

A pilot-scale micropropagation plant for two commercial varieties of pineapple *Ananas comosus* (L.) Merr. reveals shortcuts in a complex system through the recycling of fruit.

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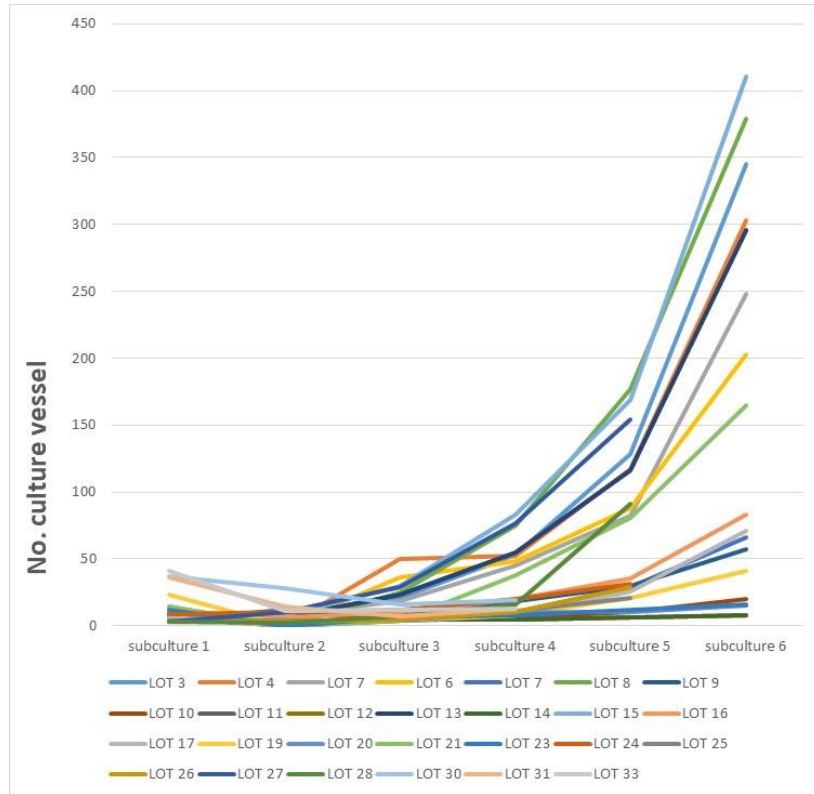
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Supplementary Information

a)



b)

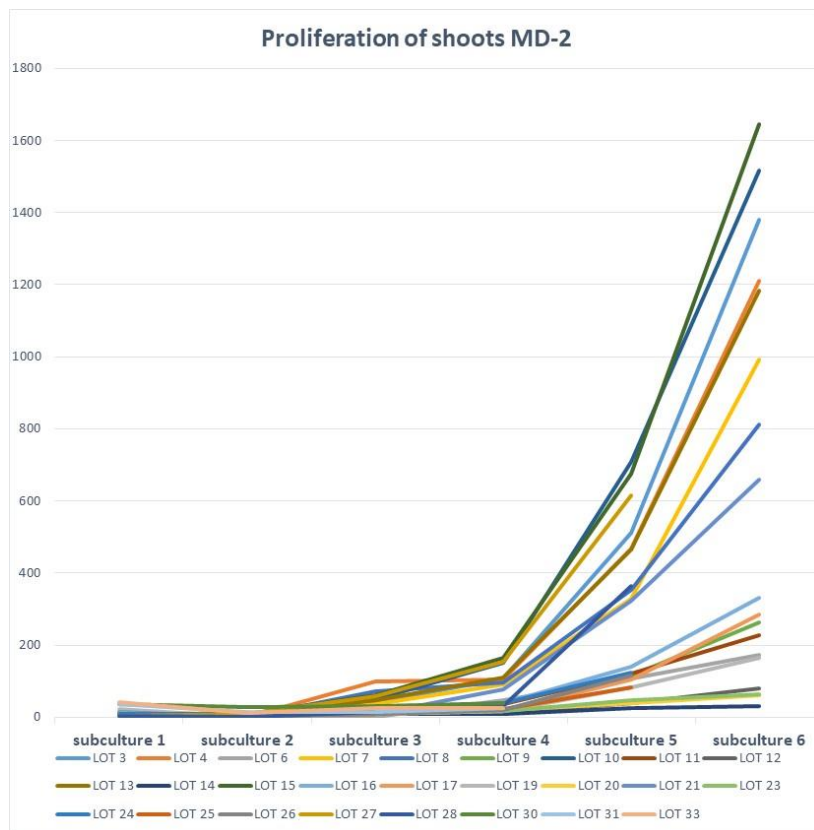


Fig. S1 Establishment of the *in vitro* germplasm bank for pineapple variety MD-2 and its increase in the number of cultures during the first six subcultures.

