

Rose Fragrance Research

at China Agricultural University in Beijing, China



College of Horticulture

- Pomology
- Vegetable science
- Ornamental horticulture

Plant physiology
Plant breeding and genetics
Postharvest biology



QS Ranking 2024

Another College

- Food Science
- Veterinarian and Animal science
- Land Science
- Pesticide science and technology
- ETC.

Benefit and Future



- 1 Gene Discovery**
mechanism of gene expression and gene profiling
- 2 Computer analysis**
Using Rose genome combine with gene sequence
- 3 Gene editing**
Using CRISPR technique for knock-out gene expression and try to increase the level of fragrance gene expression.

Thank you



CHN-THA research collab-

Transmit production technologies

- Smart and intelligence Greenhouse
- AI and robotic for greenhouse

Problem issue

- Heat tolerance
- Pest resistance
- High quality production
- Eco-friendly production
- New varieties



Situation of flower production in Thailand

Imported >>> Produced
Important exported crop >>> Orchid (Dendrobium)
Lacking of production technology and research study

Rose Fragrance Research

at China Agricultural University
in Beijing, China





College of Horticulture

- Pomology
- Vegetable science
- Ornamental horticulture

Plant physiology
Plant breeding and genetics
Postharvest biology



University Ranking

5	Harvard University Cambridge, United States	847	
6	Purdue University West Lafayette, United States	842	
7	University of Oxford Oxford, United Kingdom	834	
8	Ghent University Ghent, Belgium	829	
+9	China Agricultural University Beijing, China (Mainland)	823	
+10	University of Cambridge Cambridge, United Kingdom	823	

QS Ranking 2024

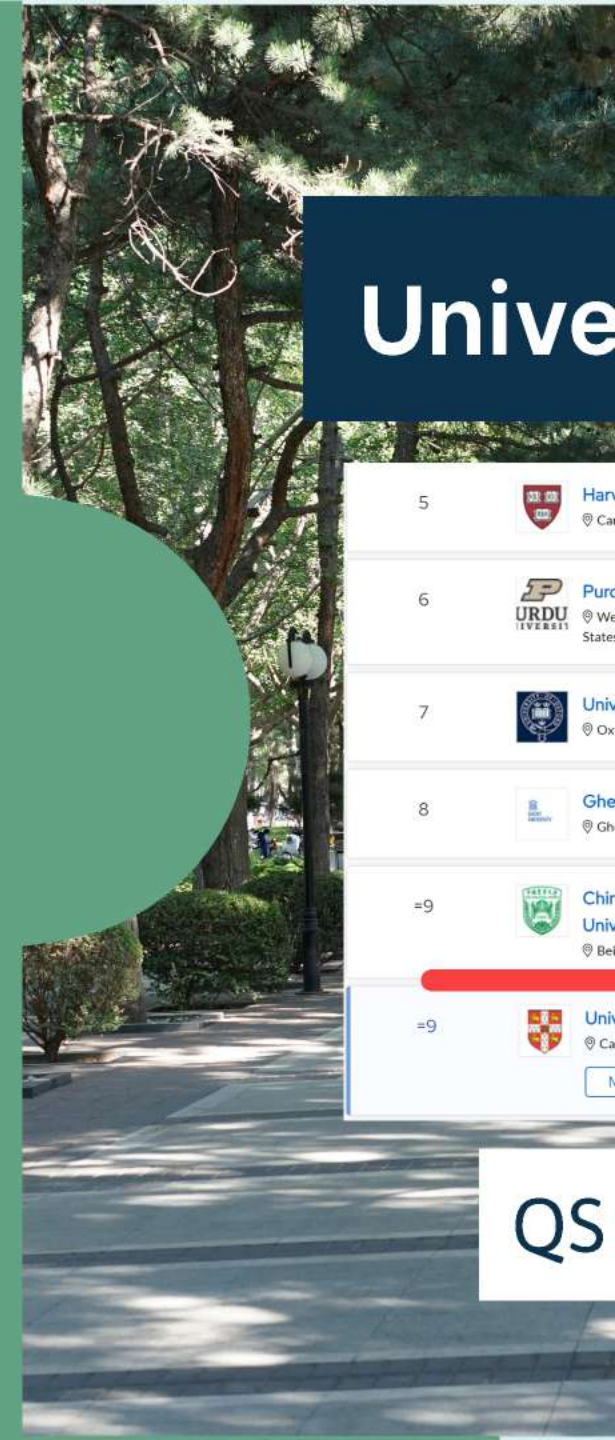
Another College

- Food Science
- Veterinarian and Animal science
- Land Science
- Pesticide science and technology
- ETC.

