The loss in vegetation cover and abundance is most severe in disturbed and degraded ecosystems. Reseeding of vegetation forms an integral part of rehabilitation in environmental management activities. Seeds are often coated to improve the germination and establishment rates of certain plant species. This study aims to determine the effect of certain coatings on the germination of three perennial grass seed types in different soil growth mediums. The grass types include *Cynodon dactylon*, *Panicum maximum* and *Anthephora pubescens* and the growth mediums, an acidic medium (gold mine's tailings), an alkaline medium (platinum mine's tailings), a sandy and clayey soil type. The coated seed types were compared to uncoated (normal) seed of the same species and batch types. The germination of *A. pubescens* (coated) performed best in more acidic growth mediums, whereas *P. maximum* (coated) germinated best in alkaline soil types. The germination rate of *C. dactylon* (coated) was the highest in clayey soils, while the uncoated seed of the same species had the highest germination rate in the sandy soils. The effect of the seed coating on the germination metabolism of these seeds was also investigated by measuring the activities of two different germination enzymes after 96 h of activation of germination, i.e. lipoxygenase (LOX) and peroxidase (POD). The latter experiment was carried out to determine the inhibitory effect of the coatings on the seed germination. After 96 h LOX and POD activities reached a peak in all of the coated seed. From these preliminary results it is evident that the coating of seeds does not have any inhibiting effect on LOX and POD activities during germination. Instead, a stimulating effect was observed—confirming that coating of seeds can assist to achieve better germination.

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Ethnobotanical survey of plants used for the treatment of constipation within Nkonkobe Municipality of South Africa

O.A. Wintola, A.J. Afolayan
Department of Botany, University of Fort Hare, Alice 5700, South Africa

Constipation is the commonest gastrointestinal complaint in most developed and poor countries including South Africa. An ethnobotanical survey of plants used by herbalists, traditional healers and rural dwellers for the treatment of constipation was conducted in the Nkonkobe Municipality, Eastern Cape Province of South Africa. The study revealed 10 plant species belonging to 8 families, namely Asphodelaceae, Apiaceae, Asteraceae, Amaryllidaceae, Sapindaceae, Rubiaceae, Polygonaceae and Longaniaceae. Out of these, the members of Asphodelaceae, Apiaceae, Asteraceae and Amaryllidaceae were the most commonly used. The use of decoction of leaves and roots is the most preferred method of herbal preparations. In all cases, the treatment involved oral administration of the extracts 2 to 3 times per day, for a short period of time, but usually not more than two weeks, or as soon as the condition disappears. *Aloe ferox*, *Boophane disticha*, *Alepidea amatymbica* and *Artemisia afra* were repeatedly mentioned by the traditional healers as the most widely used for the treatment of constipation in the study area. There was a general belief in the efficacy of the extracts either prepared as infusion, decoction or poultice.

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Propagation and growth of *Boweia volubilis* from bulbs

A.M. Zobolo
Department of Botany, University of Zululand, Private Bag X1001, Kwadlangezwa 3886, South Africa

Boweia volubilis is an endangered indigenous bulb that is highly valued for its medicinal properties by local communities. With the increasing demand for the bulbs of *Boweia volubilis*, propagation by rural communities can become a viable option in the conservation of this plant species. For such propagation purposes, bulbs of *B. volubilis* were cut longitudinally into four quarters and sterilized with 1% sodium hypochlorite containing 5 drops of Tween-20 for 20 min. The samples were divided into two sizes namely smaller bulbs (20–29 mm in diameter) and bigger bulbs (30–39 mm in diameter) and were dipped in solutions of varying concentrations of NAA and kinetin respectively. The samples were germinated in pots filled with a mixture of river sand and vermiculite (50:50) and placed in the nursery fitted with plastic roof to eliminate rainfall. When seedlings were 10 mm in diameter, they were transplanted into the field. The percentage survival of the larger pieces was significantly higher than that of the smaller ones. Rooting of large bulb quarters was significantly higher (91.8%) than that of smaller ones (55.7%) at 1 mg/l NAA concentration. New bulb formation as influenced by kinetin treatment in small and in large bulb quarters were 65.6% and 98.6% respectively at 1–2 mg/l kinetin. The marketable size in terms of fresh weight (5–54 g/bulb) and diameter (20–55 mm) were obtained at 8 months of growth.

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Poster Abstracts

Plant regeneration from seed-derived callus of *Arctotis arctotoides* (L.F.) O. Hoffm.: A medicinal herb of the family Asteraceae

A.J. Afolayan[a], P.O. Adebola[b]
[a]*Department of Botany, University of Fort Hare, Alice 5700, South Africa*
[b]*Plant Breeding Division, ARC-Vegetable and Ornamental Plant Institute, Pretoria, South Africa*

A procedure for in vitro regeneration was developed for *Arcotis arctotoides*, a plant noted for its several medicinal uses among the rural people of Eastern Cape Province in South Africa. Callus induction was initiated in basal MS salt supplemented with 3% sucrose (w/v) at different concentrations