Supplementary Information

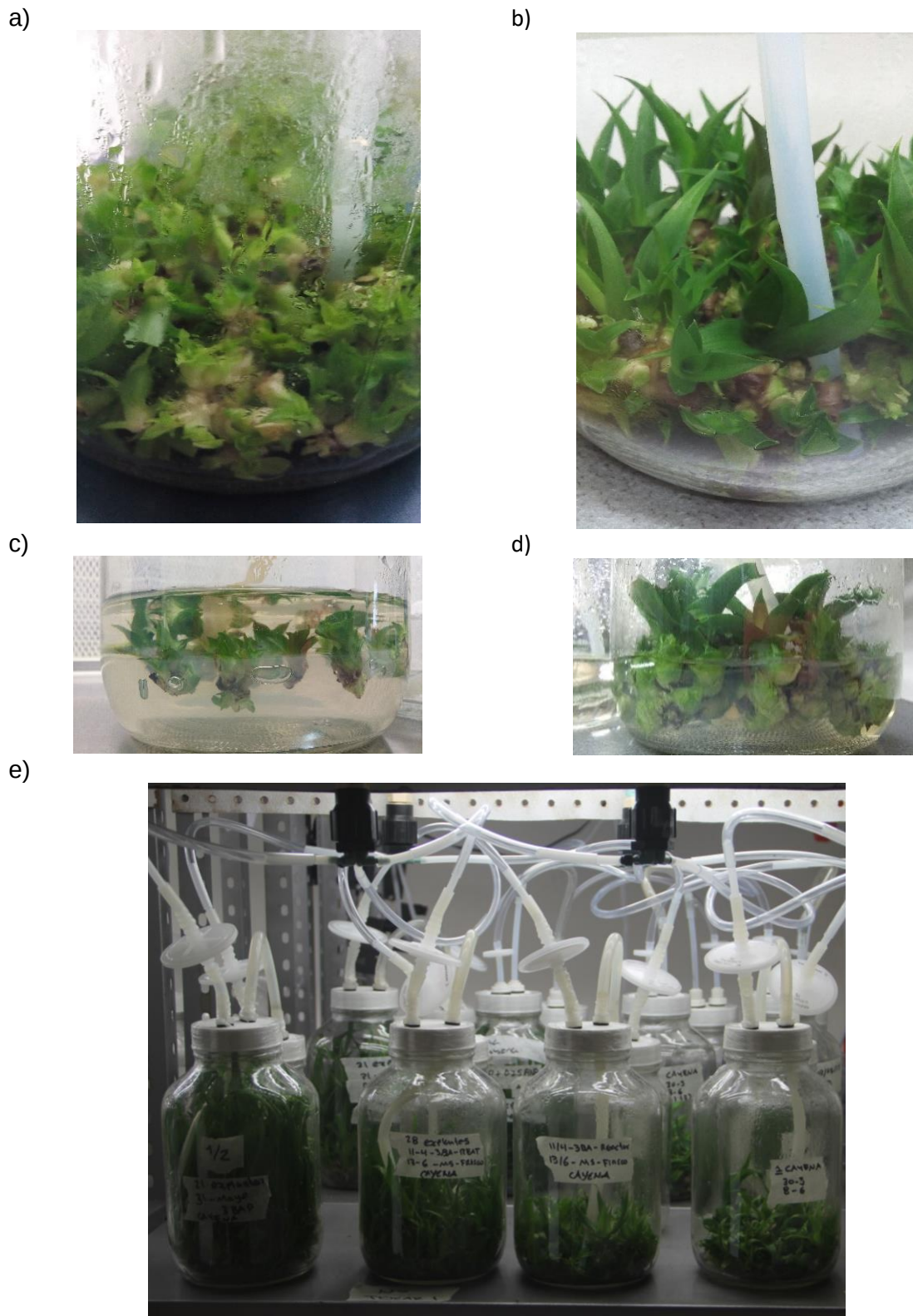


Fig. S2 Propagation in BIT systems of Cayena Lisa and MD-2 pineapples. Propagation of MD-2 shoots in a liquid phase BIT system (medium TP4) a) and b); propagation of shoots in a dual-phase BIT system (media TP2/TP4) c) and d); propagation of Cayena Lisa shoots in liquid phase BIT systems (TP4) e).

