

SUPPLEMENTARY DATA

Seed moisture content

Moisture contents of *Sinojackia xylocarpa* Hu drupe and seed were determined by weighting triplicate samples before and after drying at 113°C to constant weight. Moisture contents are expressed on a DW basis. The initial moisture content of the mature dry drupe, peel and seed was 22.46%, 10.08% and 7.67% respectively, by weighting triplicate samples before and drying at 113 °C to constant weight. Based on fresh weight, mature drupe contains approximately 1.74 capsules per gram. Water content in drupes and seeds was determined in the hydration experiment. Results of gravimetric method are shown in Fig. 1(points). The hydration experiment was carried out during 772 h. As it is seen in Fig. 2 the overall uptake of the water into seeds, determined in the hydration experiment, is well characterized by an exponent law. Results of theoretical fitting of the experimental points are shown in Figure 1 as full lines, the drupes and seeds are reaching saturation at 100 h of swelling. Time course analyses of water uptake during imbibition up to 772h show that this process is biphasic (Fig. 1). At stage I (imbibition) water enters the seed at a relatively high and an even rate. Imbibition is followed by phase II plateau with the drupe and seed moisture content approximately 37.14% and 67.82% water per FW.

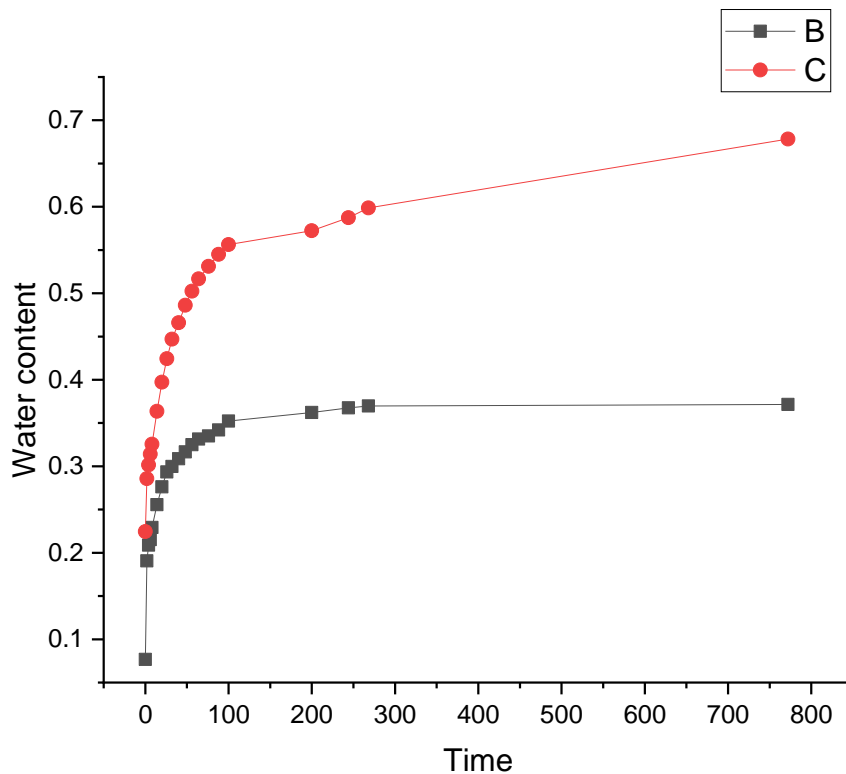


Fig.1. Time course analyses of water content during *Sinojackia xylocarpa* Hu drupe and seed imbibition. (B) drupe water content, (C) seed water content.

Experimental studies on the germination characteristics of the *Sinojackia xylocarpa* Hu embryos

In order to prove that the obstacle of *Sinojackia xylocarpa* seed germination was due to the mechanical restraint of the shell and endosperm, and the embryo has no dormancy habit, the germination of the isolated embryo was determined. After 24 hours, the whole ex vivo embryo expanded significantly, and the cotyledons were slightly greenish. After 48 hours, the cotyledons turned green and the radicle showed signs of germination. At 96 h, the radicle was obviously elongated, the cotyledons were opened, and the whole embryo was germinated, and the germination rate was 100%. The results of germination experiments of isolated embryos fully indicate that the embryos of the *Sinojackia xylocarpa* seed had no dormancy.

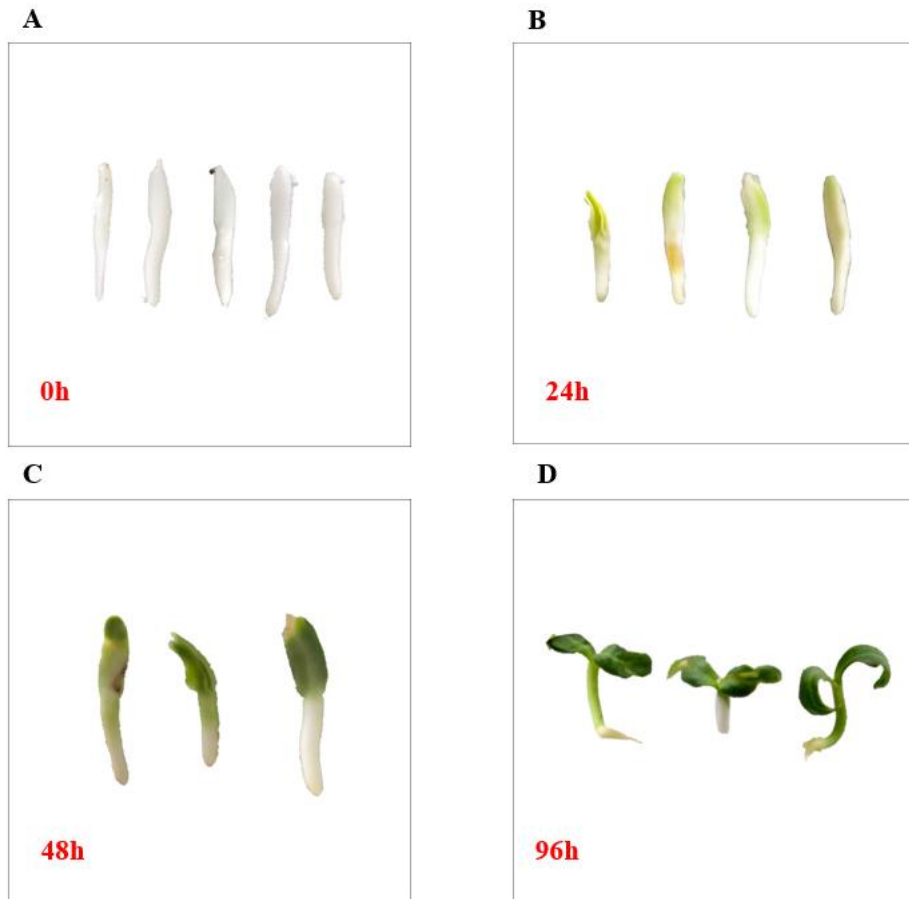


Fig.2. (A)Embryo of *Sinojackia xylocarpa* Hu seed and seeds germination for (B)48h, 96h(C).