The authors present an excellent study on the sensitivity of CRNS. They present some analytical equations to help resolve the sensitivity of CRNS footprints and transfer functions to convert neutrons into soil moisture and vice versa. The analytical equations are validated with numerical models representing neutron transport theory. The study will be very useful for providing forward operators with low numerical costs for integrating CRNS data into hydrological or crop models for future applications. The study presents strategies for needed future work, particularly in field applications in agricultural contexts with variable irrigation. CRNS has the opportunity to be a useful technology for integration into precision agriculture. The article is well written and ready for publication following some minor corrections.

L184: Please explain the terms house gas and tree gas and why those are used. A bit unclear upon first read.