Supplementary Information

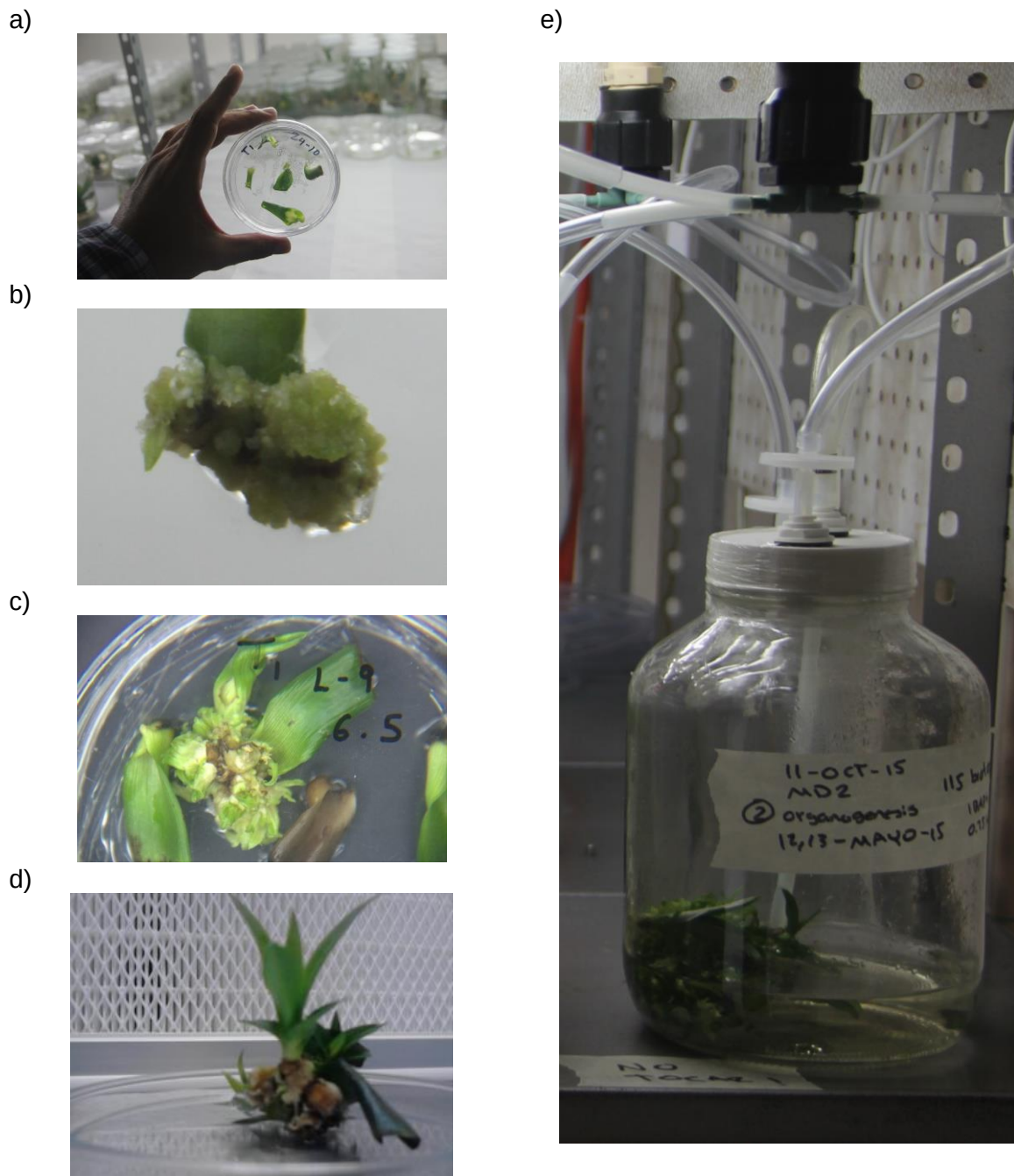


Fig. S3 Mass propagation from leaves of MD-2 pineapple in liquid phase BIT systems. Initiation of leaf culture in medium TR4 a); detail of the onset of organogenesis obtained at the basal end of the leaf b); expression of organogenesis c); development of shoots d); scaling up in liquid phase BIT medium 1.0 mg/l BAP + 0.25 mg/l NAA e).

