 1996
Fertiliser	FYM at 30 t/ha	FYM at 20 t/ha
Weed control	Mechanical	Mechanical
Irrigation	2 hours per day after 12 July when no rain.	None
Defoliation date	23 September 1996 - by hand and blight infected haulms removed	Not required
Harvest date	15 October 1996	22 August 1996

### Comments on the trials

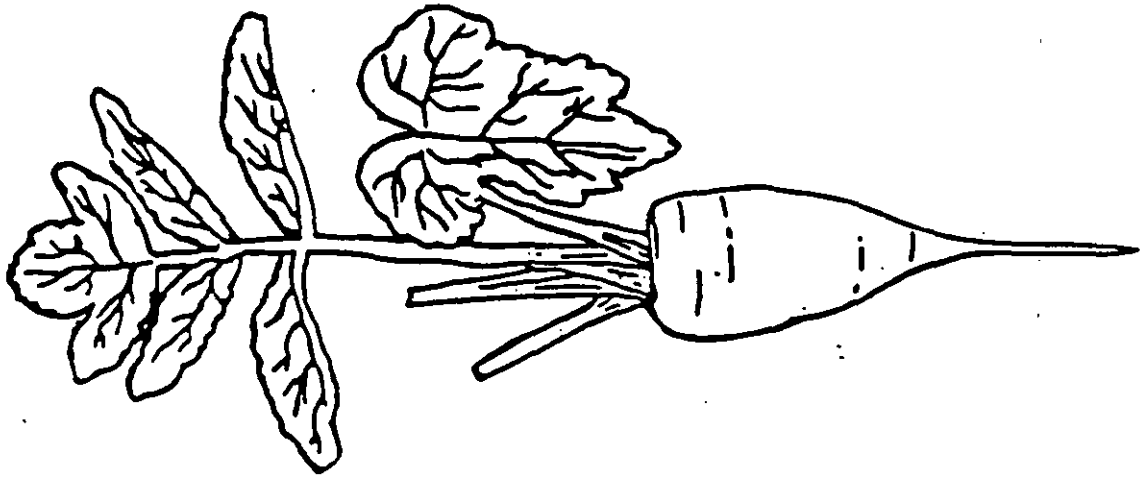
The HDRA trial was inoculated with blight infected plants during the early season and irrigated daily to encourage the development of the disease. Mildenhall received no irrigation and there was little recorded foliage blight. The dry summer conditions meant that the later maturing varieties performed relatively poorly at this site in complete contrast to the fully irrigated HDRA site. Mildenhall favoured the second earlies that could put on yields before the drought took hold.

**Comments on the varieties performance (in alphabetical order)**

- Brodie** gave relatively moderate yields at both sites with a high level of foliage blight at HDRA. High level of common scab at Mildenhall.
- Cara** - very low yields at Mildenhall with relatively good performance at HDRA. Moderate level of foliage blight. Main outgrades due to greens.
- Desiree** - Very high levels of foliage blight at HDRA. Good yield performance at Mildenhall but with high levels of common scab. Relatively high levels of tuber blight.
- Estima** - High levels of foliage blight at HDRA. Good performance at Mildenhall. Main outgrade due to greens.
- Maris Piper** - Moderate performance at both sites with a high level of small tubers. The organic seed grown at Mildenhall performed similarly to the conventional seed. High levels of common scab. High levels of foliage blight at HDRA.
- Nadine** - Moderate performance at both sites. Very high levels of foliage blight at HDRA.
- Pentland Squire** - Good performance at Mildenhall, moderate at HDRA. Very high levels of foliage blight at HDRA. Relatively high levels of tuber blight.
- Remarka** - Good performance at HDRA, moderate at Mildenhall. High levels of outgrades due to greens and misshapen tubers. Low level of foliage blight at HDRA.
- Sante** - Good performance at both sites. Moderate levels of foliage blight at HDRA. Relatively high levels of tuber blight.
- Saturna** (Mildenhall only) - Moderate performance and with high levels of small tubers. Organic seed performed at a similar level to conventional seed.
- Stirling** - very high yields at HDRA with very little foliage blight. High levels of greens. Low yields at Mildenhall.
- Verity** - very high yields at HDRA with very little foliage blight. High levels of greens. Some tuber blight. Low yields at Mildenhall.
- Wilja** - Good performance at Mildenhall but relatively poor at HDRA. Very high levels of foliage blight.

	TOTAL YIELD	45-85	45-85	65-85	<45	GROWTH CRACKS	GREENS	MISSSHAPEN TUBERS	CUTWORMS	COMMON SCAB	WET ROTS
BRODIE	34.01	15.86	15.42	0.44	4.16	0	0	0.22	0	13.78	0
CARA	19.9	11.26	11.26	0	7.87	0	0	0	0	0.77	0
DESIREE	44.73	25.48	25.04	0.44	5.69	0	0	0.66	0	12.9	0
ESTIMA	40.57	26.25	26.25	0	9.73	0.55	0.11	0.44	0	3.5	0
MARIS PIPER	33.25	5.91	5.91	0	22.53	0	0	0	0	4.81	0
MARIS PIPER (ORGANIC SEED)	36.09	7.55	7.55	0	19.36	0	0	0.33	0	8.86	0
NADINE	33.3	19.03	19.03	0	13.01	0	0	0	0	1.15	0.11
PENTLAND SQUIRE	39.15	25.04	24.17	0.87	8.09	0.44	0.66	0.87	0.33	3.72	0
REMARKA	30.29	15.97	15.97	0	10.72	0	0	1.53	0.55	1.53	0
SANTE	35.76	19.69	19.69	0	11.92	0	0.33	0	0	3.83	0
SATURNA	33.36	13.45	13.45	0	19.47	0	0	0	0	0.44	0
SATURNA (ORGANIC SEED)	32.59	8.31	8.31	0	24.28	0	0	0	0	0	0
STIRLING	20.67	11.37	11.37	0	7.87	0	0	0.33	0.66	0.33	0.11
VERITY	18.48	6.67	6.67	0	11.81	0	0	0	0	0	0
WILJA	49.65	36.96	36.96	0	11.81	0	0.44	0	0	0.44	0
MEAN	33.45	16.59	16.47	0.12	12.55	0.07	0.1	0.29	0.1	3.74	0.01
SE (VAR MEAN)	1.4125	2.0088	2.0177	*	1.935	*	*	*	*	*	*
LSD(VAR MEAN)	4.284	6.093	6.12	*	5.869	*	*	*	*	*	*
CV%	6	17.1	17.3	*	21.8	*	*	*	*	*	*

	FOLIAGE BLIGHT %	TOTAL YIELD	45-85	45-65	65-85	>85	<45	GROWTH CRACKS	GREENS	MISSHAPEN TUBERS	SLUGS	COMMON SCAB	TUBER BLIGHT
BRODIE	73	48.31	23.42	10.12	13.3	21.26	0.63	0.03	0.67	0.55	0.5	1.07	0.18
CARA	37	50.23	24.61	9.44	15.17	17.71	0.67	0.9	3.86	0.86	1.18	0.05	0.4
DESIREE	87	48.95	15.88	6.68	9.2	21.18	0.68	0	1.54	3.55	0.69	3.44	2.01
ESTIMA	65	55.17	24.03	8.75	15.28	20.13	0.97	0.06	4.76	1.8	1.44	0.17	1.81
MARIS PIPER	72	48.92	29.23	12.37	16.86	13.39	0.9	0.17	1.68	0.95	0.79	0.96	0.85
NADINE	100	54.09	33.85	20.38	13.47	7.81	2.99	0.84	4.26	0.84	1.63	0.85	1.02
PENTLAND SQUIRE	100	45.84	22.71	9.8	12.92	13.98	0.8	0.27	2.69	0.09	0.4	2.23	2.67
REMARKA	13	59.56	7.89	3.19	4.7	29.13	0.55	3.8	5.65	10.07	0.54	0.47	1.46
SANTE	42	59.02	25.41	10.71	14.71	24.01	1.17	0.2	2.92	2.24	1.02	0	2.04
STIRLING	4	78.68	12.64	3.44	9.2	42.93	0.5	4.67	13.89	2.04	0.27	1	0.73
VERITY	20	70.82	24.96	8.64	16.32	26.64	1.68	0.52	12.69	1.12	0.94	0.95	1.33
WILJA	100	45.66	20.68	7.1	13.57	18.02	0.62	0.06	3.08	1.14	1.13	0	0.93
MEAN		55.44	22.11	9.22	12.89	21.35	1.01	0.96	4.81	2.1	0.88	0.93	1.29
SE (VAR MEAN)		3.33	2.9201	1.3046	2.625	3.7414	0.2374	0.4113	1.6223	0.8763	0.5369	0.6446	0.5504
LSD(VAR MEAN)		9.767	8.584	3.826	7.699	10.973	0.696	1.206	4.758	2.57	1.575	1.89	1.614
CV%		10.4	22.9	24.5	35.3	30.4	40.6	74.3	58.5	72.1	105.9	119.9	74.2



