fall pulse on the fecundity and offspring germination of *Agriophyllum rrosum*, an annual plant in Mu-Us Sandland, Semiarid China

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in the northern China, rainfall pattern will alter under climate change, with the n days(< 10 mm) but increase of heavy rain days (> 25 mm) (Gong *et al* 2004). fall patterns might not only affect plant growth and reproduction (Nicotra *et al* 2010), t effects on offspring germination.

ries of rainfall amounts and frequencies to examine the effects of rainfall pattern d germination of *Agriophyllum squarrosum* (Linn.) Moq., a desert annual plant erate semi-arid regions. We measured reproductive traits (seed number, seed mass, weight and reproductive efforts) and tested offspring germination at different es (5/15, 10/20, 15/25, 20/30, 25/35℃).

nclusions

traits and offspring germination percentage were strongly influenced by rainfall amount, heir interactions ($p < 0.01$). Seed number and mass per plant increased with the fall amount at the same rainfall frequency. All reproductive traits (seed number and seed germination percentages (Figure 1a) reached highest at 4 or 6 day rainfall intervals in all . In addition, seed germination percentages were negatively related to amounts of 1b). The results indicated a local adaptation of annual plants to rainfall amount and id and semi-arid regions. We concluded that variations of rainfall patterns under climate ter the reproductive traits and offspring germination of annual plants and further change y strategies.

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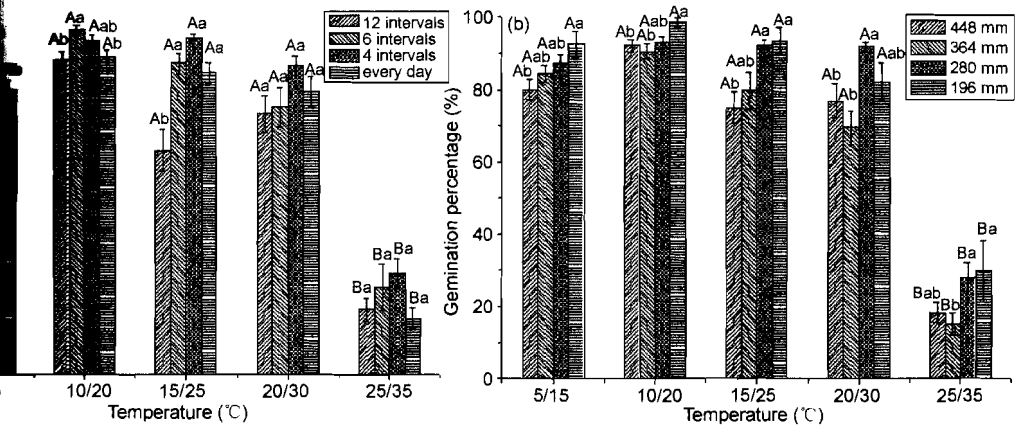

Effects of rainfall frequencies (a) and amounts (b) on the germination percentage of offspring ean ± SE) of *A. squarrosum* at different temperatures. Different small letters above error bar ir-wise differences between different rainfall amount or frequencies at the same temperature, l letters indicate differences between different temperature at the same rainfall amount or es (LSD's multiple range tests, $p < 0.05$).

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