We sincerely appreciate the reviewer's comments and suggestions. The reviewer's insightful feedback has been very valuable for improving the clarity and presentation of our work. We have carefully considered each comment and suggestion, and have made corresponding revisions to address any critical issue.

1. **In section 2.1, the authors stated, "The mean speed of ascent and descent flight operations was approximately 5 m s-1". I am not sure if this is correct because 5 m/s * 300s = 1500 m. but your profiles only go to ~150 m. Perhaps you meant 0.5 m/s?**

   We thank the reviewer for bringing the ascent rate typo found in Section 2.1 to our attention. The mean speed of ascent and descent was approximately 0.5 m/s. We have modified the sentence in line 104 as follows: "The mean speed of ascent and descent flight operations was approximately 0.5 m s-1"

2. **In figure 10, the wind direction shown on the figure is from north to south, but in the caption, the authors stated the dairy farm is upwind of the observation site. Please address this contradiction.**

   In Figure 10 the wind direction was measured to be from the south while ascending up to approximately 120 m above ground level (blue signal), changing only after the aircraft began to descend (red signal). For this reason, the ascent measurements of wind velocity and air composition were used to estimate an emission flux. During the ascent time the drone was in fact located down wind of the dairy farm shown in Figure 11.

3. **Why only one of the profiles was analyzed using the dispersion model? It would be nice if the authors can report the modeled results of all four profiles, showing how variable such emission can be, and what are the major sources of uncertainty.**

   We agree with the reviewer that more analysis is needed determine the variability of emission sources. However, we were unable to determine reliable background measurements during flights 2, 3, and 4. Furthermore, flights 2 and 3 were conducted near dairy farm clusters whose management practices may be different, making it difficult to disentangle emission sources. For these reasons, our manuscript presents dispersion modeling results based on wind velocity and mole fraction measurements collected during the first flight.