Issue 105

# ORGANIC PARSNIPS

Summary of Trial Results 1994





# ORGANIC PARSNIPS 1994

## Introduction

This is a new trial series funded by MAFF to look at varieties in organic situations.

## Trials Procedure

At Burwell the trial was drilled using an Oyjord/Stanhay drill, and the trial was grown in the same way as the surrounding organic commercial crop.

At HDRA the drills were marked and made using a Wolf row maker, drilled with a Wolf drill and the seed covered using a hand rake. Three replicates were grown and recorded at Burwell but only two replicates were recorded at HDRA.

## Trial Technique

Site Walnut Tree Farm  
Burwell Street  
Norfolk Henry Doubleday Research Association  
Ryton, Coventry  
Warks

Soil type	Sandy loam	Sandy loam
Previous crop	Fallow	Clover ley 1992 Potatoes 1993
Drilling date	31 May	6 May
Row widths	50cm	3 rows, 25cm (10") apart with 50cm (20") paths
Thinning	to 7.5cm	Required
Fertiliser	None	None
Weed control	Hand hoed	Hand weeded and hoed (15/6, 16/8 and 19/10)
Irrigation	None	9/5, 17/6, 20/6
Pest control	None	Rabbit fence + humming line
Harvest date	12 December	14 December

### Seed Sources

ELS - Elsons  
NIZ - Nickerson  
SYM - Samuel Yates  
TOZ - Tozer

## Comments on Trials

Establishment in the two trials was markedly different due to the availability of irrigation. The HDRA trial was thinned and gave a population of 29 plants/m<sup>2</sup> whilst the Bunwell trial had a population of nearly 10 plants/m<sup>2</sup>.

The different populations were reflected in the total yields being higher at HDRA, 23.5 t/ha, compared with 14.5 at Bunwell. Mean root weights and percentage marketable were higher at Bunwell than at HDRA where levels of fanged and misshapen roots were major defects. In spite of a low population at Bunwell, small roots were the major defect here, possibly resulting from the late drilling and less irrigation. Drier conditions at Bunwell are possibly also reflected by the longer and narrower roots on this site.

One replicate at HDRA established poorly and results were not used.

## Comments on varieties

**AVON RESISTOR.** Early vigour was good. The most bulbous variety in the trial. Above average percentage of marketable roots at both sites, with average yields of short roots. Skins less smooth than other varieties. Fanging an important defect at both sites. Suitable for fresh market.

**ARROW.** Thin wedge and bayonet shaped roots, with some bulbous roots recorded at Bunwell. Low root weight at both centres with average percentage marketable. The main defect at Bunwell was undersized roots but at HDRA above average levels of carrot fly damage were recorded. The smooth skinned roots with below average crown depth are suitable for prepacking.

**BAYONETTA.** Thin wedge and bayonet shaped roots. Below average percentage of marketable roots at both sites. The major defect at Bunwell was undersized roots whilst at HDRA misshapen and high levels of carrot fly damage were recorded. The slim roots with shallow crowns make them suitable for prepacking.

**GLADIATOR.** Early vigour was surprisingly poor. Hybrid variety with medium-large wedge and bayonet shaped roots. Highest yield and percentage marketable at HDRA, but below average yield and marketability at Bunwell. Level of defects was average to low at HDRA but a high percentage of undersized roots affected the total yield. Roots had smooth skins and are suitable for prepack or fresh market.

**IMPERIAL CROWN.** Early vigour was good. Predominantly wedge shaped but bayonet and bulbous roots were also recorded. A high yield of heavy roots was recorded at the low population site whilst at HDRA at high populations this variety produced roots of average weight but had above average levels of marketable roots. At HDRA its major defect was fanging. The long roots of average breadth have below average smoothness. Suitable for fresh market and prepacking.

**JAVELIN.** Hybrid. Predominantly wedge shaped roots. Average percentage of marketable roots with just below average yields at both centres. Tended to produce heavier roots at the low population site. Fanged and misshapen roots were the main defects at HDRA and fanging was the major defect at Bunwell. Crowns tended to be deeper than average. Suitable for prepacking.

**LANCER.** Thin wedge and bayonet shaped roots. The highest population at both centres and high yields. Roots of below average weight, especially so at HDRA, reflecting the high population. Major defects were misshapen roots at HDRA and undersized roots at Bunwell. Suitable for prepacking.

**NEW WHITE SKIN.** Early vigour was good. Wedge and bayonet shaped variety. High population at Bunwell giving a high yield of below average weight roots but with a very high level of marketability. A well below average population at HDRA produced only an average level of marketability but the roots were the heaviest in the trial. A very high level of fanged roots were recorded at Bunwell, probably resulting from the low population. Roots were the longest at both sites and broader than average at HDRA. Crowns tend to be shallower than average. Suitable for prepacking.

**WHITE SPEAR.** Wedge and bayonet shaped. High yield of large, heavy roots at HDRA but although roots were large and heavy at Bunwell, a very low population resulted in a below average yield. The main defect at HDRA was misshapen roots, whilst fanging was the major defect at Bunwell. Roots tended to have deep crowns. Suitable for fresh market.

**YATESNIP.** Bayonet and wedge shaped roots. Low populations were recorded at both sites and whilst the yield was below average at Bunwell, it was low at HDRA. At this site, the highest incidence of carrot fly was recorded and high levels of misshapen and fanged roots were also recorded. At Bunwell the major defects were undersized roots and fanging. Deep crowns were recorded at HDRA but roots were smoother than average.

**ORGANIC PARSNIP TRIALS 1994**

**CENTRE: HENRY DOUBLEDAY RESEARCH ASSOCIATION**

**VARIETIES LISTED IN ORDER OF YIELD**

VARIETY	SEED SOURCE	PREPACK SIZE				DEFECTS (% BY NUMBER)					
		POPULATION AS % TRIAL MEAN	YIELD AS % TRIAL MEAN	MEAN ROOT WEIGHT Kg	MARKETABLE (% BY NUMBER)	UNDER-SIZED	FANGED	MIS-SHAPEN	SPLIT	CANKER	CARROT FLY
GLADIATOR	TOZ	106.9	140.2	0.16	69	3	10	9	1	0	8
WHITE SPEAR	TOZ	106.9	134.0	0.21	53	8	8	12	2	3	14
LANCER	TOZ	141.6	118.0	0.12	55	12	7	12	3	1	11
AVON RESISTOR	SYM	93.4	116.7	0.18	58	1	10	10	0	2	19
IMPERIAL CROWN	EWK	80.6	108.2	0.18	61	4	13	7	1	2	13
NEW WHITE SKIN	ELS	71.7	92.2	0.23	50	2	20	10	0	1	17
ARROW	ELS	117.6	90.8	0.13	48	2	8	11	0	2	29
JAVELIN	TOZ	90.1	90.1	0.16	52	2	11	14	0	0	20
BAYONETTA	NIZ	105.2	70.9	0.13	42	8	9	14	2	1	23
YATESNIP	SYM	83.5	39.2	0.17	23	5	12	14	0	3	44
Mean		100= 29.0 plants/m <sup>2</sup>	100= 23.5 t/ha	0.17	52	5	10	11	1	1	19

