

Figure 1. Study area (499 km²) within the Dantiandou district, Niger, with the location of tree main villages (black triangles) and the monitored sites: 72 herbaceous or crop sites, among which are 29 sites where woody vegetation was monitored and 12 sites where field hedges were monitored since 1996.

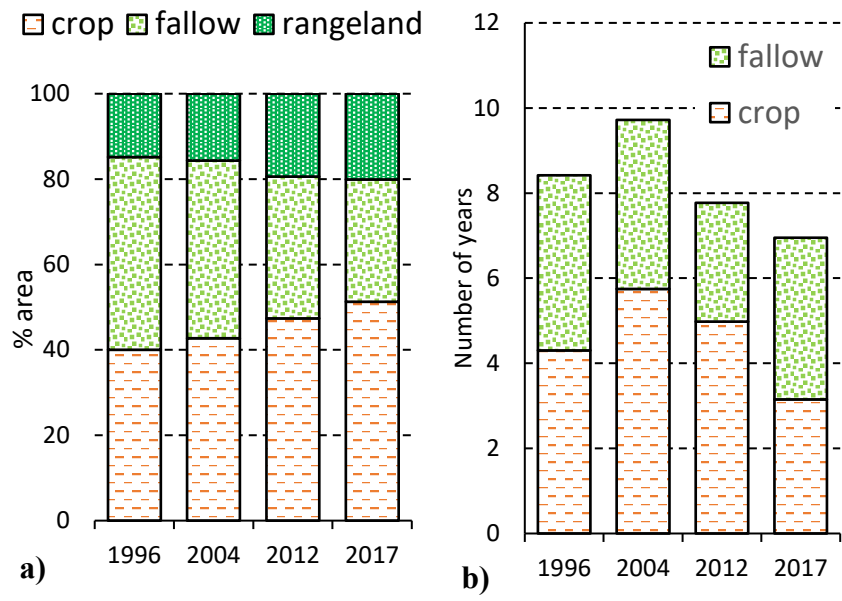


Figure 2. a) Changes in land use over the 499 km² study area from 1996 to 2017, as established by a supervised classification of high-resolution multispectral SPOT and Sentinel-2. **b)** mean duration of crop and fallow cycles assessed in 1996, 2004, 2012 and 2017 in 59 shifting crop fields monitored in the Dantiandou district.

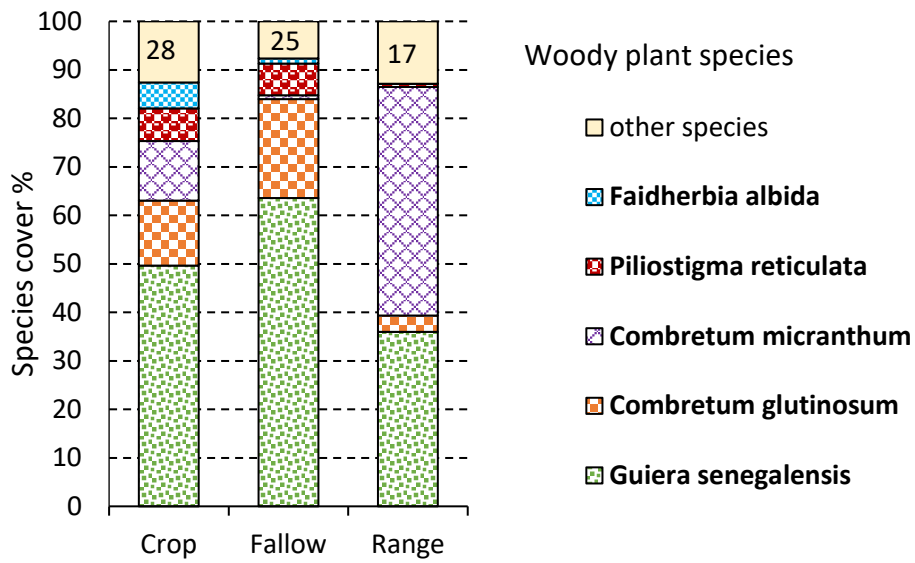


Figure 3. Mean species relative contribution (%) to woody plant crown cover in 29 sites monitored from 1996 to 2017 and sorted by land use type.

