

Supplementary Materials

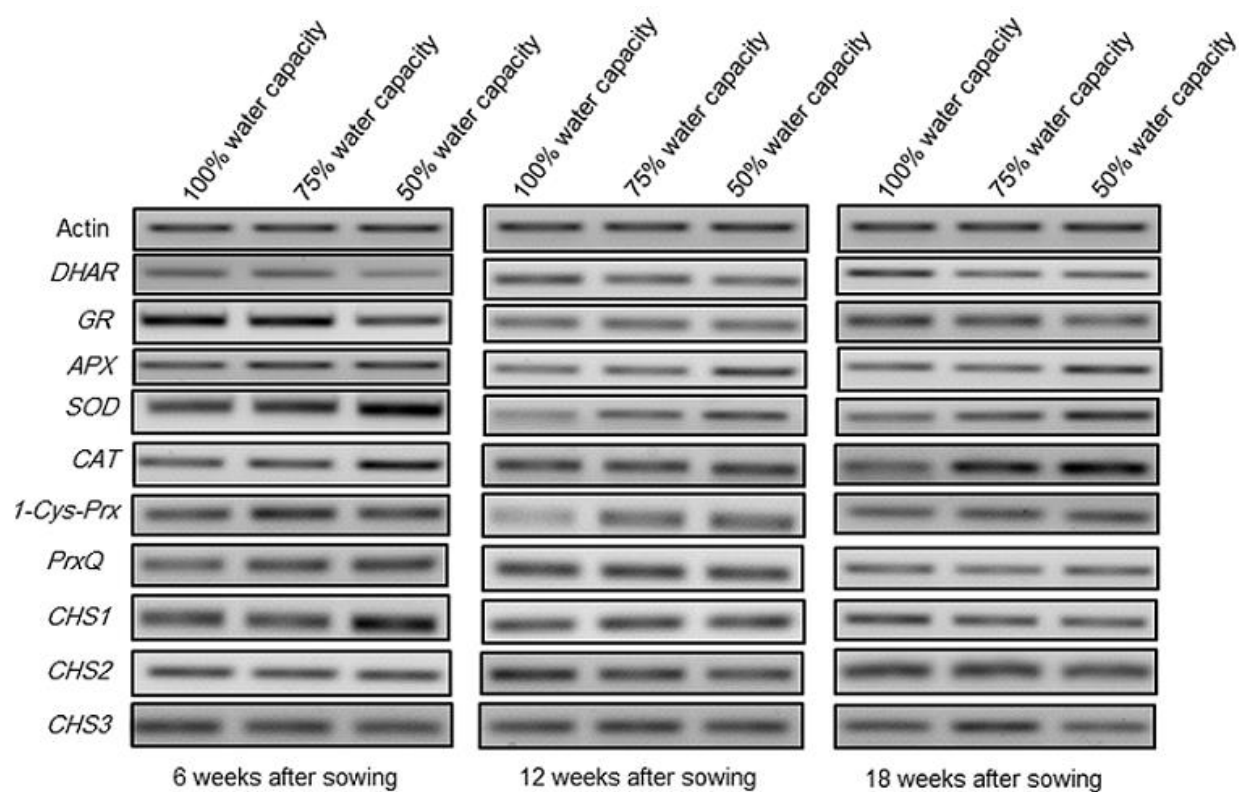


Figure S1. Semi-quantitative RT-PCR of antioxidant enzymes genes *DAHR*, *GR*, *APX*, *SOD*, and *CAT*, and expression of *1-Cys-Prx* and *PrxQ*, additionally, expression of chalcone synthase genes (*CHS1*, *CHS2*, and *CHS3*) from cDNA of milk thistle (*Silybum marianum* L.) leaves treatments with 100% water capacity, 75% water capacity and 50% water capacity at different time points. Samples standardized to actin. RT-PCR product were separated on agarose gels (1.5%) and visualized by ethidium bromide stain. *DHAR* dehydroascorbate reductase; *SOD* superoxide dismutase; *CAT* catalase; *APX* ascorbate peroxidase; *GR* glutathione reductase; *1-Cys-Prx* 1-cysteine peroxiredoxin; *PrxQ* peroxiredoxin Q.