**ORGANIC PARSNIP TRIAL 1994**

**CENTRE: HENRY DOUBLEDAY RESEARCH ASSOCIATION**

**VARIETIES LISTED IN ORDER OF YIELD**

VARIETY	MEAN ROOT LENGTH	MEAN ROOT BREADTH	CROWN DEPTH AS % MEAN ROOT BREADTH	SMOOTHNESS 1=ROUGH 9=SMOOTH	SHAPE (THE PREDOMINANT SHAPE IS MENTIONED FIRST)	DISEASE POWDERY MILDEW % LEAF COVER
GLADIATOR	25.8	5.9	4.2	5	WEDGE + BAYONET	7
WHITE SPEAR	24.6	6.4	8.1	5	WEDGE, BULBOUS + BAYONET	2
LANCER	25.0	5.3	4.3	5	WEDGE + BAYONET	5
AVON RESISTOR	17.2	6.8	6.1	3	WEDGE + BULBOUS	35
IMPERIAL CROWN	26.2	6.0	4.0	3	WEDGE + BULBOUS	30
NEW WHITE SKIN	27.9	6.6	2.4	5	WEDGE	12
ARROW	24.4	5.5	3.5	5	WEDGE + BAYONET	35
JAVELIN	24.7	6.1	7.3	5	WEDGE	25
BAYONETTA	25.6	4.9	2.8	5	WEDGE + BAYONET	50
YATESNIP	24.6	5.3	6.0	5	BAYONET + WEDGE	73
MEAN	24.6	5.9	4.9	5		27

**ORGANIC PARSNIP TRIALS 1994**

**CENTRE: BUNWELL**

**VARIETIES LISTED IN ORDER OF YIELD**

VARIETY	SEED SOURCE	PREPACK SIZE					DEFECTS (% BY NUMBER)					
		POPULATION AS % TRIAL MEAN	YIELD AS % TRIAL MEAN	MEAN ROOT WEIGHT Kg	MARKETABLE (% BY NUMBER)	UNDER-SIZED	FANGED	MIS-SHAPEN	SPLIT	CANKER	CARROT FLY	
IMPERIAL CROWN	EWK	109.0	144.8	0.27	74	17	6	0	1	1	0	0
NEW WHITE SKIN	ELS	117.6	127.9	0.19	81	13	5	1	0	0	0	0
LANCER	TOZ	131.8	123.8	0.20	71	22	6	0	0	1	0	0
BAYONETTA	NIZ	119.5	105.2	0.22	59	31	6	2	2	1	0	0
JAVELIN	TOZ	90.3	96.3	0.25	66	19	9	2	1	2	0	0
AVON RESISTOR	SYM	103.4	94.0	0.20	72	16	10	0	1	0	0	0
WHITE SPEAR	TOZ	67.3	85.7	0.28	70	16	10	0	0	4	0	0
YATESNIP	SYM	87.2	84.7	0.24	60	28	10	0	1	1	0	0
GLADIATOR	TOZ	83.4	74.2	0.23	59	28	9	1	1	1	0	0
ARROW	ELS	98.6	63.3	0.14	68	25	6	1	0	0	0	0
Mean		100= 9.8 plants/m <sup>2</sup>	100= 14.5 t/ha	0.22	69	22	8	1	1	1	0	0

**ORGANIC PARSNIP TRIAL 1994**

**CENTRE: BUNWELL**

**VARIETIES LISTED IN ORDER OF YIELD**

VARIETY	MEAN ROOT LENGTH	MEAN ROOT BREADTH	CROWN DEPTH AS % MEAN ROOT BREADTH	SMOOTHNESS 1=ROUGH 9=SMOOTH	SHAPE (THE PREDOMINANT SHAPE IS MENTIONED FIRST)	VIGOUR OF EMERGENCE (1-9) 1=poor 9=good
IMPERIAL CROWN	30.4	5.5	0.6	6	WEDGE + BAYONET	6.7
NEW WHITE SKIN	31.9	5.1	2.0	6	BAYONET + WEDGE	6.7
LANCER	22.9	5.0	1.8	7	BAYONET + WEDGE	6.0
BAYONETTA	30.9	5.1	1.0	6	BAYONET + WEDGE	4.0
JAVELIN	26.5	5.4	2.8	6	WEDGE + BAYONET	5.0
AVON RESISTOR	24.0	5.9	3.5	6	WEDGE + BULBOUS	6.7
WHITE SPEAR	26.5	5.7	3.0	7	WEDGE + BAYONET	4.7
YATESNIP	27.6	4.4	1.8	8	BAYONET + WEDGE	4.3
GLADIATOR	27.8	5.3	1.9	8	WEDGE + BAYONET	2.7
ARROW	26.6	4.5	1.1	7	BAYONET, WEDGE + BULBOUS	5.0
MEAN	27.5	5.2	1.9	7		5.2

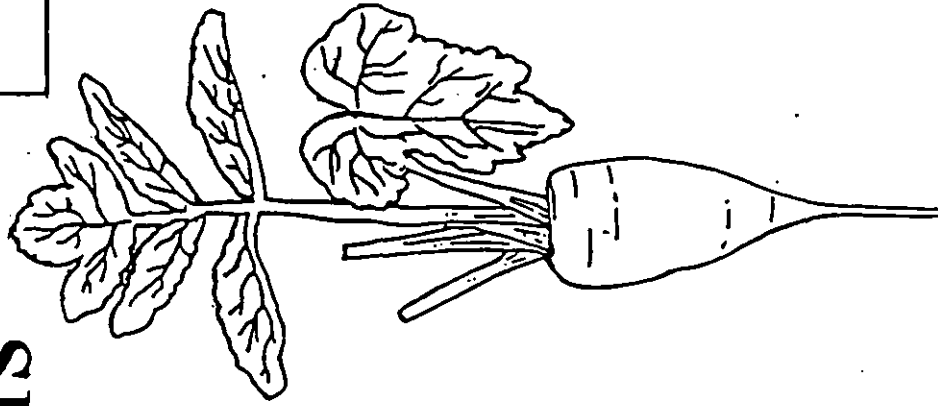






One-year  
**RESULTS**

Not for publication



Issue 109  
Organic Parsnips 1995/96

## **ORGANIC PARSNIPS 1995**

### **Introduction**

These results are for the second year of trials funded by MAFF to assess varieties grown organically

### **Trials Procedure**

Trials were drilled at HDRA and Bunwell, Norfolk. Whilst the former was very successful the Bunwell trial failed as a result of a severe attack of wireworm.

At HDRA the drills were marked and made using a Wolf row maker, and drilled with a Wolf drill. The seed was covered with a rake. Four replicates were drilled and recorded.

### **Trial Technique**

Site	Henry Doubleday Research Association, Ryton, Coventry, Warks.
Soil type	Sandy loam.
Previous crop	Grass/clover ley.
Drilling date	2 May.
Row widths	Beds 50cm apart, containing three rows 25cm apart.
Thinning	On 4 July to 5-8cm.
Fertiliser	None.
Weed control	Hand hoed on 12 June and 11 July.
Irrigation	2, 3, 4, and 11 May, and 10 August.
Pest control	Rabbit fencing around the trial.
Harvest date	7 December.

### **Comments on trial**

Irrigation availability helped produce an excellent trial at HDRA in a dry season. The average population, at 31 plants/square metre, was only slightly below the target of 35 plants/square metre.

