How does the crop model work (Nitrogen limitation)?

1. Calculate steady state soil carbon accounting for impacts of soil water and nitrogen.
2. Calculate soil nitrogen supply for this month (Sheet A2a, column AE).
3. This gives soil nitrate and ammonium at the start of the next month (Sheet A2, columns E and Q).
4. Use soil nitrate and ammonium at the start of the month to calculate plant available N from the soil (Sheet B1c, column K).
5. Add fertiliser supply (Sheet B1c, column L).
6. Calculate the proportion of the optimum yield achieved (Sheet B1c, column N).
7. Obtain the nitrogen demand without other losses needed to achieve that yield (Sheet A2b, column G)
8. Adjust the nitrogen demand to account for other losses (eg leaching and denitrification) (Sheet A2b, column H).
9. Translate the nitrogen demand into a revised estimate of the proportion of the optimum yield achieved (Sheet A2b, column I).
10. Use this to calculate the N limited yield for this month (Sheet B1c, column P).
11. Compare forward run value in 10. to steady state run value to give Production compared to steady state (Sheet B1c, column Q).
12. Use this value to multiply the plant inputs for this month and feed plant inputs into the carbon model.