Onion phenological phases and their nutrition requirements

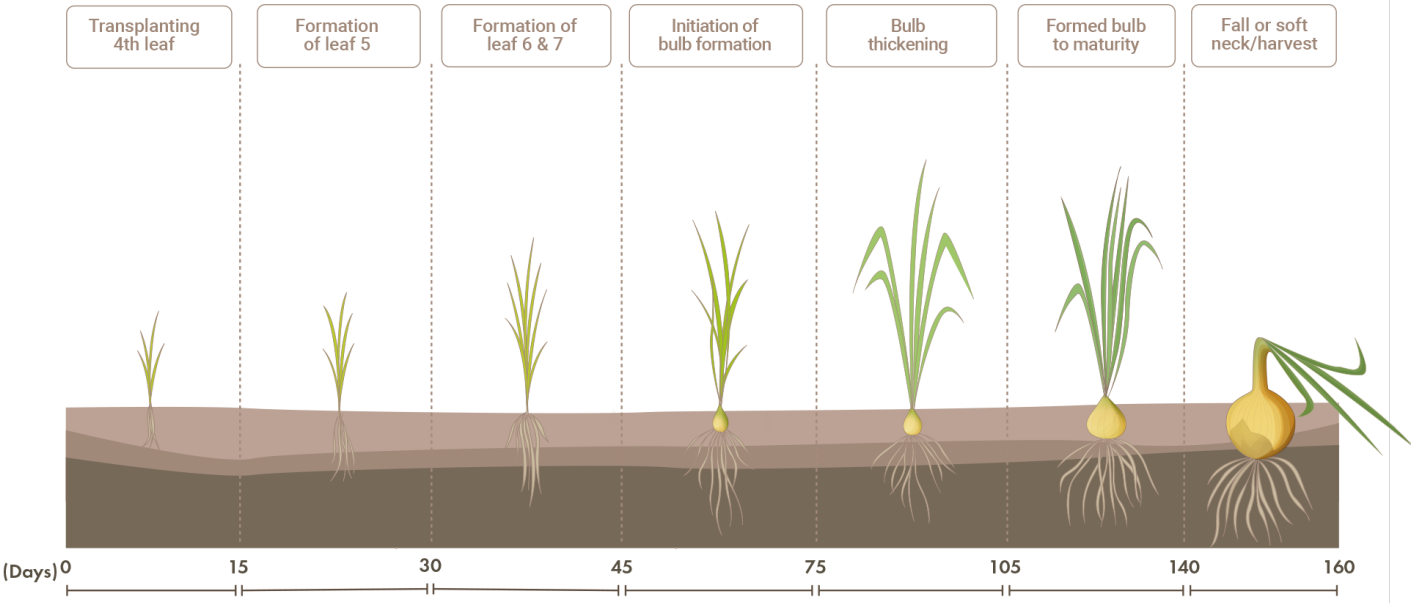
The following plan is suggested for realizing the said requirements, for field onions with a life span of 120 days, and an expected yield of 45 MT/ha, by fertigation via drip irrigation.

Potassium nitrate should be used as the primary source of potassium, and a partial source of nitrogen. The balance of nitrogen should be sourced from calcium nitrate, and ammonium nitrate, as per the following phase-specific rates. Trace nutrients should be applied as per soil-, and leaf analysis.

This plan presents the mineral nutrition scheme, in terms of the mass proportions between all macro-, and secondary- nutrients.

Growth stage (DAT)	$N:P_2O_5:K_2O:CaO:MgO:S$				Reasoning
0 - 20	N K_2O MgO	1 1 0,07	P_2O_5 CaO S	2 0 0	Relatively high N, P, K for establishing root system and building shoot biomass
21 - 45	N K_2O MgO	1 0,4 0,1	P_2O_5 CaO S	0,4 0,34 0	Lower P beacuse root system is already established; some reduction in K; continuous demand for Ca and Mg for vegetative organs
46 - 80	N K_2O MgO	1 1,22 0,07	P_2O_5 CaO S	0,36 1,34 0,1	Stable requirement for P and Mg; High K requirement for bulb growth; increasing demand for Ca and S, for developing bulb
81 - 100	N K_2O MgO	1 5,7 0,03	P_2O_5 CaO S	1,71 0 3,43	Markedly high requirement for K, wich is required for bulking up of the bulbs, and for P as a preparation for future seeds production

ONION


Transplanting 4th leaf
Formation of leaf 5
Formation of leaf 6 & 7
Initiation of bulb formation
Bulb thickening
Formed bulb to maturity
Fall or soft neck/harvest
(Days)
0
15
30
45
75
105
140
160