Mean total yield was 2.5 tonnes/hectare higher than in 1994 in spite of root weights being slightly lower. A higher percentage marketable was recorded and considerably lower levels of carrot fly damage. Cavity spot records indicated that two varieties appeared slightly more susceptible.

### **Comments on varieties (in alphabetical order)**

**Avon Resistor.** The most bulbous variety in trials, having the deepest crown and shortest roots. It had the highest total marketable yield, a consequence of having the highest percentage of marketable roots. It gave the lowest levels of undersized, fanged and misshapen roots. The roots however were rougher and showed more cavity spot than all other varieties.

**Arrow.** Thin bayonet and wedge shaped roots. A low population contributed to a low total yield. Roots were smooth with low levels of fanging.

**Bayonetta.** Thin bayonet and wedge shaped roots. A low population resulted in the lowest yield in the trial. Roots were smooth and long with a shallow crown. It gave the highest levels of roots with cavity spot and split roots.

**Gladiator.** Long wedge and bayonet shaped roots. Above average percentage marketable yield of roots with low levels of fanging and splitting.

**Imperial Crown.** Wedge and bayonet shaped roots. Above average yield of heavier than average roots resulting from a low population.

**Javelin.** Thin wedge and bayonet shaped roots. A high population gave a slightly below average yield of the lightest weight roots in the trial. A high percentage of under sized roots were recorded.

**Lancer.** Smooth wedge and bayonet shaped roots. An above average population produced a high percentage of fanged and undersized roots. A low level of misshapen roots were recorded.

**New White Skin.** Wedge and bayonet shaped roots. Slightly above average yield of roots with shallow crowns.

**White Spear.** Smooth wedge and bayonet shaped roots. Low population giving the heaviest roots in the trial. Low levels of misshapen roots but high incidence of cavity spot.

**Yatesnip.** Long, smooth wedge and bayonet shaped roots. Above average population but low level of marketable roots. Major defects were misshapen, undersized and fanged roots and a high level of carrot fly damage.

# ORGANIC PARSNIP TRIAL 1995

Centre: Henry Doubleday Research Association

Varieties in order of Marketable Yield

Variety	Seed Source	Yield as a % of trial mean	Prepack Size			Defects (% by number)					
			Population as a % of trial mean	Mean root weight (Kg)	Marketable % (by number)	undersized	fanged	misshapen	cavity spot	canker	carrot fly
AVON RESISTOR	E W King	123	100	0.15	70	2	9	10	2	2.6	4
GLADIATOR	Tozer	111	113	0.13	66	9	9	9	3	0.4	1
IMPERIAL CROWN	E W King	110	88	0.17	62	6	17	12	2	1.1	1
WHITE SPEAR	Tozer	107	75	0.20	64	6	11	9	6	0.5	3
NEW WHITE SKIN	Elsoms	107	94	0.16	65	7	13	11	2	0.6	1
YATESNIP	Yates	98	118	0.14	51	12	10	17	3	0.3	7
JAVELIN	Tozer	96	121	0.12	59	13	11	12	3	0.2	1
LANCER	Tozer	92	118	0.13	50	14	19	9	4	0.2	1
ARROW	Elsoms	81	86	0.13	66	7	10	10	2	0.2	4
BAYONETTA	Nickerson	76	87	0.14	55	8	14	11	7	0.5	1
MEAN		100 = 26.2 t/ha	100 = 31 per sq. m	0.15	60	9	12	11	3	0.6	2
LSD(VAR MEAN)(P=0.05)		20		0.04							

# ORGANIC PARSNIP TRIAL 1995

Centre: Henry Doubleday Research Association

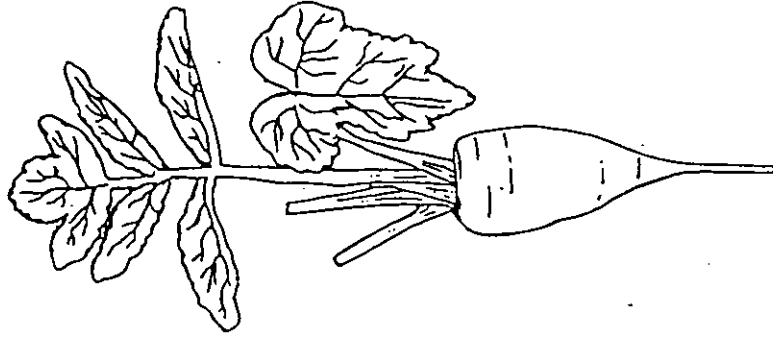
Varieties in order of Marketable Yield

Variety	Mean root length (cm)	Mean root breadth (cm)	Crown depth (1-9) 1=deep, 9=shallow	Skin smoothness (1-9), 1=rough, 9=smooth	Shape (the predominant shape is listed first)
AVON RESISTOR	14.2	6.1	1	1	bulbous & wedge
GLADIATOR	20.4	5.3	4	3	wedge & bayonet
IMPERIAL CROWN	19.6	5.1	5	3	wedge & bayonet
WHITE SPEAR	19.5	5.3	3	5	wedge & bayonet
NEW WHITE SKIN	19.9	5.2	9	3	wedge & bayonet
YATESNIP	20.7	5.1	4	5	wedge & bayonet
JAVELIN	16.9	4.4	4	3	wedge & bayonet
LANCER	18.5	4.8	4	5	wedge & bayonet
ARROW	19.9	4.7	7	5	bayonet & wedge
BAYONETTA	22.1	4.9	7	5	bayonet & wedge
MEAN	19.2	5.1	5	3.8	



One-year  
**RESULTS**

**Not for publication**



Issue 114  
Organic Parsnips 1996





## ORGANIC PARSNIPS 1996

### Introduction

These results are for the third year of a MAFF funded contract looking to see whether organic growers need dedicated variety trials or if data can be extrapolated from conventional trials.

### Trials Procedure

Trials were drilled at the Henry Doubleday Research Association (HDRA) trial ground at Ryton, Coventry, Warwickshire and with a commercial organic grower at Bagthorpe in north Norfolk. The HDRA established well but the Norfolk trial was badly attacked by cutworm and lost despite spirited attempts to salvage some worth while data.

### Trial Technique

Site	HDRA, Warks
Soil type	sandy loam pH 6.0-6.5
Previous crop	cabbage followed by grass/clover ley
Drilling date	20 April
Spacial arrangements	3 rows 25cm apart on 150cm bed
Thinning	25 June to 3cm
Fertiliser	none
Weed control	hand
Pest control	rabbit fencing
Irrigation	none
Harvest date	11 December

### Comments on the Trial

Establishment was good in this trial but marketable yield were low. Populations were similar to 1995 at 30 sq. metre but roots were lighter and the percentage of marketable roots was lower at 50% compared to 60% in 1995. Main defects were undersized (<3cm diameter) and carrot fly damage which was high at 30%. Powdery mildew affected varieties differentially and may also have contributed to yield reduction.

**Comments on Varieties** (in alphabetical order)

**Avonresistor** Short wedge and bulbous shaped roots. Low yields this time due to susceptibility to carrot root fly. Good resistance to powdery mildew. Usually higher dry matter and sweeter than other varieties.

**Arrow** Thin bayonet shaped roots which are intended for prepacking and are individually light. Several undersized roots but less carrot fly damage than most varieties. Susceptible to powdery mildew. Smooth skin.

**Bayonetta** Thin bayonet shaped roots with average yields in this trial. Below average percentage marketable due to undersized and carrot root fly damage.

**Gladiator** Hybrid variety. Wedge and bayonet shaped roots. Produced heaviest roots in the trial. Yields above average.

**Imperial Crown** Wedge and bayonet shaped roots with similar performance to Gladiator in this trial.

**Javelin** Bayonet and wedge shaped roots. Good performance with good emergence, high yields and percentage marketable. Roots individually light with some undersized but had the lowest incidence of carrot root fly in the trial. Smooth skin and good resistance to powdery mildew.

