U. of K. J. Agric. Sci. 17(2), 297-301, 2009

A Note on the Occurrence of Anthracnose Disease on Mango in Kordofan, Sudan

Hatim Guma Mardi, Nuha Elsheikh M. Ahmed and
Mohammed E. E. Mahmoud

**El Obeid Research Station, Agricultural Research Corporation.
P.O.Box 429 El Obeid, Sudan**

Abstract: Mango anthracnose was first seen on 9 June 2007 in localized spots in a seeded mango (cv. 'Baladi') orchard in Abu Gebiaha, South Kordofan State. The disease was also recorded in five surveyed areas in south and north Kordofan. The leaf symptoms included small, angular, brown to black spots, which may enlarge to form extensive dead areas. *Colletotrichum gloeosporioides* Penz and Sacc. was isolated from these spots and its pathogenicity was verified on non-symptomatic trees (cv. Baladi). As far as we know, this is the first report of mango anthracnose disease in Kordofan, Sudan. The symptoms were also observed on the mango cultivars 'Abu Samaka' and 'Temour'. Due to the susceptibility of the mango cultivars that are currently planted in these areas, mango anthracnose is expected to cause a serious loss in mango production in Kordofan if favorable climatic conditions for the disease development prevail.

Key words: Mango; anthracnose disease; Sudan

The mango tree (*Mangifera indica* L.) produces a well-known and widely consumed fruit throughout the tropics. Demand for mango increases annually (Pernezeny and Poloetez 2000). In the Sudan, it is a major horticultural fruit crop for both local consumption and export. The total production of mango fruits in the Sudan in 2006 was 611 000 tons and 34.6% of this amount was produced by South Kordofan State (MOAF 2006).

Anthracnose, caused by Colletotrichum *gloeosporioides* Penz and Sacc., is one of the most serious diseases of mango throughout the world (Gilman and Waston 1994). However, its occurrence in the Sudan has not been authenticated before, although the prevailing conditions may be favourable for its spread (Giha 1996). Other crops such as coffee, almond, avocado, papaya, orange, and guava are also infected. Crop losses are a

result of direct reduction in quantity or quality of total yield (Dodd *et al*. 1991). The spore production by this fungus is favoured by wet humid weather, and the dispersal of the spore is particularly favoured by rain and wind. This enables spread of the disease over relatively short distances. In areas where rain is prevalent during flowering and fruit set, anthracnose can cause destruction of the inflorescences and drop of young fruits leading to serious losses.
This paper reports the first occurrence of anthracnose of mango in Kordofan, Sudan.

Mango anthracnose was seen for the first time on 9 June 2007 in a mango orchard in Abu Geibaha Locality, South Kordofan State. It was also found in Tandek, El Fied, Tagmala and Abu Karshola areas in south Kordofan and El Molbus in north Kordofan (15 km southeast of El Obeid). The disease was seen on widely planted mango cultivars: 'Baladi', 'Abu Samaka' and 'Temour'.
The disease symptoms appeared on young leaves as small, angular, brown to black spots enlarged to form extensive dead areas, while the old leaves showed smaller lesion with a maximum diameter of 6 mm that appear as glossy dark-brown to black angular spots (Fig 1).

The fungus was repeatedly isolated on PDA from naturally infected leaves of seeded mango cv. 'Baladi', collected in June 2007 (Agrios 1997), and was identified as *Colletotrichum gloeosporioides,* based on the cultural and morphological characteristics illustrated by Pitkethley and Conde (1994). It produced typical anthracnose symptoms on inoculated new leaves of seeded mango cv. 'Baladi' after 12 days, from which *C.gloeosporioides* was again recovered.

(a)

(b)

Fig 1. Foliage symptoms of anthracnose disease on (a) young leaves and (b) old leaves of mango

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ظهور مرض الانثراكنوز على المانجو بكردفان (السودان)

حاتم جمعة المرضى و نهى الشيخ محمد احمد ومحمد النذير الفاضل

محطة البحوث الزراعية بالأبيض، ص . ب 429 الأبيض- السودان

موجز البحث : شوهد مرض الانثراكنوز على المانجو لأول مرة فى التاسع من شهر يونيو عام 2007 في بقع موضعية فى بستان مانجو بذرية (صنف بلدى) فى منطقة ابوجبيهة بولاية جنوب كردفان، كما سجل المرض ايضا فى خمس مناطق بشمال وجنوب كردفان. شملت إعراض المرض بقع صغيرة زاوية على الاوراق، بنية الى سوداء اللون، قد تكبر مكونة مناطق ميتة. عزل الفطر *Colletotrichum gloeosporioides* Penz and Sacc من بقع الأوراق تلك وأثبتت امراضيتة على صنف المانجو البلدي. يعد هذا أول تسجيل لمرض الانثراكنوز على المانجو فى كردفان. شوهدت الاعراض ايضا على صنفى ابوسمكة وتيمور. نظرا لقابلية أصناف المانجو المزروعة حاليا للاصابة فى هذه المناطق ، يتوقع ان يسبب مرض الانثراكنوز فقدا كبيرا فى انتاج المانجو بكردفان إذا سادت الظروف المناخية الملائمة لتكشف المرض.