

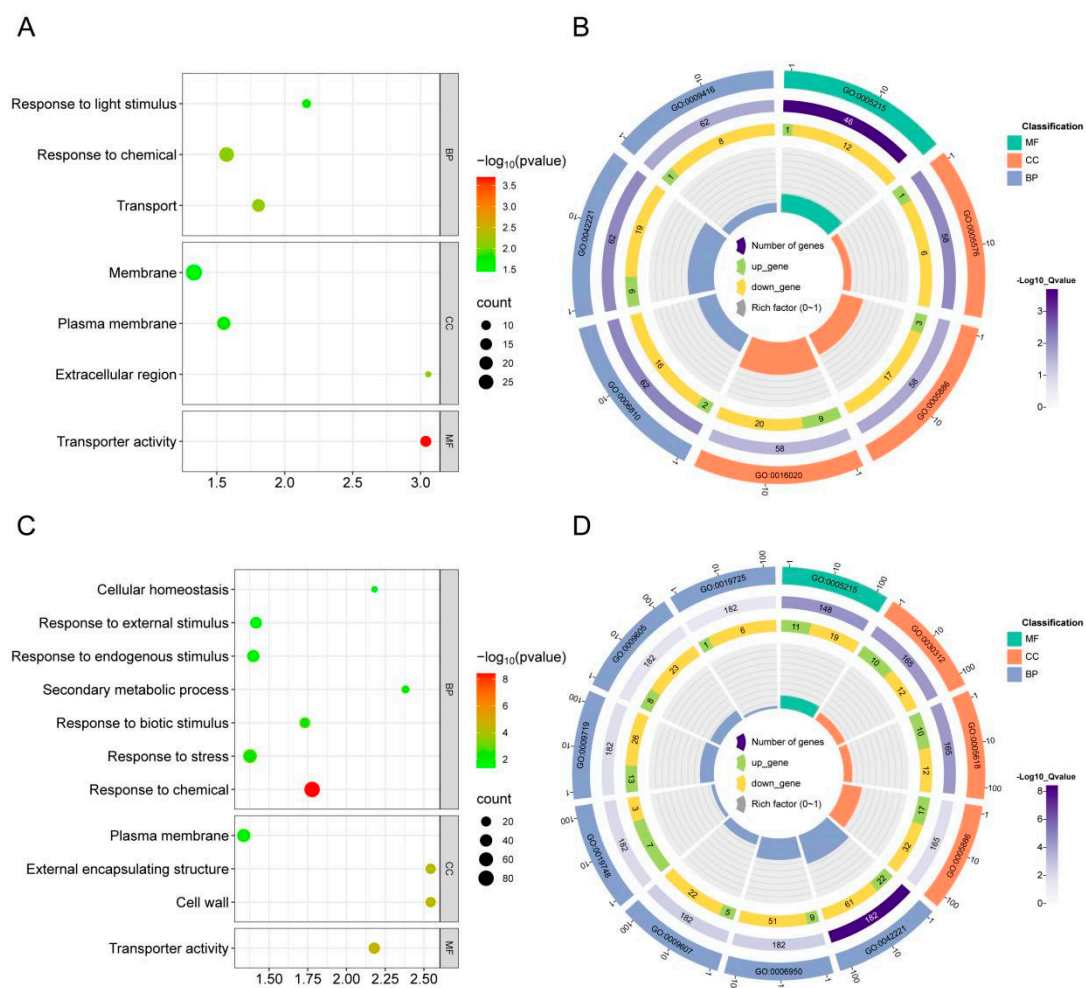
## Supplementary Tables and Figures

**Table S1 The components and their concentrations in different nitrogen levels**

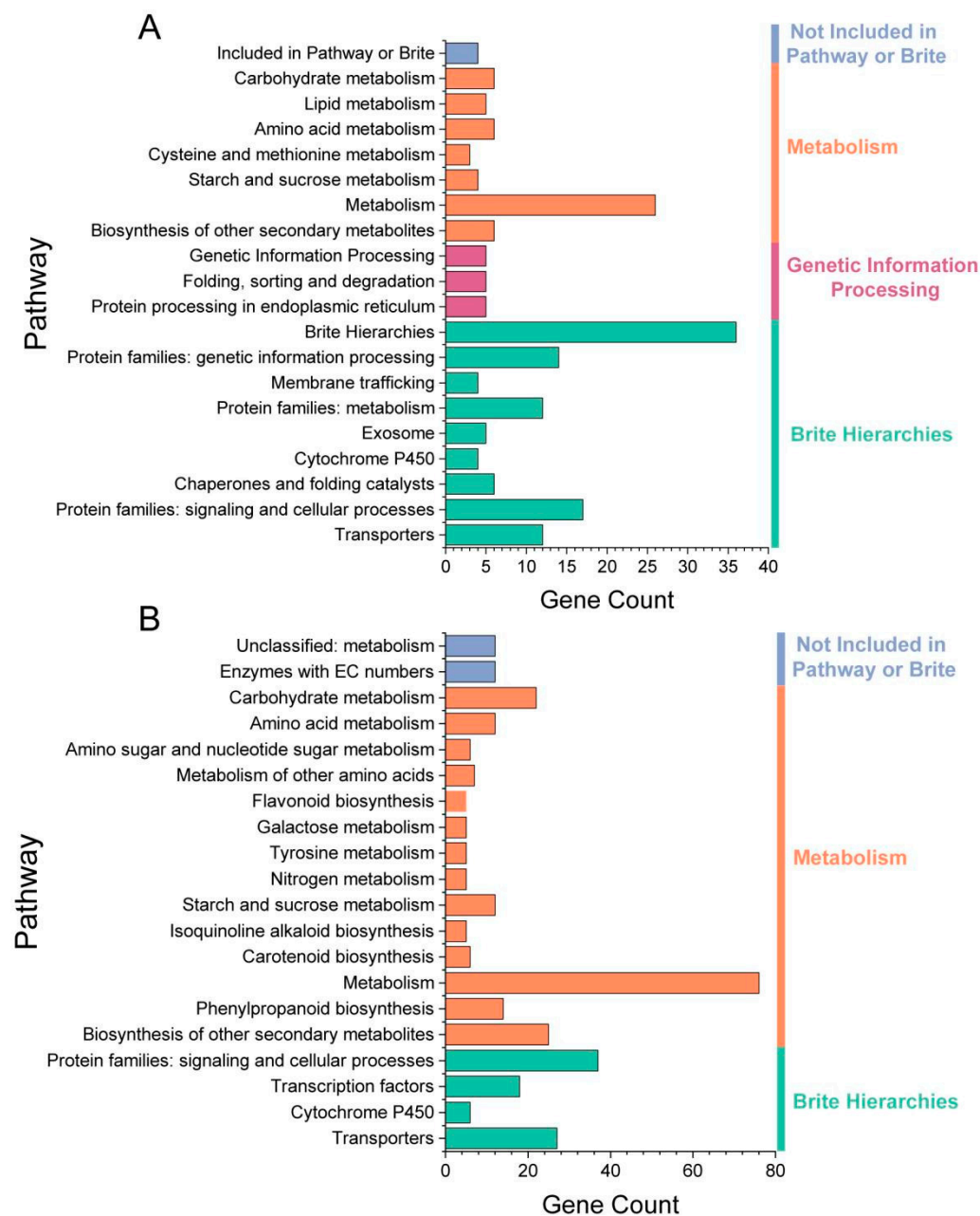
No.	Chemical compound	Mother liquor		NN	NF	NR	LN
		mmol/L	g/L				
1	KNO <sub>3</sub>	1000	101.1	6	-	4.2	1.2
2	Ca(NO <sub>3</sub> ) <sub>2</sub> ·4H <sub>2</sub> O	1000	236.16	4	-	2.8	0.8
3	NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub>	1000	115.08	2	-	1.4	0.4
4	MgSO <sub>4</sub> ·7H <sub>2</sub> O	1000	246.49	1	1	1	1
5	K <sub>2</sub> HPO <sub>4</sub> ·3H <sub>2</sub> O	1000	228.22	-	2	0.6	1.6
6	CaCl <sub>2</sub>	1000	110.99	-	4	1.2	3.2
7	K <sub>2</sub> SO <sub>4</sub>	1000	174.25	-	2	0.6	1.6
8	KCl	1000	74.5	4	4	4	4
9	H <sub>3</sub> BO <sub>3</sub>	12.5	0.773	2	2	2	2
10	MnSO <sub>4</sub> ·H <sub>2</sub> O	1	0.169	2	2	2	2
11	ZnSO <sub>4</sub> ·7H <sub>2</sub> O	1	0.288	2	2	2	2
12	CuSO <sub>4</sub> ·5H <sub>2</sub> O	0.25	0.062	2	2	2	2
13	H <sub>2</sub> MoO <sub>4</sub>	0.25	0.04	2	2	2	2
14	EDTA-Fe	0.25	30	1	1	1	1

**Table S2 The primers of candidate and reference genes for qRT-PCR analysis**

NO.	Gene name	Forward primer	Reverse primer