**Lancer** Long bayonet shaped roots. Above average yield with some undersized roots. Long, smooth roots.

**New White Skin** Bayonet and wedge shaped roots. Good yield despite above average level of carrot fly damage. Good powdery mildew resistance.

**White Spear** Large wedge and bulbous shaped roots. Highest yields in this trial and highest percentage marketable. Low levels of carrot root fly damage and powdery mildew.

**Yatesnip** Wedge and bayonet shaped roots. Very poor performance this time with low population and severe carrot fly damage. Long roots. Highest level of powdery mildew in the trial.

**Summary**

Best performances in this trial: **White Spear, Javelin, New White Skin, Gladiator, Imperial Crown**  
In previous Organic trials **Avonresistor** and **Lancer** have also performed well

# ORGANIC PARSNIPS 1996 - YIELD DATA

Site: HDRA

Varieties in order of total marketable yield

Variety	Seed Source	YIELD (by weight)			DEFECTS (by number)								
		Number of roots per Sq.m	Total marketable yield (T/Ha)	Marketable yield as % total yield (by weight)	Mean weight per root (kg)	% Undersized	% fanged	% Misshapen	% Split	% Severe Canker	% Cavity spot	% Carrot root fly	
WHITE SPEAR	Tozer	35	18.68	63	0.10	15	2	7	0	1	0	0	21
JAVELIN	Tozer	40	16.01	61	0.08	30	1	3	0	0	0	0	16
NEW WHITE SKIN	Elsoms	32	15.80	54	0.11	13	3	3	0	1	0	0	32
IMPERIAL CROWN	EWKing	29	15.30	59	0.11	16	4	3	1	1	0	0	25
GLADIATOR	Tozer	26	14.21	56	0.12	14	2	2	0	1	0	0	31
LANCER	Tozer	29	14.08	54	0.11	22	2	3	0	1	1	1	28
BAYONETTA	Nickerson	32	11.09	46	0.10	24	4	4	0	1	0	0	32
AVONRESISTOR	EWKing	25	10.84	45	0.10	8	2	8	0	1	0	0	37
ARROW	Elsoms	31	10.16	50	0.08	29	2	4	0	0	0	0	24
YATESNIP	Yates	21	3.55	16	0.14	18	3	2	0	7	0	0	56
MEAN		30	12.97	50	0.11	19	2	4	0	1	0	0	30
LSD(VAR MEAN)(P=0.05)		7	3.93	12	0.03	10	3	4	1	4	0	0	13

# ORGANIC PARSNIPS 1996 - YIELD DATA

Site: HDRA

Varieties in order of total marketable yield

Variety	Mean root length (cm)	Mean root breadth (cm)	Skin Smoothness (1-9)	Crown Depth (1-9)	Crown depth as % mean root breadth	Root shape	Powdery mildew % leaf cover
WHITE SPEAR	20.4	5.1	5.0	5.0	7	wedge & bayonet	2
JAVELIN	18.7	4.5	7.0	3.0	4	bayonet & wedge	3
NEW WHITE SKIN	19.5	5.0	5.0	3.0	3	bayonet & wedge	2
IMPERIAL CROWN	20.9	4.9	3.0	3.0	6	wedge & bayonet	8
GLADIATOR	20.5	5.0	3.0	4.0	7	wedge & bayonet	6
LANCER	21.3	4.5	7.0	1.0	5	bayonet	6
BAYONETTA	20.3	4.4	5.0	2.0	3	bayonet	8
AVONRESISTOR	15.0	5.1	3.0	4.0	9	wedge & bulbous	3
ARROW	17.1	4.3	7.0	2.0	4	bayonet	33
YATESNIP	21.1	4.7	5.0	3.0	4	wedge & bayonet	36
MEAN	19.5	4.8	5.0	3.0	5		11

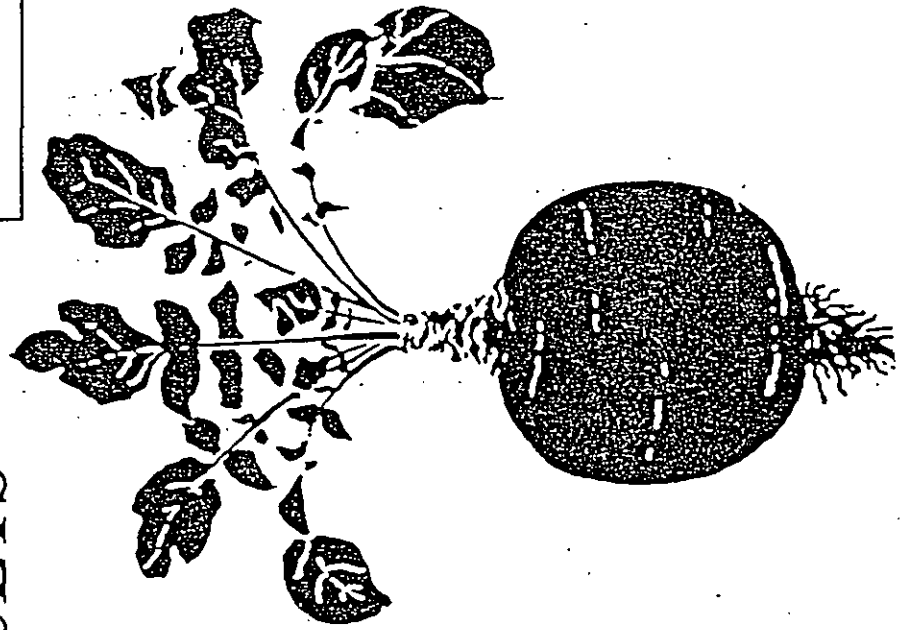
Key to 1-9 Scores

character/score	1	9
skin smoothness	very rough	very smooth
crown depth	very deep	very shallow



One-year  
**RESULTS**

Not for publication



Issue 107  
**ORGANIC SWEDES**  
1994/95

National Institute of Agricultural Botany, Huntingdon Road, Cambridge, CB3 0LE



# ORGANIC SWEDES 1994/95

## Introduction

This is a new trial series funded by MAFF to look at varieties in organic situations.

## Trials Procedure

The Carmarthen trial was sown in modules and transplanted. In Devon the trial was direct drilled and thinned. Assessments of yield, quality and defects were made in late autumn. a second assessment for winter hardness was made during the winter. Yields were recorded as Prepack 450g to 1120g; Stewpack 250g to 450g; Oversized > 1120g and Undersized < 250g.

## Trial Technique

Site	Carmarthen CCTA	Buckfastleigh Devon
Soil type	Clay loam	Clay loam
Previous crop	Leeks	
Drilling/soving date	26 May (Dickensons organic compost in 150 module trays)	31 May
Transplanting date	24 June	-
Spacing	40 x 15 cm (16" x 6")	45 x 12.5 cm (18" x 5")
Fertiliser	15 t/ha FYM	
Weed control	Hand hoe	Hand and flame
Irrigation	Establishment only	Establishment only
Pest control	None	None
Harvest dates	1. 23 November 2. 1 March	15 November 6 January

## Seed Sources

DPBS - Danish Plant Breeding Station  
 NIZ - Nickerson  
 PTN - Peterson  
 SCRI - Scottish Crops Research Institutes  
 SHA - Sharpes  
 SIN - Sinclair  
 TWY - Tvyvyfords  
 WPBS - Welsh Plant Breeders' Station

### Comments on Trials

The Carmarthen trial was transplanted before excessive hypocotyl extension had taken place. Plants were in good condition with no signs of stress. Yields were not high but the quality of the bulbs was generally good with 66% marketable. Main defects were undersized roots with some rotten and misshapen roots especially in the variety AIRLIE.

The second assessment showed little winter damage with only 2% rotten roots.

The Devon trial was direct drilled and thinned to 5". Yields and quality were very good. 64% of the bulbs were marketable with 8% oversized, 10% cracked and 14% slug damaged.

