**Appendix 2 – Methods for plant trait sampling**

**Latex**

Latex production was measured by clipping a leaf from the first fully expanded pair of leaves near the base of the petiole, then collecting the resulting drop of latex that formed onto a pre-weighed piece of filter paper. The excised leaf was stored in a coin envelope, dried at 60**°**C, and weighed to the nearest 0.01 mg. Filter papers were dried at 60**°**C and re-weighed three times to nearest 0.01 mg, with the average change in mass corresponding to the mass of the latex droplet produced. This was then divided by the mass of the dried excised leaf to obtain a leaf-size-corrected measurement of latex production.

**Cardenolides**

We collected leaf discs to measure constitutive levels of cardenolide production by hole-punching a pair of leaf discs from either side of the midvein of a fully expanded leaf, with one disc going into a pre-labeled tube containing 1 mL of 95% methanol and the other disc going into a coin envelope. This was repeated for six fully expanded leaves per plant. For *Asclepias fascicularis*, leaves were occasionally too narrow to sample from either side of the midvein and so included the midvein itself. Methanol vials were subsequently stored at 4**°**C until processing, and corresponding leaf discs were stored at 60**°**C in a drying oven.

After collecting six leaf discs into methanol, samples were stored at 4**°**C until processing. Leaf tissue was then ground using magnetic beads in a Qiagen tissue lyser at 50 Hz x 60 seconds x 2 iterations. The resulting leaf tissue was then sonicated in a Branson Ultrasonic water bath for 60 minutes at 5000 Hz. After sonication, leaf tissue was centrifuged at 14000 RPM for 5 minutes. We then pipetted 800 μL of the resulting supernatant into a new labeled tube. This sample was then rotor-evaporated for ~3 hours or until all liquid had evaporated, at which point it was stored at -20**°**C. Samples were then reconstituted in 500 μL of a 0.15 mg/mL solution of digitoxin in methanol and vortexed to ensure mixing. Next, 200 uL of sample was added to a filter plate (AcroPrep™ Advance, 0.2 μm PFTE membrane), which was centrifuged at 1500 RPM for 1 minute to pass the sample through the filter. Samples were then injected at a volume of 2 uL onto Accucore™ C18 column (2.6 μm x 2.1 mmx 30 mm) (ThermoFisher Scientific, Waltham, MA, USA) and processed using high-performance liquid chromatography on a Thermo (Dionex) Ultimate 3000 instrument. We used a solvent gradient that separated cardenolides according to their degree of polarity: 15% ACN for 5 minutes, ramping linearly to 30% for 3.5 min, then to 55% for 3 min, then ramping to 100% for 1 minute and hold at 100% ACN for 10 min, then equilibration at initial conditions (15% ACN) for 5 minutes. Peaks were quantified using a diode array detector (DAD).

. Cardenolide concentrations were calculated by comparison with the internal standard peak area and were adjusted based on the mass of corresponding dried leaf discs.