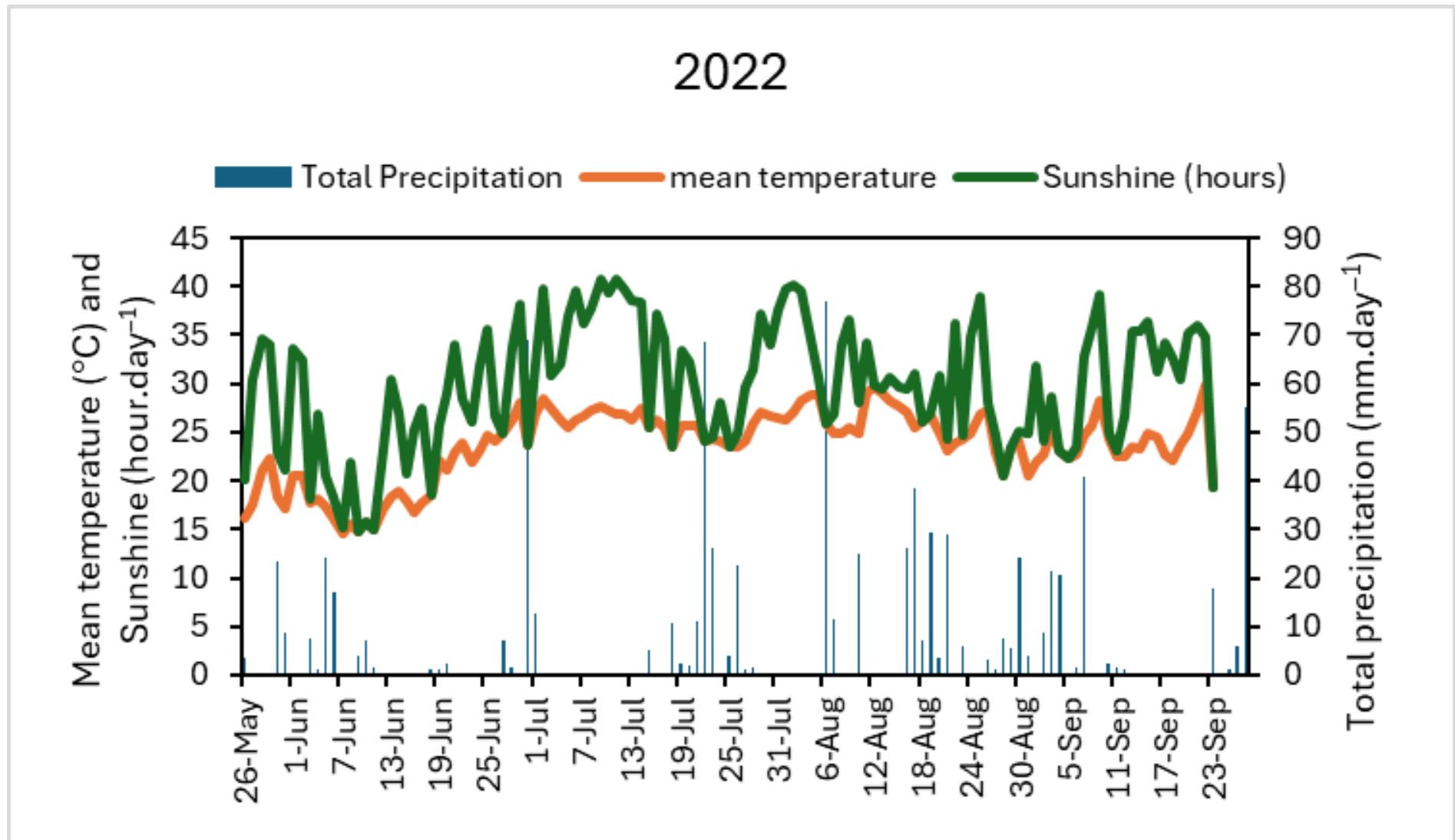
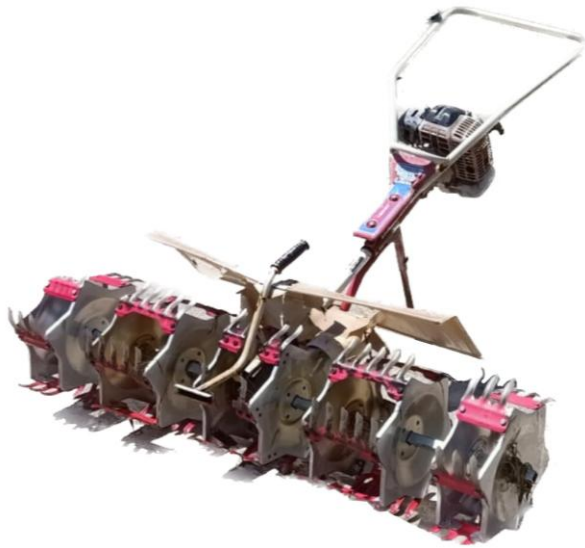