### Comments on Varieties

#### a) Controls

**MARIAN (SHA/WPBS)**. (Source/Breeder). Below average yields in Devon with some oversized and cracked roots. Good resistance to slug damage. In Carmarthen high yields with only defect undersized roots. Shape better drilled. Paler than most varieties. Some Cabbage root fly damage in Devon.

**ANGELA (TWY/PTN)**. Low yield in Devon but above average in Carmarthen. Some cracked and misshapen roots at both sites. Uniformity poor in Devon and skin rather rough.

**MAGRES (SHA/DPBS)**. High yields on both sites especially direct drilled. Few defects on either site. Dark skin colour, good shape and uniformity.

**RUTA OTOFTE (SHA/DPBS)**. High yields on both sites with top yield in the transplanted trial. Some cracked roots in Devon. Skin smoothness and uniformity of shape below average.



## **b) Established Varieties**

**DOON MAJOR (SHA/SIN).** High yields at both sites with few defects. Paler colour than average. Shape rather oval. Cabbage root fly damage above average at both sites.

**MELFORT (SHA/SCRJ).** Green skinned. Average yields at both sites. Good resistance to cracking. Some slug damage in Devon. Short neck. Some rots at harvest 2 in Carmarthen.

**MERRICK (SHA/SIN).** Bronze skinned and white fleshed. Good yield drilled but only average transplanted. Defects mainly on size. Good resistance to slug damage. Quality scores high in Devon. Some rots at second harvest in Carmarthen.

## **c) Recent Varieties**

**LIZZY (TWY).** Poor yield drilled but relatively much better transplanted. Tendency to crack and susceptible to slug damage in Devon. High percentage marketable in Carmarthen. Long neck. Flat, with moderate quality in Devon. Better quality in Carmarthen.

**JOAN (TWY).** Average yield at both sites. Good resistance to cracking but some slug damage in Devon. Good shape and uniformity.

**IMPROVED ACME - SS12 (NIZ/SCRJ).** Yields average in Devon and just below in Carmarthen. Some cracked roots in Devon and a few rotten in Carmarthen. Long neck, dark skin colour and good shape. Some cabbage root fly damage in Wales.

**AIRLIE (NIZ/SCRJ).** High yield in Devon but very poor transplanted in Carmarthen. In Devon good resistance to cracking but very susceptible to slug damage. In Carmarthen very high levels of misshapen roots. Quality good in Devon with dark, smooth skin.

**BRORA (SHA/SCRJ).** Low yields at both sites. In Devon high levels of slug damage. In Carmarthen 55% undersized. Dark skin colour. Smooth and rather oval.

**RUBY (SHA/DPBS).** Yields just below average at both sites. Average levels of defects in Devon and only undersized roots as defects in Carmarthen. Dark skinned uniform rather oval bulbs with slightly rough skin.

### Summary

In general the controls and established varieties all performed well and out-yielded the more recent varieties. Some of the newer varieties did have good quality scores.

### **Best Varieties**

<u>Maturity</u>	<u>Established</u>	<u>New</u>
Early (pre Christmas)	MARIAN ANGELA DOON MAJOR	JOAN LIZZY SS12
Mid	MAGRES	RUBY
Late	RUTA OTOFTE	

**MERRICK** could be useful to organic growers if the resistance to slug damage is confirmed in further trials.

NIAB ORGANIC SWEDE TRIAL 1994/95- YIELD & DEFECTS

Site: Buckfastleigh, Devon

in order of marketable yield

Variety	Marketable yield (t/ha)	Prepack yield (t/ha)	Stew pack yield (t/ha)	% marketable	% undersized	% oversized	% cracked	% rotten & misshappen	% slug damage
MAGRES	70.0	61.6	8.4	72	0.4	5	6	6	11
DOON MAJOR	69.2	58.9	10.3	73	0.8	3	9	3	11
RUTA OTOFTE	68.1	58.9	9.1	71	0	6	12	2	10
MERRICK	66.5	54.8	11.8	73	0.4	11	6	5	5
AIRLIE	65.8	60.8	5.0	58	0.3	9	3	4	26
MELFORT	63.5	54.0	9.5	66	1.6	10	5	0	17
IMP. ACME (SS12)	62.4	52.1	10.3	70	1.3	3	12	4	9
JOAN	61.6	53.2	8.4	66	1.2	9	5	3	15
MARIAN	59.3	51.7	7.6	58	0.7	12	17	5	7
RUBY	57.4	42.2	15.2	63	1.3	10	11	3	11
ANGELA	52.9	40.7	12.2	53	0.4	7	13	10	16
LIZZY	52.1	43.0	9.1	54	1.2	8	17	4	15
BRORA	46.8	38.4	8.4	59	3.3	2	8	6	22
Mean	61.2	51.7	9.5	64	0.8	8	10	4	14

NIAB ORGANIC SWEDE TRIAL 1994/95-QUALITY

Site: Buckfastleigh, Devon

in order of marketable yield

Variety	Neck length (1-9) 9=short	Skin colour (1-9) 9=dark	Shape (1-9) 1=flat 5=round 9=oval	Uniformity (1-9) 9=even	Skin texture (1-9) 9=smooth	% cabbage root fly	HARVEST 2 % rotten
MAGRES	4	9	5	8	6	5	0
DOON MAJOR	7	6	7	7	7	8	1
RUTA OTOFTE	5	8	7	6	6	2	4
MERRICK	7	3(bronze)	5	8	8	2	13
AIRLIE	4	8	6	7	8	2	1
MELFORT	*	green	*	*	*	*	*
IMP. ACME (SS12)	7	9	6	5	7	5	4
JOAN	6	8	6	8	6	2	2
MARIAN	5	6	8	4	6	9	1
RUBY	6	9	8	8	5	2	4
ANGELA	7	7	5	2	6	2	0
LIZZY	4	7	2	5	5	4	1
BRORA	5	9	7	8	8	3	5
Mean	6	7		6	7	4	3

NIAB ORGANIC SWEDE TRIAL 1994/95- YIELD & DEFECTS

Site: Carmarthen

in order of marketable yield

Variety	Marketable yield (t/ha)	Prepack yield (t/ha)	Stew pack yield (t/ha)	% marketable	% undersized	% cracked	% rotten & misshappen	% rabbit damage
RUTA OTOFTE	52.1	20.7	31.4	72	27	0	2	0
LIZZY	51.9	17.1	34.8	81	18	1	0	0
MARIAN	50.7	22.2	28.4	68	32	0	0	0
ANGELA	47.9	22.8	25.1	66	30	2	2	0
MAGRES	46.4	14.3	32.1	73	27	0	0	0
DOON MAJOR	46.3	19.5	26.8	73	26	0	1	0
JOAN	43.6	18.1	25.5	69	28	0	3	0
MERRICK	42.1	17.7	24.4	63	33	0	4	0
MELFORT	42.0	10.8	31.2	78	22	0	0	0
RUBY	41.5	10.4	31.1	75	25	0	0	0
IMP. ACME (SS12)	40.3	11.1	29.2	63	29	0	6	2
BRORA	26.0	6.1	19.9	45	55	0	0	0
AIRLIE	24.1	8.2	15.9	38	12	0	50	0
Mean	42.7	15.3	27.4	66	28	0.2	5	0.2