Supplementary Information

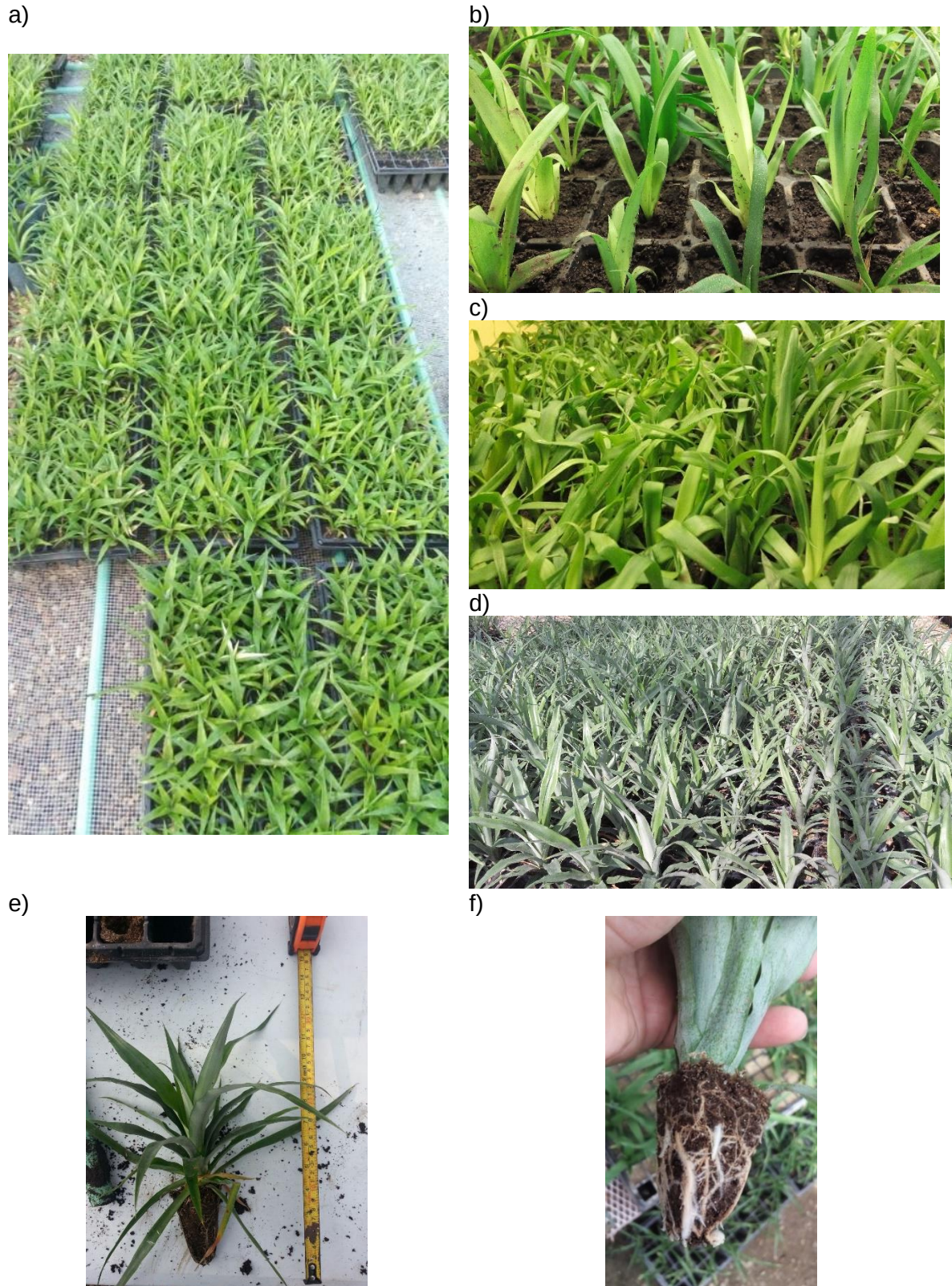


Fig. S4 Acclimatisation and *ex vitro* rooting stage of pineapple plants in a shade house. An overview of plant production a); plants freshly planted in substrate b); acclimatisation stage with emergence of new leaves c); physiological transformation in which hardening is completed prior to transfer to the field d), plant size (25 cm) e) and root system vigour f).

