

The Nutritional and Health Potential of Blackjack (*Bidens pilosa* L.): A Review – Promoting the Use of Blackjack for Food

Rose Mujila Mboya, Independent Researcher, Pietermaritzburg, South Africa

ABSTRACT

Blackjack (*bidens pilosa* L.) grows naturally as a perennial herb across the world, especially in tropical regions, and it is used in many parts of the world for treating illnesses such as diarrhea, indigestion, wounds, and respiratory infections. Blackjack's agricultural and pharmaceutical benefits have been well studied by scientists, following which several suggestions for using it as a source of supplements and alternative antibiotics have been made. Moreover, blackjack is edible but very much underutilized for food purposes. In this article, the author reviews the advantages and disadvantages of blackjack and argues for the deliberation of promoting its use for food.

KEYWORDS

Alleviation, Anaemia, Chronic Nutrition Related Diseases, Hidden Hunger, Malnutrition, Nutritious Food Plant, Prevention

INTRODUCTION

Blackjack (*Bidens pilosa* L.) is a widespread plant said to have its origin in tropical America. It is currently recognized as an invasive weed and a threat to natural vegetation in many countries (Arthur, Naidoo & Cooposamy 2012), requiring serious preventative measures. It is therefore mostly destroyed and wasted. However, blackjack is well recognized for its curative characteristics in many parts of the world, thus used to treat illnesses such as respiratory infections, wounds, dysentery, diarrhoea and indigestion (Arthur et al., 2012). It is also consumed in some parts of the world, especially when other vegetables are scarce (Lusweti, Wabuye, Ssegawa & Mauremootoo, 2011). In general, blackjack is greatly underutilized as a food source. Its occurrence as a weed or wild plant would naturally create negative perceptions with regard to its consumption regardless of its benefits. The fact that it is consumed in some communities only when other vegetables are scarce implies that blackjack is not a preferred food.

Although its nutritional benefits have been studied, they have not been reported as much as its pharmaceutical and agricultural benefits. Considering the minimal labour required to grow blackjack together with its potentially significant nutritional benefits, in this paper, the author argues for the domestication of the blackjack plant and the deliberation of its use for food. The main objective for

DOI: 10.4018/IJARPHM.2019010104

this paper was to review the advantages and disadvantages of blackjack and argue for its promotion for use as food based on its nutritional benefits and its potential for combating micronutrient deficiencies and chronic diseases.

BACKGROUND

Blackjack (Figure 1) falls under the following taxonomic tree (Bartolome, Villaseñor & Yang, 2013):

Taxonomic Tree

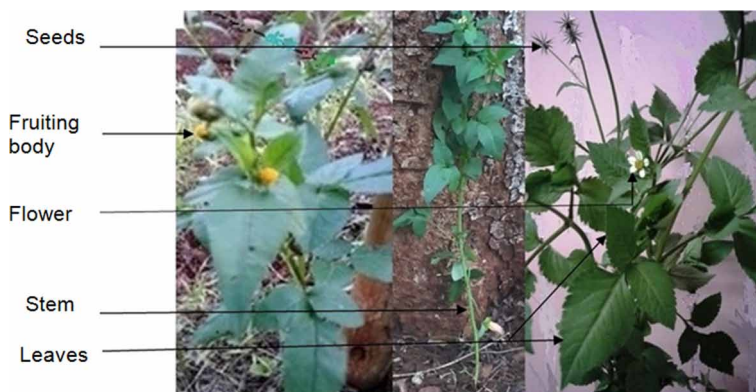
Kingdom: *Plantae*
Subkingdom: *Tracheobionta*
Phylum: *Spermatophyta*
Subphylum: *Angiospermae*
Class: *Magnoliopsida*
Order: *Asterales*
Family: *Asteraceae*
Genus: *Bidens*
Species: *Bidens pilosa*

Characteristics, Favourable Conditions, Growth and Dispersion

Blackjack is said to grow in all seasons in the tropics, most actively in the warmer and wetter parts of the seasons (Holm, Plucknett, Pancho & Herberger, 1977). It is highly resistant to harsh climatic conditions such as drought and cold and it may have a life cycle of 150-360 days. Each blackjack plant has the capacity to produce more than 30000 highly viable seeds. Thus it is possible for blackjack to produce three to four generations per year (Mitich, 1994). Also, blackjack's seeds are light and spikey, thus they can readily attach to animal skin, machinery or clothing, and in so doing are easily dispersed.

Furthermore, blackjack's seeds germinate on the soil surface or in shallow soil of 1 - 4 cm depth and at greater depths they remain viable in the soil for many years (Chivinge, 1996). Tilled land, moisture and temperatures at 20, 25 and 30°C are known to favour germination, with 25°C being the most favourable temperature at which 70% of seeds were reported to germinate (Chivinge, 1996). The ease with which blackjack is dispersed, and its capacity to produce huge quantities of highly viable seeds provide capacity for blackjack to grow profusely (Figure 2) and to be available throughout the year.

Figure 1. Blackjack (*Bidens pilosa* L.)



18 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/article/the-nutritional-and-health-potential-of-blackjack-bidens-pilosa-l/218868

Related Content

Detection of Pre-Analytical Laboratory Testing Errors: Leads and Lessons for Patient Safety

Wafa Al-Zahrani and Mohamud Sheikh (2015). *Transforming Public Health in Developing Nations* (pp. 241-263).

www.irma-international.org/chapter/detection-of-pre-analytical-laboratory-testing-errors/133687

Telemedicine's Role in Pandemic Response and Control Measures

Sabakun Naher Shetu and Takrima Jannat (2022). *International Journal of Applied Research on Public Health Management* (pp. 1-18).

www.irma-international.org/article/telemedicines-role-in-pandemic-response-and-control-measures/309410

New and Emerging Issues for Technologies to Support Older Adults to Age in Place: Findings From a Workshop of Experts

Dick Whiddett, Inga Hunter, Phoebe Elers, Caroline A. Lockhart, Hans W. Guesgen and Amardeep Singh (2021). *International Journal of Applied Research on Public Health Management* (pp. 1-13).

www.irma-international.org/article/new-and-emerging-issues-for-technologies-to-support-older-adults-to-age-in-place/267792

How Could Egyptian Young Adults Detect False Information About COVID-19 on Social Media Platforms?

Heba Atef Labeeb (2022). *Societal Resilience and Response to Contagious Diseases and Pandemics* (pp. 155-177).

www.irma-international.org/chapter/how-could-egyptian-young-adults-detect-false-information-about-covid-19-on-social-media-platforms/300433

Communicating "What's Not Said": Mobile Apps for Psychological Wellbeing

Marguerite Barry, Kevin Doherty and Gavin Doherty (2020). *Innovations in Global Maternal Health: Improving Prenatal and Postnatal Care Practices* (pp. 355-368).

www.irma-international.org/chapter/communicating-whats-not-said/238769