NIAB ORGANIC SWEDE TRIAL 1994/95-QUALITY

Site: Carmarthen

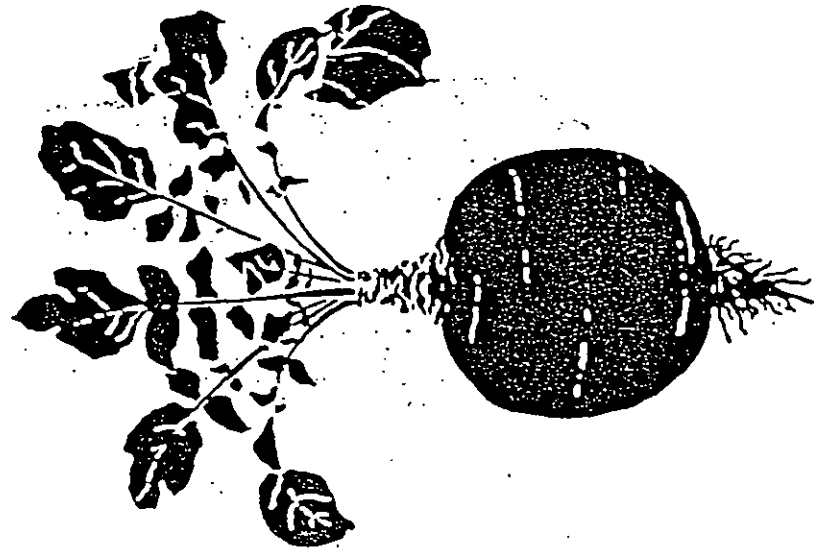
in order of marketable yield

Variety	Neck length (1-9) 9=short	Skin colour (1-9) 9=dark	Shape (1-9) 1=flat 5=round 9=oval	Uniformity (1-9) 9=even	Skin texture (1-9) 9=smooth	% cabbage root fly	HARVEST 2 % rotten
RUTA OTOFTE	5	7	7	6	5	3	0
LIZZY	4	7	7	7	5	4	0
MARIAN	6	6	5	7	6	3	0
ANGELA	7	7	7	7	5	3	2
MAGRES	7	7	6	7	6	3	0
DOON MAJOR	6	6	7	7	6	5	0
JOAN	7	7	6	7	6	3	2
MERRICK	4	4(bronze)	7	7	5	3	5
MELFORT	8	green	6	6	6	3	5
RUBY	5	8	8	7	5	3	10
IMP. ACME (SS12)	7	7	6	7	6	6	0
BRORA	6	8	7	7	5	4	0
AIRLIE	5	7	7	6	6	4	0
Mean	6	6	7	7	6	4	2



One-year  
**RESULTS**

Not for publication



Issue 109  
**Organic Swedes 1995/96**

National Institute of Agricultural Botany, Huntingdon Road, Cambridge, CB3 0LE

## ORGANIC SWEDES 1995/96

### Introduction

This trial was grown in the second year of a MAFF funded programme to look at the performance of varieties in organic situations.

### Trials Procedure

The Carmarthen trial was sown in modules and transplanted. A drilled trial sown in Devon failed in the drought despite two attempts to establish it. Assessments of yield, quality and defects were made in late autumn and an assessment for winterhardiness was made in the winter. Yields were recorded as Prepack - 450 to 1120g; Stewpack - 250 to 450g; Oversized - >1120g and Undersized <250g.

<b>Trial Technique</b>	Pibwrlwyd Farm, Carmarthen, Dyfed
<b>Soil type</b>	Clay loam
<b>Previous crop</b>	1994-Cut flowers (Chrysanthemum, Stocks, Statice, 1993-Grass
<b>Sowing date</b>	17 May 1995 into Dickensons Organic Compost in Quickpot 150 modules.
<b>Transplanting date</b>	16 June 1995
<b>Spacing</b>	45cm x 15cm (18 x 6 ins)
<b>Fertiliser</b>	300 Kg/Ha Dingles Complete Organic (5:6:5)
<b>Weed control</b>	Hand hoed
<b>Irrigation</b>	Establishment only
<b>Pest control</b>	None
<b>Harvest dates - 1</b>	29 November 1995
<b>- 2</b>	27 February 1996



### **Comments on Trial**

The trial established well having been watered in and it grew away satisfactorily. In the long hot dry summer the trial became very stressed by mid August. Powdery mildew was observed in most plots by the end of August. Comments on powdery mildew in the variety descriptions are based on observations at this time. Following rain in September there was new top growth and the trial again looked better. However, the summer drought seriously affected yields which were less than half of those for 1994. The major defect was undersized roots and Cabbage Root Fly attack was considerably higher than last year

### **Comments on Varieties (in alphabetical order)**

**Airlie (Nickerson/SCRI)** Above average total yield with the lowest level of undersized but most misshapen roots. Its roots had medium to long necks but below average cabbage root fly attack. They appeared to be resistant to powdery mildew. Above average level of rotted roots at the second harvest.

**Angela (Twyford/Peterson)** A high percentage of marketable roots gave the highest total and pre-pack yields in the trial. Roots had short necks, dark skins and moderate resistance to powdery mildew.

**Doon Major (Sharpes/Sinclair)** Below average marketable and prepack yields. Roots had medium to long necks and tended to be oval. It had above average level of rotted roots at the second harvest and appeared susceptible to powdery mildew.

**Improved Acme SS12 (Nickerson/SCRI)** The highest level of undersized roots in the trial resulted in the lowest yield. The dark roots had very short necks but the most severe cabbage root fly damage. It appeared susceptible to powdery mildew.

**Joan (Twyford now Elsoms)** Below average marketable and prepack yields. Its dark uniform roots appeared susceptible to powdery mildew.

**Lizzy (Twyford now Elsoms)** Produced round roots with long necks which appeared susceptible to powdery mildew.

**Magres (Sharpes/DPBS)** Gave the highest percentage of marketable roots resulting in an above average total yield and the highest stew pack yield. The oval to round roots appeared susceptible to powdery mildew.

**Marian (Sharpes/WPBS)** Above average total yield of roots with medium to long necks and moderate resistance to powdery mildew. It had the lowest level of cabbage root fly damage in the trial.

**Melfort (Sharpes/SCRJ)** Oval to round roots with green skin colour.. The uniform roots had moderate resistance to powdery mildew.

**Merrick (Sharpes/Sinclair)** Bronze skin and white flesh. The roots which tended to be oval showed moderate resistance to powdery mildew.

**Ruby (Sharpes/DPBS)** The oval to round roots had short necks and dark skins, and showed moderate resistance to powdery mildew.

**Ruta Otofte (Sharpes/DPBS)** The roots with medium to long necks appeared susceptible to powdery mildew.

### **Summary of performance**

This was too difficult a season to sort out varieties satisfactorily. Previous trials have shown that established varieties **Marian, Angela, Doon Major (early), Magres (mid), and Ruta Otofte (late)**, are reliable and that **Joan, Lizzy, SS12 (early) and Ruby (mid)** all show promise. This time **Airlie** produced a high early yield, but the shape was only moderate.

ORGANIC SWEDE TRIAL 1995/96

Centre: Carmarthen

(in order of marketable yield)

Variety	YIELD				DEFECTS		
	Marketable yield (t/ha)	Prepack yield (t/ha)	Stew pack yield (t/ha)	% marketable	% undersized	% cracked	% misshapen
ANGELA	21.6	10.2	11.4	50	48	0	2
AIRLIE	18.7	7.8	10.8	45	30	1	24
MARIAN	18.6	6.1	12.4	44	52	2	2
MAGRES	18.3	3.3	15.0	56	42	0	2
MELFORT	15.9	2.7	13.2	48	52	0	0
RUBY	15.3	4.0	11.4	42	56	0	2
RUTA OTOFTE	13.5	3.5	10.0	36	64	0	0
MERRICK	11.8	5.2	6.6	28	67	0	5
LIZZY	11.1	2.3	8.8	31	65	0	3
JOAN	8.8	1.2	7.6	26	74	0	0
DOON MAJOR	8.8	1.7	7.0	28	72	0	0
IMPROVED ACME SS12	5.0	0.8	4.2	14	86	0	0
Mean	13.9	4.1	9.9	39	58	0	3
LSD (Var mean P=0.05)	9.0	5.3	5.1				

