

RESPONSE TO THE REVIEWER: 1

Comment 1:

Intro - please add some literature review for previous research that are similar to this area of research.

Response 1:

Thank you for your suggestion. We added more literature review that are similar to our study area of research in Introduction. It is as follows:

In addition, heat exchangers are widely utilized in various industrial applications such as power plants, heating, ventilation, and air conditioning systems [11–15]. In greenhouse crop cultivation, earth-air heat exchangers are one of the methods to provide the environmental control for crops [16–19]. The earth air heat exchangers use underground pipes under certain depth of the soil and carry indoor or outdoor air into the pipes. The temperature difference between the soil and air can be applied to substitute the heated or cooled air in the greenhouse. In this way, the earth air heat exchanger system provides air temperature control in the greenhouse. However, this system also supplies air temperature to the whole greenhouse area.

Comment 2:

For figure 1, please use easier to read fonts. You can use the same fonts as the body of the paragraph (Times). This applies to all figures.

Response 2:

Thank you for your valuable suggestion. We updated all the figures (Fig. 1 – Fig. 9) to be easier to read. We tried to use larger font size. However, some figures have limited space to use larger font size (ex. Fig. 5). We use larger font size for the figures as possible as we can.

Comment 3:

For the results in figure 5, is the room temperature measured? Because at the end of page 4, it is mentioned that the room temperature is 25°C, while in figure 5, the room temperature is 22 °C. Please avoid contradictions.

Response 3:

Thank you for your question. We measured the air temperature outside of the experimental system box. The outside air temperature was controlled by the air conditioner to be around 25 °C. We also measured the inside air temperature of the experimental system box a bit far from the heat exchanger. The measured inside air temperature was around 22 °C. In Fig. 5, the room air temperature is the inside air temperature of the experimental system box. However, it brings misleading for the reader. So, we defined air temperature individually and updated Fig 4 by including inside air temperature measurements to be clearer.