Supplementary Information

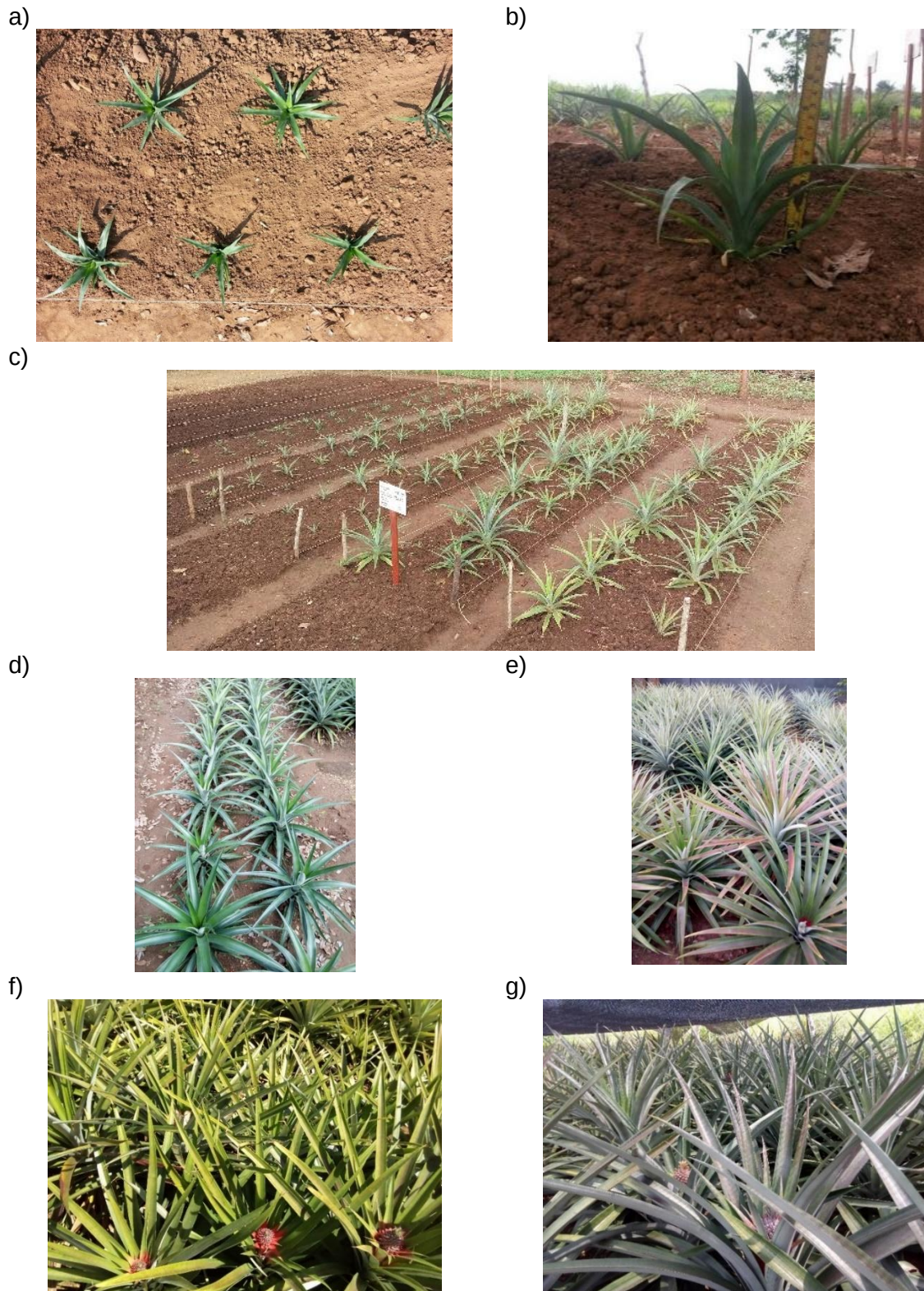


Fig. S5 Field acclimatisation, demonstration plot. Different field phases, from planting to shading of the fruit with shade netting. Initial planting in an equilateral triangle scheme a) and b); adaptation to soil c); vegetative development of MD-2 pineapple d); vegetative development of Cayena Lisa pineapple e); flowering and fruiting of Cayena Lisa pineapple f); and flowering and fruiting of MD-2 pineapple g).