ORGANIC SWEDE TRIAL 1995/96

Centre: Carmarthen

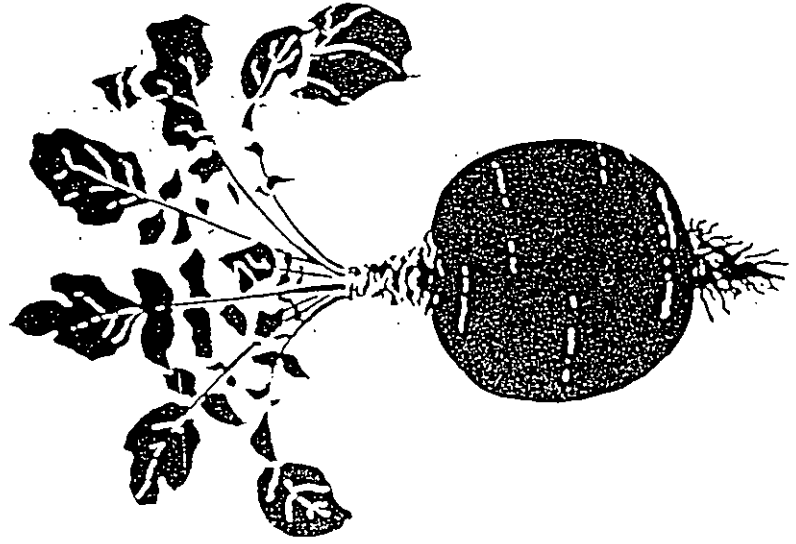
(in order of marketable yield)

Variety	Neck length 1=long 9=short	Skin colour 1=pale 9=dark	Shape 1=flat 5=round 9=oval	Uniformity 1=poor 9=very good	Skin texture 1=rough 9=smooth	% Cabbage root fly attack	HARVEST 2 % Rotten
ANGELA	7	7	6	6	4	24	3
AIRLIE	3	6	6	5	5	19	5
MARIAN	3	6	6	6	5	15	3
MAGRES	6	6	7	6	6	29	2
MELFORT	4	1	7	8	4	22	0
RUBY	8	7	7	6	5	23	3
RUTA OTOFTE	3	6	6	7	4	29	3
MERRICK	5	3	8	7	6	21	0
LIZZY	1	6	5	5	4	33	0
JOAN	4	7	6	8	5	24	2
DOON MAJOR	3	5	8	6	4	29	5
IMPROVED ACME	9	7	6	7	6	39	0
Mean	5	6	7	6	5	26	2



One-year  
**RESULTS**

**Not for publication**



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National Institute of Agricultural Botany, Huntingdon Road, Cambridge, CB3 0LE

## ORGANIC SWEDES 1996/97

### Introduction

This trial is part of a MAFF funded project looking at variety performance in organic situations. The trial was grown on symbol land and all treatments were in accordance with Soil Association approved practices.

### Trial Procedure

The trial was direct drilled and thinned to the required population. Assessments of yield, defects and quality were made in mid November. Yields were graded as Prepack (450-1120g), Stewpack (250-450g), Oversized (>1120g) and undersized (<450g).

### Trial Technique

	<i>site</i>	<i>Caddaford, Devon</i>
soil type		sandy clay loam
previous crop		Potatoes
drilling date		4th June
spacing		50 x 12.5cm (20 x 5")
weed control		hand
pest control		none
harvest date		18th November

### Comments on the Trial

Although yields were not high the quality and percentage of marketable roots were satisfactory. The main unmarketable categories were undersized and misshapen roots. A second trial drilled at CCTA, Carmarthen was not successful.

## Comments on the Varieties

### **a) Controls**

**Marian** ( Sharpes/Welsh Plant Breeding Station) Above average marketable yield with several misshapen roots reducing the percentage marketable. Round to oval bulbs with long necks and only moderate uniformity.

**Angela** (Twyford/Peterson) Similar yield and quality to Marian but more undersized. High percentage in stewpack size grade. Some cracked roots

**Magres** (Sharpes/Danish Plant Breeding Station) Below average yields this time due to a high level of undersized bulbs. Round to oval bulbs with good quality and medium high dry matter.

**Ruta Otofte** (Sharpes/Danish Plant Breeding Station) Low yields in this trial with several undersized bulbs. Only low level of cabbage root fly damage. Rather rough skin. Very high dry matter.

### **b) Established varieties**

**Doon Major** (Sharpes/Sinclair) Average marketable yield with a relatively high percentage of prepack size. Some misshapen roots. Moderate uniformity. Dark skin with a short neck. Only low levels of cabbage root fly damage.

**Melfort** (Sharpes/Scottish Crops Research Institute) Green skinned variety. Highest marketable yield in this trial with very few defective roots. Round to oval shape. Only low levels of cabbage root fly damage.

**Merrick** (Sharpes/Sinclair) Bronze skinned and white fleshed. Low population in this trial and low marketable yield with some oversized bulbs.

### **c) Recent varieties**

**Lizzy** (Elsoms) Average marketable yields with several misshapen bulbs. Uniform globe shaped bulbs with long neck.

**Joan** (Elsoms) Average yields with a high percentage of marketable bulbs. Uniform, globe shaped bulbs with short neck. Several roots damaged by cabbage root fly.

**Improved Acme - SS12** (Nickerson/Scottish Crops Research Institute) Below average yields of uniform globe shaped bulbs with dark colour and smooth skin. Short neck. Several roots damaged by cabbage root fly.

**Airlie** (Nickerson/Scottish Crops Research Institute) High yields and a high percentage marketable. Smooth skin. Can get rather large.

**Ruby** (Sharpes/Danish Plant Breeding Station) High yield especially in the prepack grade. Moderate uniformity. Short neck Very low level of cabbage root fly damage.

#### e) New varieties

**Helenor** (Elsoms) Above average yields particularly in the stewpack grade. Some misshapen roots. Very uniform, globe shaped bulbs with short neck. Moderately high dry matter.

**Invitation** (Sharpes/Scottish Crops Research Institute) Below average yields of rather elongate bulbs with narrow shoulders. Dark skin. High dry matter.

#### Summary

The best performing varieties were:

<i>best period</i>	<i>established varieties</i>	<i>recent varieties</i>	<i>new varieties</i>
early (pre Christmas)	Marian Angela	Joan Lizzy SS12 Airlie	
mid	Magres	Ruby	Helenor
late	Ruta Otofte Melfort - (green)		Invitation





NIAB ORGANIC SWEDE TRIAL 1996 - Quality data

Site: Caddaford, Devon

In order of marketable yield

Variety	Shape (1-9) 1=flat 5=round 9=oval	Skin colour (1-9) 9=dark	Skin texture (1-9) 9=smooth	% Cabbage root fly	Uniformity (1-9) 9=even	Neck length (1-9) 9=short
MELFORT	6.3	1.0	7.0	3.0	7.7	6.7
AIRLIE	6.0	8.0	7.7	2.3	7.0	5.0
RUBY	6.0	8.0	7.0	1.3	6.3	8.0
HELENOR	5.3	8.0	7.0	2.7	8.0	8.0
MARIAN	6.0	7.0	7.0	4.3	6.3	4.3
JOAN	5.3	8.0	7.0	11.0	7.7	7.3
ANGELA	5.7	8.0	7.0	5.3	6.0	6.7
DOON MAJOR	6.0	9.0	7.0	3.7	6.3	7.3
LIZZY	5.0	8.0	7.0	9.0	8.0	4.0
MAGRES	6.3	7.0	7.3	4.0	6.0	6.3
INVITATION	6.7	9.0	7.0	5.7	7.0	6.3
IMP. ACME (SS12)	5.0	9.0	7.7	11.0	7.7	7.0
RUTA OTOFTE	6.0	8.0	6.7	3.0	7.0	5.7
MERRICK	6.0	3.0	7.0	5.7	6.7	5.0
MEAN	5.8	7.2	7.1	5.1	7.0	6.3
LSD(P=0.05)	0.5	NS	0.5	4.1	NS	1.0