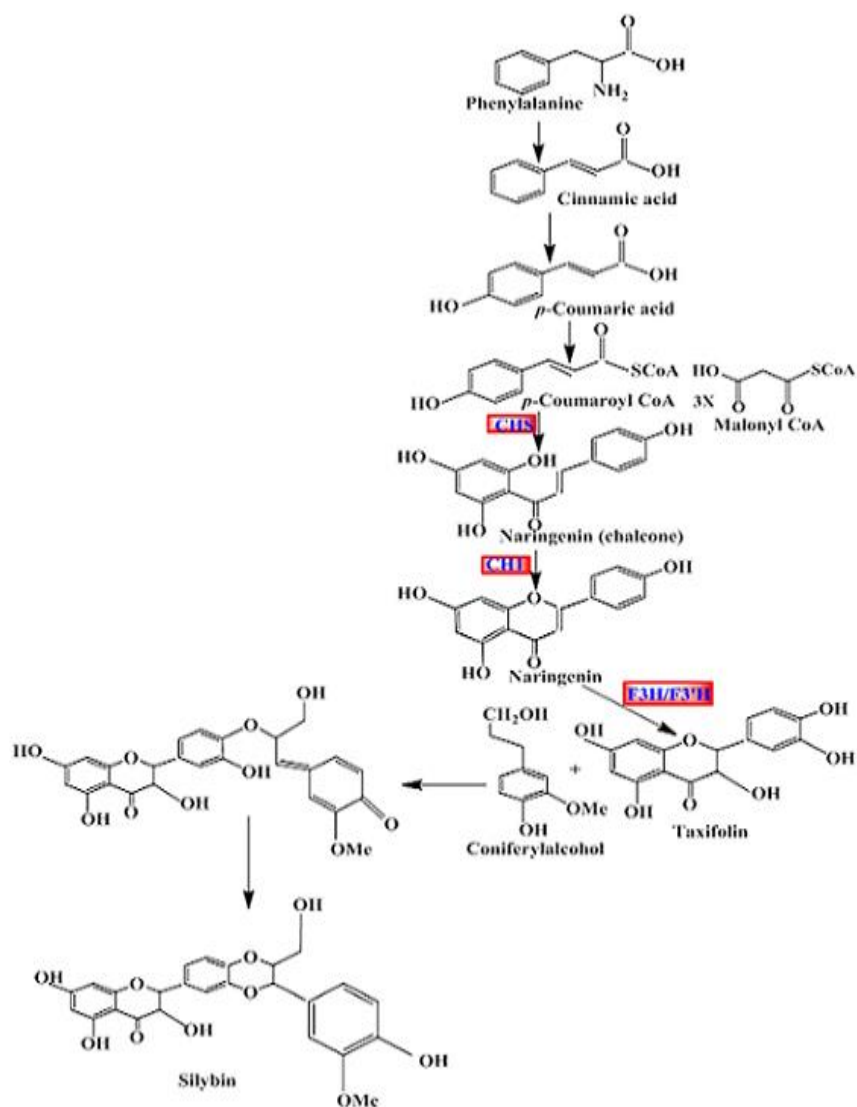


Figure S2. Schematic presentation of flavonolignan biosynthetic pathway. CHS, chalcone synthase; CHI, chalcone isomerase; F3H, flavanone 3-hydroxylase; F3'H, flavonol 3'-hydroxylase). The end product of the pathway is silybin.

Table S1. Primers sequences for semi quantitative and quantitative RT-PCR of the drought-related genes in milk thistle (*Silybum marianum* L.).

| Gene name | Reference Sequence | 5' - 3' primer sequence | T _A |
|------------------|--------------------|--|----------------|
| <i>Actin</i> | AB181991 | CTCTGACAATTTCCCGCTCA ACACGCTTCCTCATGCTATCC | 58 °C |
| <i>CHS1</i> | JN182805.1 | GTGTATACCAAGCCGATTATCCA GTGTGAATACATACACATGCGCT | 58 °C |
| <i>CHS2</i> | JN182806.1 | GTGCCTGCGTGTTGTTTCATC CTGTGAAGGACCACCGTCTC | 58 °C |
| <i>CHS3</i> | JN182807.1 | GGGAGGAAGGGCTCACATTT ATGCCCAATGGAAAAACCGC | 58 °C |
| <i>DHAR</i> | AY074784 | TCAAGAACGTGACAAAGGTGG TAACGGTGGTGATGGCAAAT | 58 °C |
| <i>SOD</i> | MG893090.1 | TTCGCCATGCTGGTGATCTT CATGGACAACACTACGGCCCTT | 58 °C |
| <i>CAT</i> | GU984379 | GGCTGCTTGAAGTTGTTCTCCT CTGCTAGTACCTCCTGATCCGTT | 58 °C |
| <i>APX</i> | KU747079.1 | TGGCCTGCTCTTCTCTAGT CATGCCACGCTAATCGAAGC | 58 °C |
| <i>GR</i> | KX828561.1 | CAACGCGCTTTGGTAACTCC GGGCCCTAATGAAGTGGAGG | 58 °C |
| <i>l-Cys-Prx</i> | AY304482 | AATGGACCAAGGACATCGAG GACGGGTACAGGAAGCTCAG | 58 °C |
| <i>PrxQ</i> | AY789643 | ACTTCACGCTCAAGGACCAG CCGCCTTCTTGTACTTCTCG | 58 °C |