1	Actin	CTTAGCACTTTCCAGCAGATG	ACACCAAAAACTACCCCGAC
2	AMT3.1	AAGTGGGCGGTGAACCTCG	GCAGCAGCTTGTCTCCGA
3	IPD3	GGAGATGGAGGGGAGGGG	GGTCGGTGCAGAACTCCC
4	NRT2.3a	GCAGAAGGCCACGGAGTT	CGGAGCTGCAAAGGTGGA
5	NRT	ACAAGACTTGCCGGACGG	CGTCGGCGATGACTACCC
6	OPT	GGTGTTCGGAACTGGGG	ATGGACACCCCGCAGTTG
7	VIT	GGATCAGGATCGCGGTGG	GCCATCCACCCTCCAACC
8	D27	GGCACCGAGGGACAAGAC	TGCTGCCGCAACTAAGCT
9	GRAM	TCGTGCCAGGCGAAAAGT	ATCGATCGCTGCGGAAGG
10	C7A10.890	GAAGCTCAAAGGAGGCATTG	GCCAGTGCAAGCTATGACAA
11	AFP3a	AGGAAAGGATAGGCTACCGA	CCTGGAAGTCAGGCACACAGGACAG
12	AGAL2	GGAAGGTGGCTGTGGTCC	GACGAGAGGCCGATGTCTG
13	GRAM	TCGTGCCAGGCGAAAAGT	GGATCGATCGCTGCGGAA
14	LBD37a	GGCACACGCTACCGTCTT	CGCCTCAAACAGCAGGGA
15	XTH7	GGTCTGAACCGTGTATGGCT	GGTCCTCATCGATCCTGAAA
16	ERF5a	AGTACGCAGGAGGAGGCA	AGGCTTCTGCGGGCATT
17	PHL6	GAGCACTGCAATTGCGCA	ACGCAATTCCAGTGGGGG
18	SNP2	GTGTGGAAGCCGCCTCTT	CCTCAAAGCTGGCCGTGA
19	WRKY43	GCGTCCCCAACCTCTTCC	GCTGCATCAGAGCAACGC



**Figure S1.** GO enrichment analysis of differentially expressed genes was obtained (A-B) NN vs LN; (C-D) NN vs NF.



**Figure S2.** KEGG enrichment analysis of differentially expressed genes was obtained (A) NN vs LN; (B) NN vs NF.