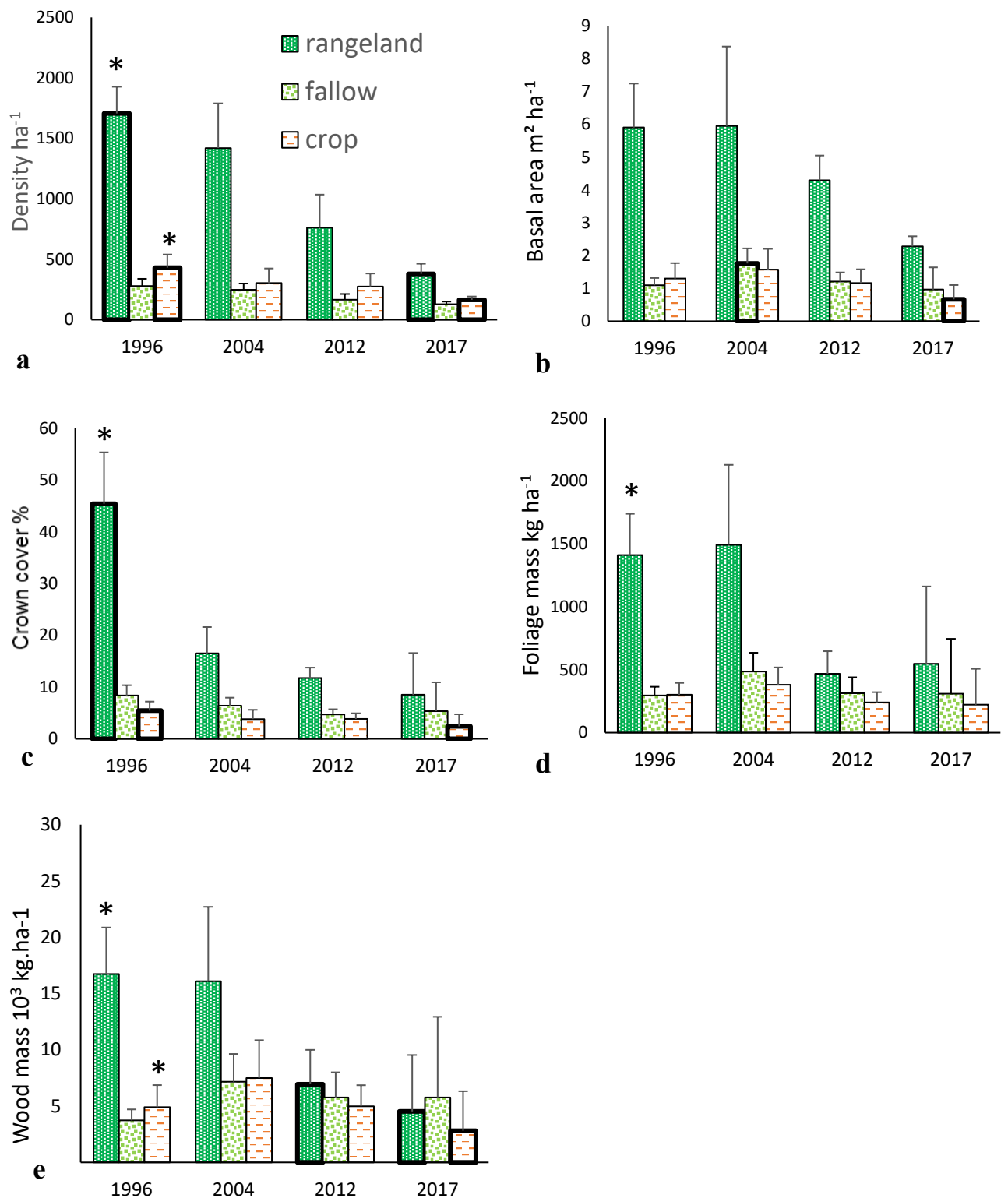


Figure 4. Means and standard deviations (error bar = 1 s.d.) for **a)** density, **b)** basal area, **c)** crown cover, **d)** foliage mass, **e)** wood mass of 9 cropped fields, 14 fallowed fields, and 6 rangeland fields from 1996 to 2017. Variance analysis of interannual differences: the probability $p < 0.05$ of the models per land use is indicated by *; significant mean differences (Student-Newman-Keuls test at $p < 0.05$) are indicated by thickened bar borders.