Supplementary Information

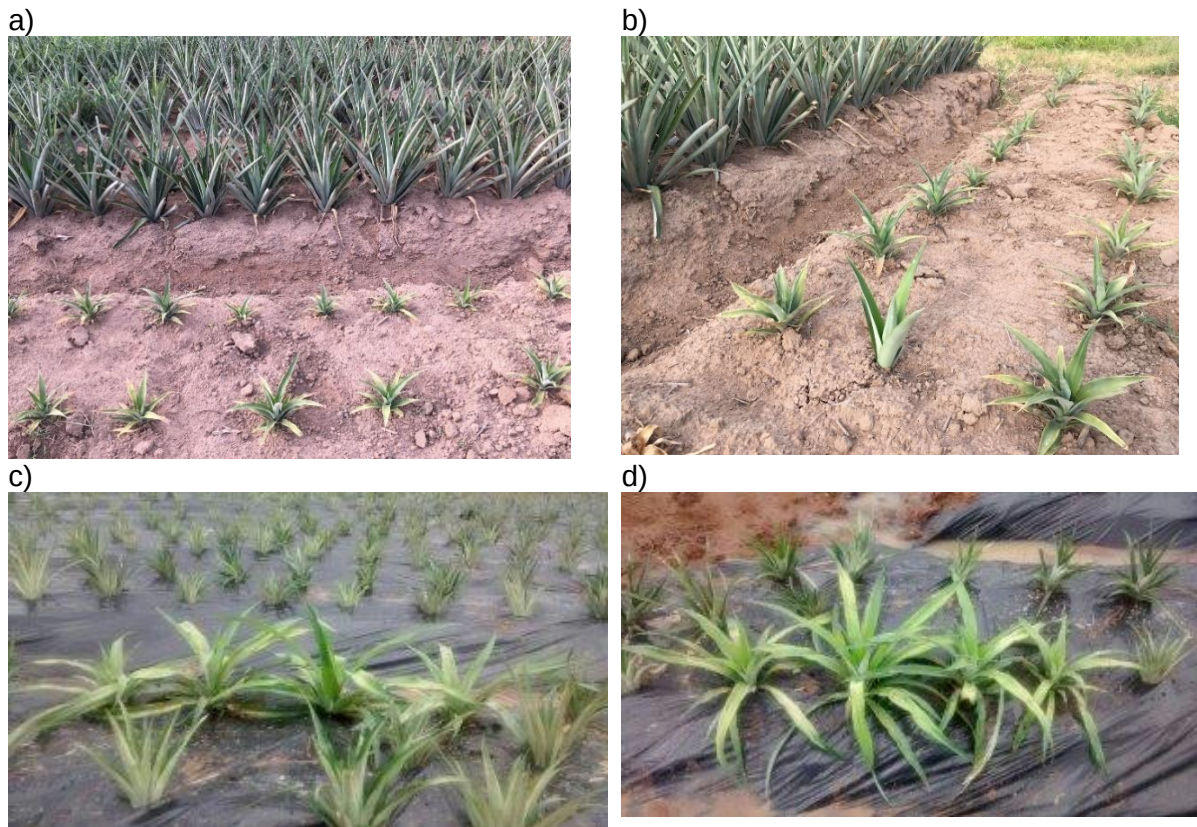


Fig. S6 Field acclimatisation, agricultural areas. Cayena Lisa and MD-2 pineapples in the municipality of Loma Bonita, Oaxaca a) and b); and under a mulching system in the municipality of Isla, Veracruz c) and d).

