Original Research Article

Phytochemical composition and antioxidant activity of *Balanites aegyptiaca*, *Securidaca longepedunculata* and *Acacia gourmaensis* used against seed-borne fungi in Burkina Faso

ABSTRACT

Aims: Hydro-ethanolic extracts of *Balanites aegyptiaca*, *Securidaca longepedunculata* and *Acacia gourmaensis* from Burkina Faso were investigated for their phytochemical composition and their antioxidant activities.

Methods: High-performance thin-layer chromatography (HPTLC) method was used for phytochemical screening. The total phenolic, total flavonoid and anthocyanin contents of extracts were assessed. The antioxidant potentials of the extracts were also evaluated using 2,2-diphenyl-l-picrylhydrazyl (DPPH) and ferric reducing antioxidant power (FRAP)~~of the extracts were also evaluated~~.

Results: Phenolic compounds, flavonoids and anthocyanins were present in all these plant extracts. Tannins were only found in *Acacia gourmaensis* extract. *Acacia gourmaensis* extract exhibited the highest total phenolics (807.58 ± 28.63 mg GAE/g), total flavonoids (271.39 ± 0.58 mg QE/g), total anthocyanins (83.16 ± 0.14 µg/g) contents and had the highest antioxidant activity by DPPH (330.84 ± 16.23 AAE/100g) and FRAP methods (3211.11 ± 52.24 AAE/100g). *Balanites aegyptiaca* and *Securidaca longepedunculata* showed the lowest~~s~~ phenolic compounds (80.72 ± 2.11 mg GAE/g and 76.69±1.84 mg GAE/g respectively); total flavonoids (88.7 ± 1.65 mg QE/g and 104.54 ± 9.65 mg QE/g respectively), anthocyanins (24.49±1.43 µg/g and 24.57±0.52 µg/g respectively) contents and had the lowest antioxidant activity for DPPH method (46.83 ± 3.01 and 56.20 ± 3.79 mg AAE/100g respectively) and FRAP method (102.06 ± 5.09 and 57.78 ± 0.99 mg AAE/100g respectively).

Conclusion: *Balanites aegyptiaca*, *Securidaca longepedunculata* and *Acacia gourmaensis* represent natural sources of phenolic antioxidant *compounds* that can be used as a bio-*fungicide*.

Keywords: Balanites aegyptiaca, Securidaca longepedunculata Acacia gourmaensis, Phytochemical compounds, Antioxidant activity, Antifungal activity.