College of Horticulture

- Pomology
- Vegetable science
- Ornamental horticulture

Plant physiology
Plant breeding and genetics
Postharvest biology



Unive

5		Harv @ Ca
6		Purc @ We State
7		Univ @ Ox
8		Ghe @ Gh
=9		Chin Univ @ Bet
=9		Univ @ Ca

QS













iculture

e
iculture

genetics

y

University Ranking

5	 Harvard University Cambridge, United States	84.7	 Shortlist
6	 Purdue University West Lafayette, United States	84.2	 Shortlist
7	 University of Oxford Oxford, United Kingdom	83.4	 Shortlist
8	 Ghent University Ghent, Belgium	82.9	 Shortlist
=9	 China Agricultural University Beijing, China (Mainland)	82.3	 Shortlist
=9	 University of Cambridge Cambridge, United Kingdom	82.3	 Shortlist

[More Details](#)

QS Ranking 2024





Another College

- Food Science
- Veterinarian and Animal science
- Land Science
- Pesticide science and technology
- ETC.



Benefit and Future



Zhou Lijun et al. (2020)

Representative materials of 7 fragrance types of roses.

No.	Fragrance types of roses	Representative materials	Abbreviation
1	Fragrance of damask classic	<i>Rosa rugosa</i>	RR
2	Fragrance of damask modern	<i>R.</i> 'Crimson Glory'	RCG
3	Fragrance of tea	<i>R.</i> 'Lotus in Sunshine'	RLS
4	Fragrance of fruity	<i>R.</i> 'Double Delight'	RDD
5	Fragrance of blue	<i>R.</i> 'Exquisite Jade'	REJ
6	Fragrance of spicy	<i>R.</i> 'Buddha's Portrait'	RBP
7	Fragrance of myrrh/anise	<i>R. banksiae</i> var <i>banksiae</i>	RBB



1

Gene Discovery

mechanism of gene expression
and gene profiling

2

Computer analysis

Using Rose genome combine
with gene sequence

3 Gene editing

Using CRISPR technique for knock-out gene expression and try to increase the level of fragrance gene expression.



Situation of flower production in Thailand

Imported >>> Produced

Important exported crop >>>
Orchid (Dendrobium)

Lacking of production
technology and research
study

Problem issue

Heat tolerance

Pest resistance

High quality production

Eco-friendly production

New varieties





CHN-THA research collab-

Transmit production technologies

- Smart and intelligence Greenhouse**
- AI and robotic for greenhouse**

Thank you



Rose Fragrance Research

at China Agricultural University in Beijing, China



College of Horticulture

- Pomology
- Vegetable science
- Ornamental horticulture

Plant physiology
Plant breeding and genetics
Postharvest biology



QS Ranking 2024

Another College

- Food Science
- Veterinarian and Animal science
- Land Science
- Pesticide science and technology
- ETC.

Benefit and Future



1 Gene Discovery

mechanism of gene expression and gene profiling

2 Computer analysis

Using Rose genome combine with gene sequence

3 Gene editing

Using CRISPR technique for knock-out gene expression and try to increase the level of fragrance gene expression.

Thank you



CHN-THA research collab-

Transmit production technologies

- Smart and intelligence Greenhouse
- AI and robotic for greenhouse

Problem issue

- Heat tolerance
- Pest resistance
- High quality production
- Eco-friendly production
- New varieties



Situation of flower production in Thailand

Imported >>> Produced
Important exported crop >>> Orchid (Dendrobium)
Lacking of production technology and research study