

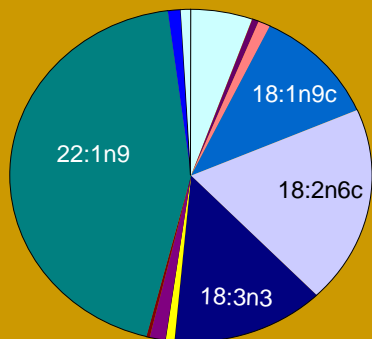
# Exploiting Brassica Diversity

# *Brassica* trait genetics at Warwick HRI

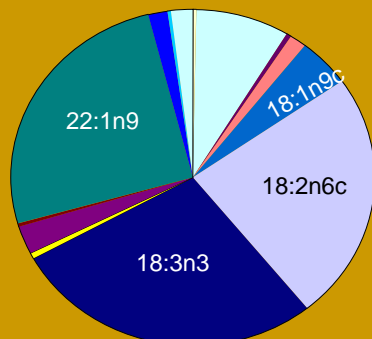
- Water use efficiency - Thompson
- Phosphate and other mineral use efficiency - Hammond (White)
- Nitrogen use efficiency - Teakle, Pink...
- Virus/bacterial disease resistance - Walsh, Holub, Pink, Hand
- Seed dormancy, establishment, vigour - Finch-Savage, Barker
- Juvenility/flowering time - Teakle, Thomas, Massiah
- Shelf life - Buchanan Wollaston, Pink
- Oil content, novel uses eg. bioplastics and biodiesel - Barker, Pink

## **This is underpinned by:**

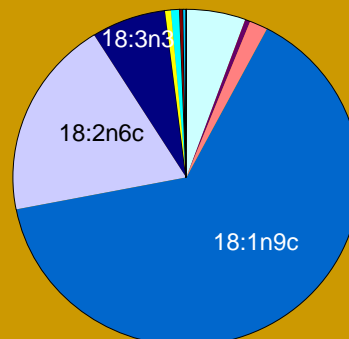
- Genomics lab
- Freezer Archive - BAC libraries, EST libraries, pathogens ...
- Seed Archive - secure storage of research collections



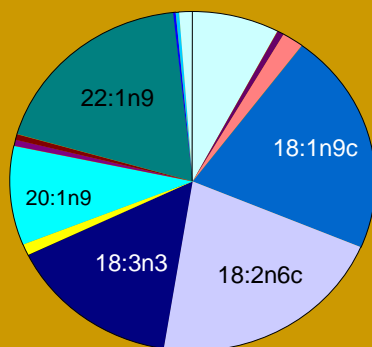
*B. napus biennis*  
(Winter forage rape)



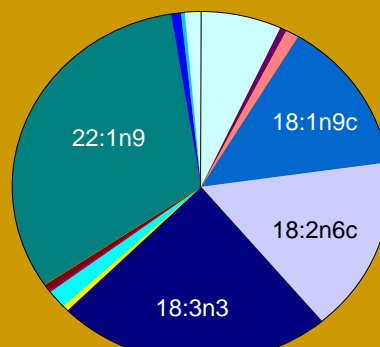
*B. napus oleifera*  
(Asian variety)



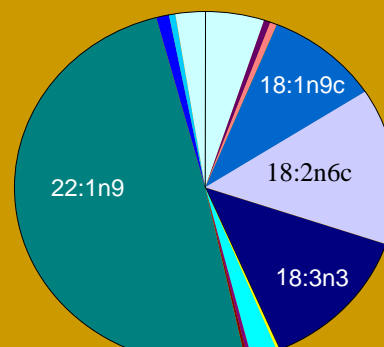
*B. napus oleifera*  
(Modern oilseed rape variety)



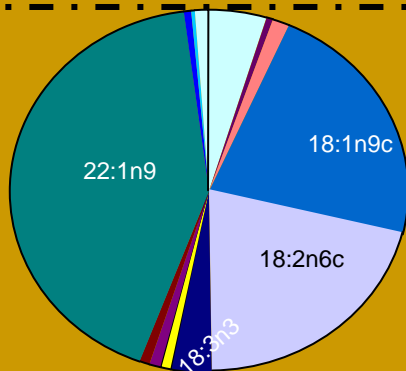
*B. oleracea gemmifera*  
(Brussels Sprout)



