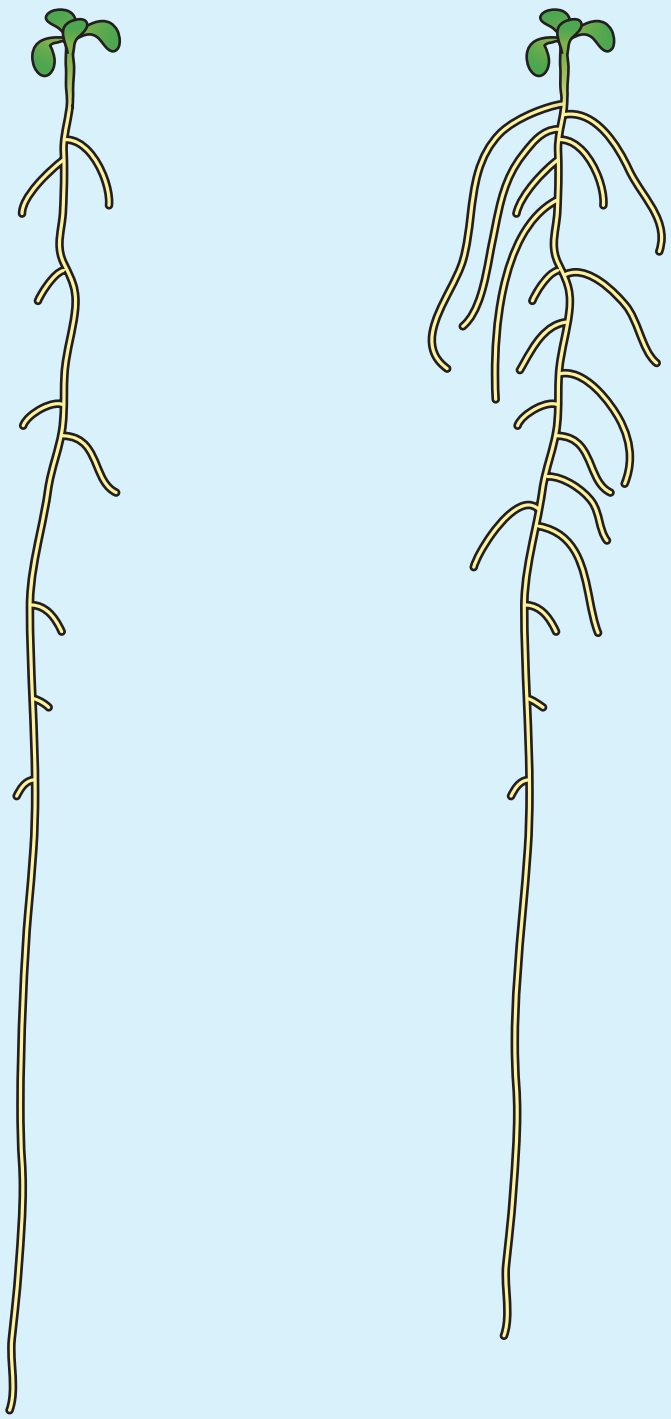
N supply

Excess

Optimal

short

long

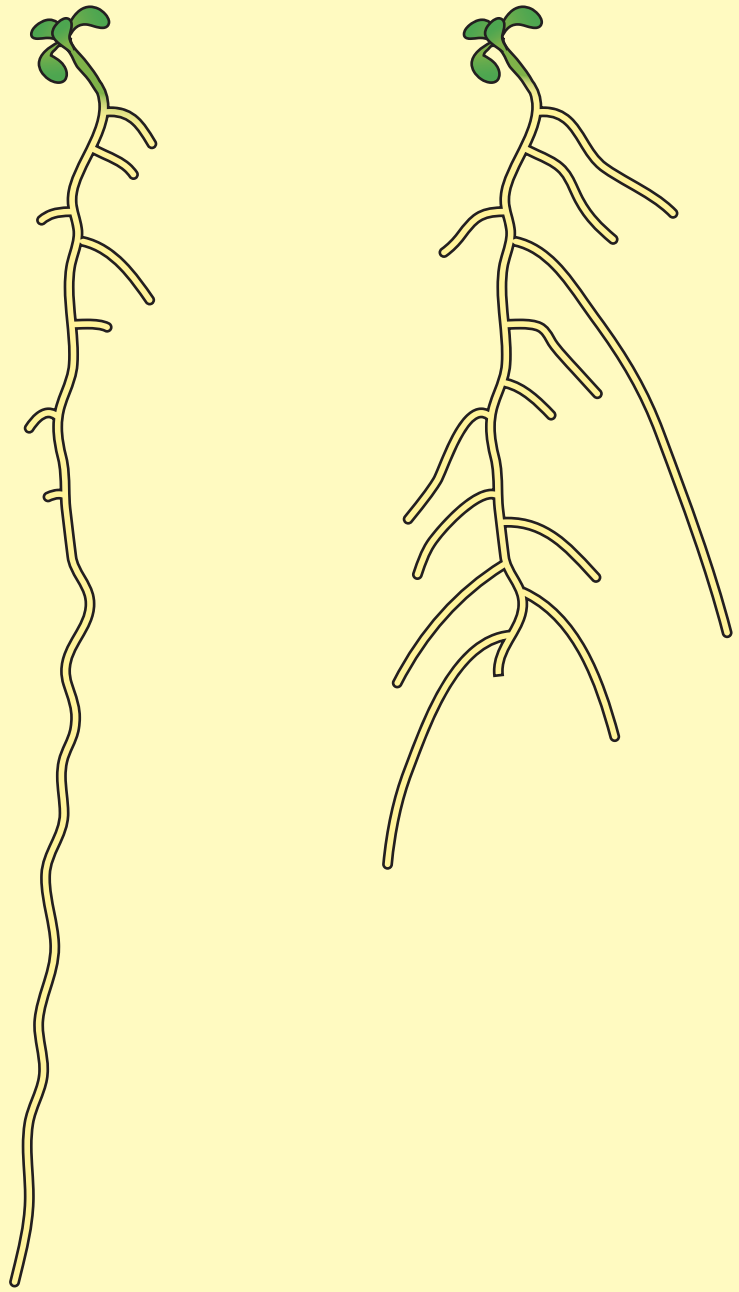


LR length

Primary Root

normal

cut

short

long