FigS1. Daily sunshine time and average air temperature during the experiment period of 2022 in Tsuruoka, Japan. Data was obtained from the Japan Meteorological Agency

Mechanical rotary weeder (M)

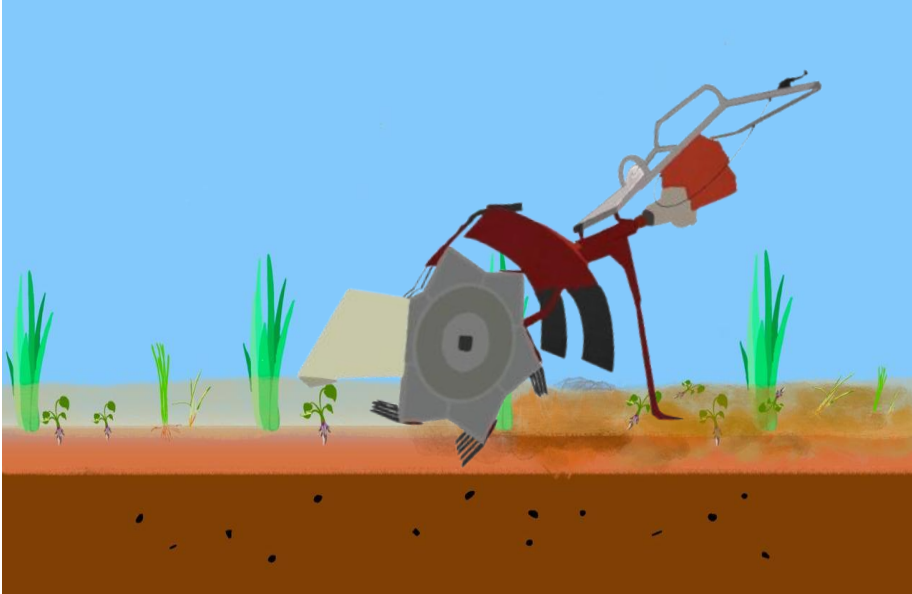


Chained-mechanical rotary weeder (M+C)

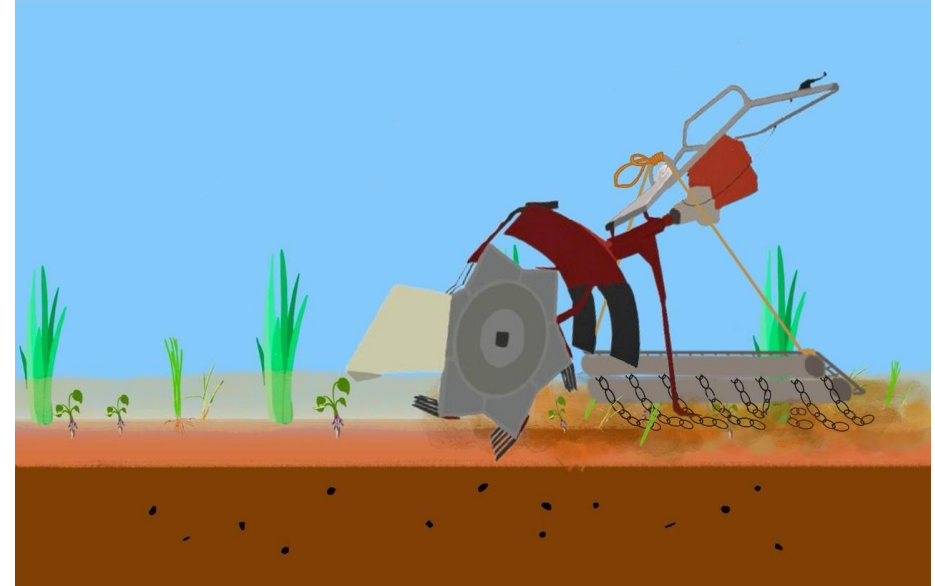


FigS2. The comparison of mechanical rotary weeder (M) and Chained-mechanical rotary weeder (MC) (Photograph)

Mechanical rotary weeder (M)



Chained-mechanical rotary weeder (M+C)



FigS3. The illustration of mechanical rotary weeder (M) and Chained-mechanical rotary weeder (MC) in removing weeds (animated)