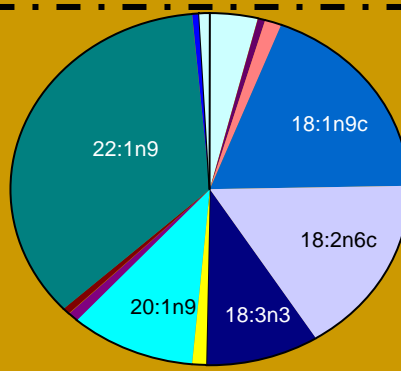
*B. oleracea italica*  
(Inbred Broccoli)



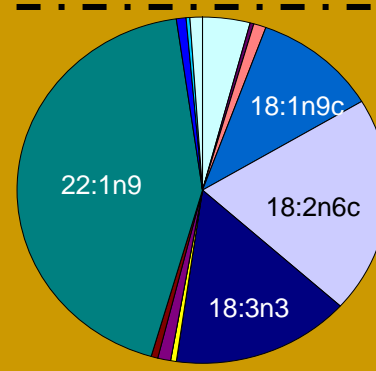
*B. oleracea italica*  
(Doubled haploid Broccoli)



*B. rapa olifera*



*B. rapa* Broccoletto Gp



(*Pekinensis*)

**% FA mol  
variation  
between  
*Brassica*  
species and  
accessions**



# Desaturase

1		670	680	690	700	710	720	730
te ▶	Consensus	TCTACATCTCTAAA	-----	CA--G--	ATGTTATAT	-----	A-----	TGCAT
002.ab1 (50>784)	→	TCTACATCTCTAAA	-----	CA--G--	ATGTTATAT	-----	A-----	TGCAT
007.ab1 (49>783)	→	TCTACATCTCTAAA	-----	CA--G--	ATGTTATAT	-----	A-----	TGCAT
005.ab1 (45>779)	→	TCTACATCTCTAAA	-----	CA--G--	ATGTTATAT	-----	A-----	TGCAT
016.ab1 (65>798)	→	TCTACATCTCTAAA	-----	CA--G--	ATGTTATAT	-----	A-----	TGCAT
004.ab1 (50>784)	→	TCTACATCTCTAAA	-----	CA--G--	ATGTTATAT	-----	A-----	TGCAT
016.ab1 (49>869)	→	TCTACATCTCTAAA	-----	CA--G--	ATGTTATAT	-----	A-----	TGCAT
004.ab1 (52>1013)	→	TCTACATCTCTAAA	-----	CA--G--	ATGTTATAT	-----	A-----	TGCAT
012.ab1 (49>1013)	→	TCTACATCTCTAAA	-----	CA--G--	ATGTTATAT	-----	A-----	TGCAT
001.ab1 (45>1009)	→	TCTACATCTCTAAA	-----	CA--G--	ATGTTATAT	-----	A-----	TGCAT
011.ab1 (51>813)	→	TC-ACATCTCTAAA	TAGATGTTATATAAGCA	-GTGATGTTATAT	ATGCATGA	-----	-----	TGCAT
006.ab1 (46>810)	→	TC-ACATCTCTAAA	TAGATGTTATATAAGCA	-GTGATGTTATAT	ATGCATGA	-----	-----	TGCAT
005.ab1 (50>992)	→	TC-ACATCTCTAAA	-----	TA--G--	ATGTTATAT	-----	AAGCAGTGATGT	TGCAT
012.ab1 (89>816)	→	TC-ACATCTCTAAA	TAGATGTTATATAAGCA	-GTGATGTTATAT	ATGCATGA	-----	-----	TGCAT
016.ab1 (50>782)	→	TCTACATCTCTAAA	-----	CA--G--	ATGTTATAT	-----	A-----	TGCAT
016.ab1 (91>790)	→	TCTACATCTCTAAA	-----	CA--G--	ATGTTATAT	-----	A-----	TGCAT
007.ab1 (85>783)	→	TCTACATCTCTAAA	-----	CA--G--	ATGTTATAT	-----	A-----	TGCAT
008.ab1 (82>781)	→	TCTACATCTCTAAA	-----	CA--G--	ATGTTATAT	-----	A-----	TGCAT
015.ab1 (87>786)	→	TCTACATCTCTAAA	-----	CA--G--	ATGTTATAT	-----	A-----	TGCAT



# Riding the wave of brassica biodiversity

## Improving health benefits

## Producing environmentally friendly oils



Healthy Roots

THE WORSHIPFUL COMPAN... GARDENERS AN...

in the garden