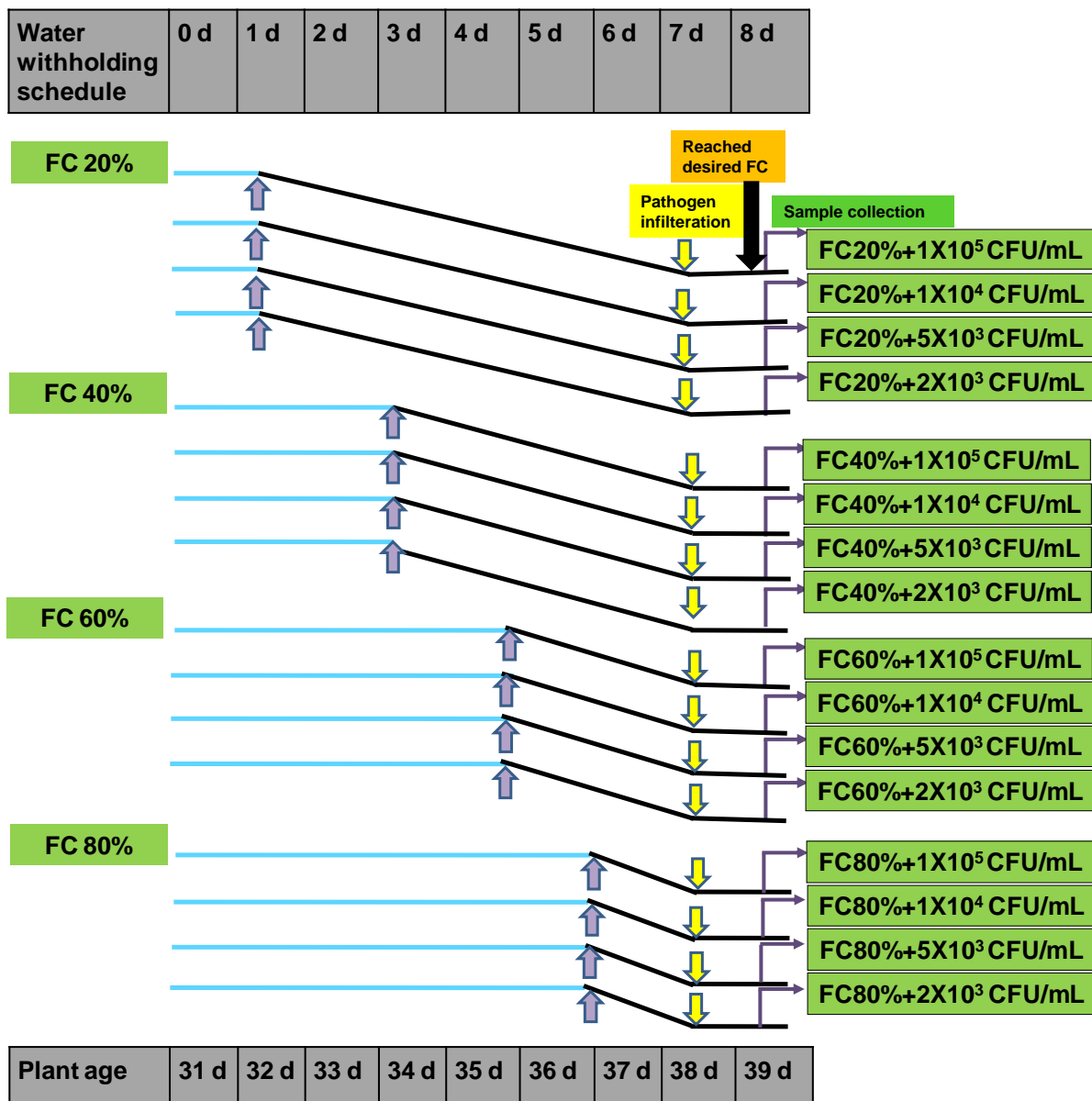


Combined drought and bacterial pathogen stress imposition protocol in Arabidopsis

Here is the more accurate and efficient method which can be followed to impose combined drought and bacterial pathogen stress in Arabidopsis.

Protocol:



Based on the standardized period for drought stress, a protocol was established to impose drought stress in *Arabidopsis thaliana* in pots, such that the effective period for reaching different field capacity (FC). Water was withdrawn from plants at day 1



Stress Combination and their Interactions in Plants (SCIP) Database

Website link- <http://www.nipgr.ac.in/scipdb.php>

(i.e., 32-d-old) and these plants were tagged as FC 20%. Similarly water withdrawal was initiated at 3rd, 5th and 6th day for 40%, 60% and 80% FC respectively. Since the start of the experiment day 7 was marked as 0 day for drought stress realization by plants. Depending on the parameter assayed, samples were collected from 38 d, 39 d, 40 d and 41 d as 0, 24, 48 and 72 hour post treatment. Once pots reach destined FC, they were maintained at the respective FC, by replenishing the lost amount of water, till the desired duration. On the day when plants achieved their respective FCs, the abaxial surface of the leaves (drought stressed) were syringe infiltrated with *P. syringae* DC3000 with different concentration as shown in figure. The outline thus overlays the two stresses together. Samples were collected at 0, 24, 48 and 72 hour post combined stress treatment and analyzed for stress response. Upward arrows marks the time point to withhold water; downward arrows show the time of bacterial inoculation. Plants at FC 100% were considered as control. Blue line refers to the plants maintained at 100% FC. Dropping lines refers to the gradual water loss when plants were deprived of irrigation.

Reference:

Gupta A, Dixit SK, Senthil-Kumar M. Drought stress predominantly endures *Arabidopsis thaliana* to *Pseudomonas syringae* infection. *Frontiers in plant science*. 2016 Jun 7;7:808.