Supplementary Information

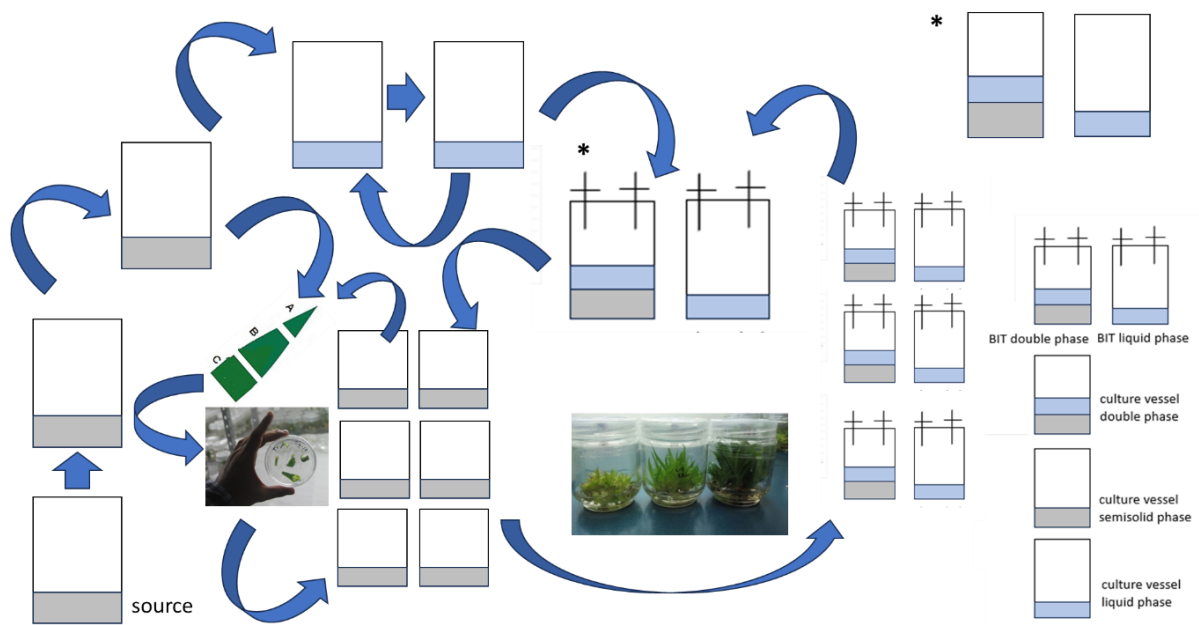


Fig. S7 Flow of cultivation systems. * BIT systems may be replaced or alternated with culture vessels.

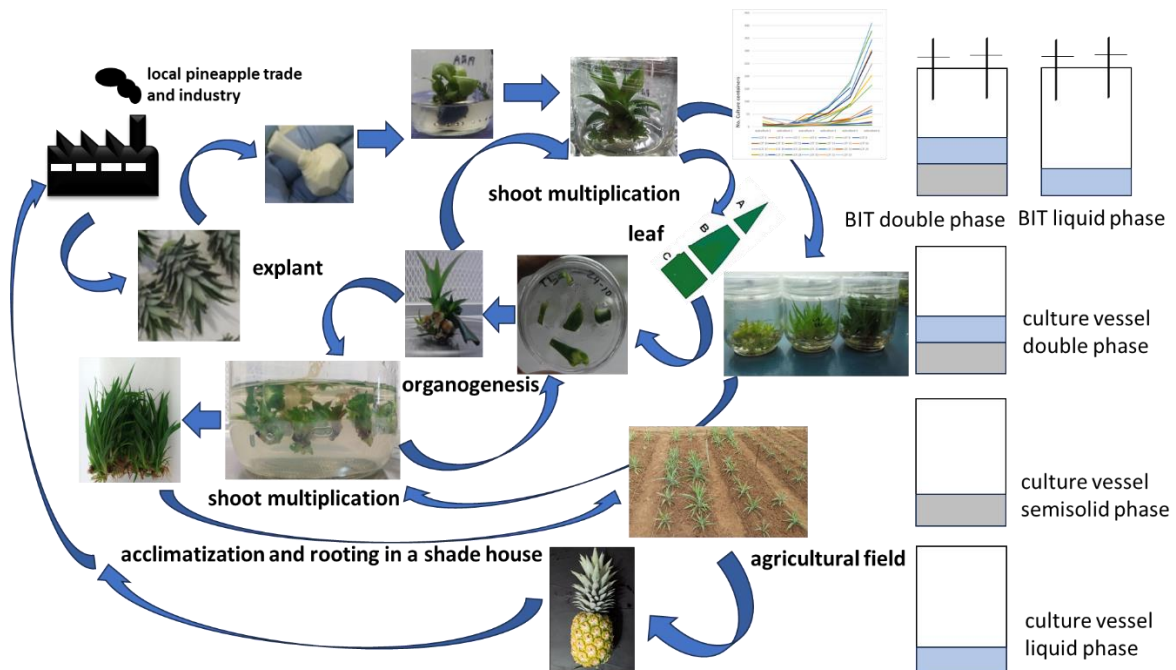


Fig. S8 Dynamic open system for *in vitro* pineapple plant production using recycled fruit crowns.