

# *Artemisia Afra*

A potential flagship for African medicinal plants

Growing from the Cape to  
Ethiopia

One of the most widely  
used traditional medicines  
in South Africa

Handbook of African Medicinal Plants

Pharmacopeia of South Africa p121

IPC codes for *Artemisia afra*

B50- *Plasmodium falciparum* malaria

B51- *Plasmodium vivax* malaria

In a study of 8 medicinal plants from Zimbabwe *Artemisia afra* was among the strongest against various strains of *Plasmodium falciparum*

C Kraft et al ., Phytotherapy Research 17, 123-128, 2003

**Clarkson et al (J Pharmacogenom Pharmacoproteomics 2011) studied 134 species of plants native to South Africa for antiplasmodial activities. A fra was among the 19 highly active plants ( $IC_{50} > 5\mu\text{g/mL}$ ) against malaria.**

Es stimmt, dass wir schon sehr viel *Artemisia afra* zur Behandlung verschiedenster Krankheiten in erster Linie Malaria, verwendet haben.

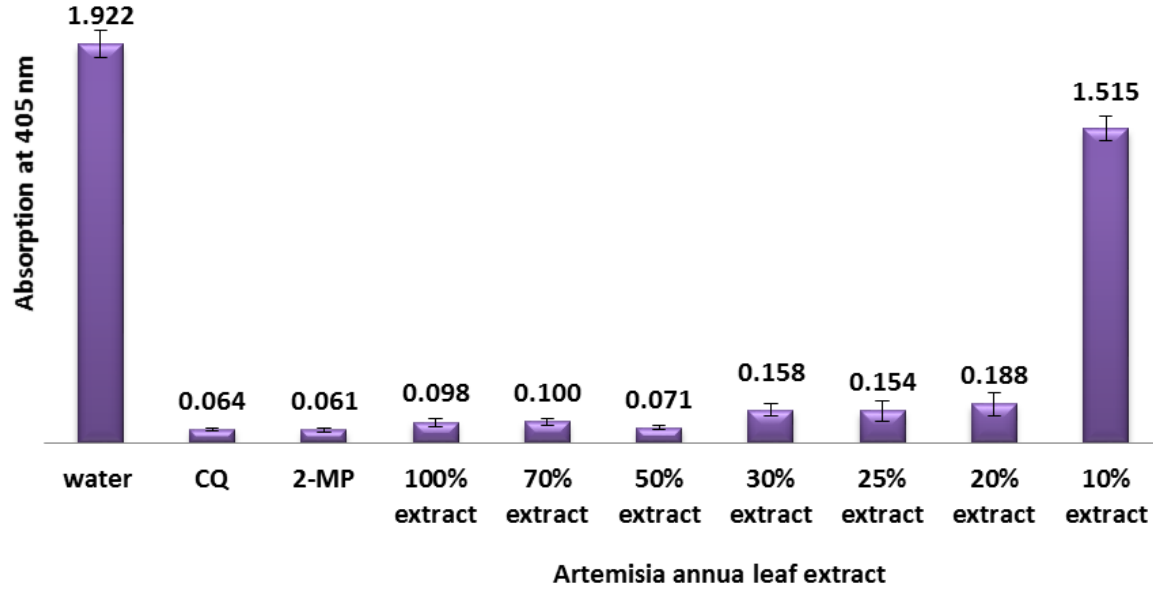
Da die Pflanze ja hier heimisch ist und es schon viele Untersuchungen gab, war es nicht schwierig in den Usambara Bergen Ableger zu bekommen. Seitdem haben wir nur mit Ablegern in vielen Gegenden **Nordtanzanias** *Artemisia afra* anbauen koennen.

Sie ist sehr widerstandsfaehig und ergibt sehr viel mehr Ernte denn *Artemisia annua*.

Viele haben die Pflanze inzwischen in ihrem Garten und nehmen sie als frischen Tee entsprechend unseren Angaben. Aber darüber gibt es natürlich keine Aufzeichnungen.

So wird ihnen meine Aussage, dass ***Artemisia afra* sehr viel wirksamer ist denn *Artemisia annua***, nicht viel helfen können.

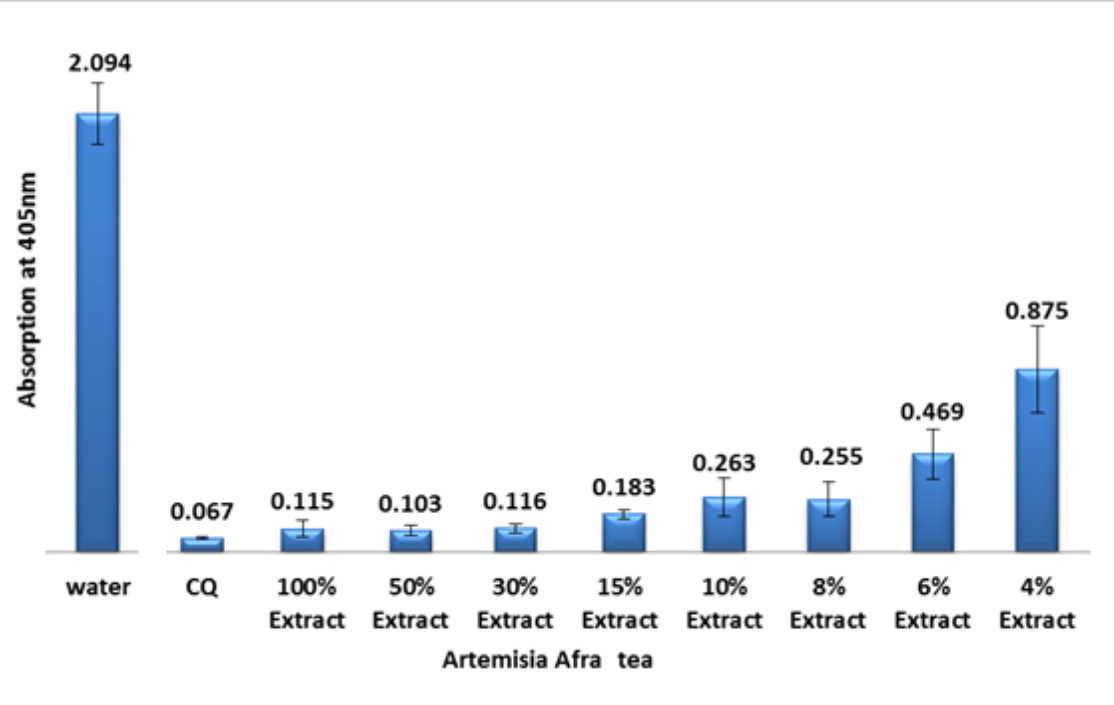
Mechthild Keller



# Beta-hematin inhibition by aqueous infusions

Al Quds University  
M Akkawi and P Lutgen

High bar: no inhibition



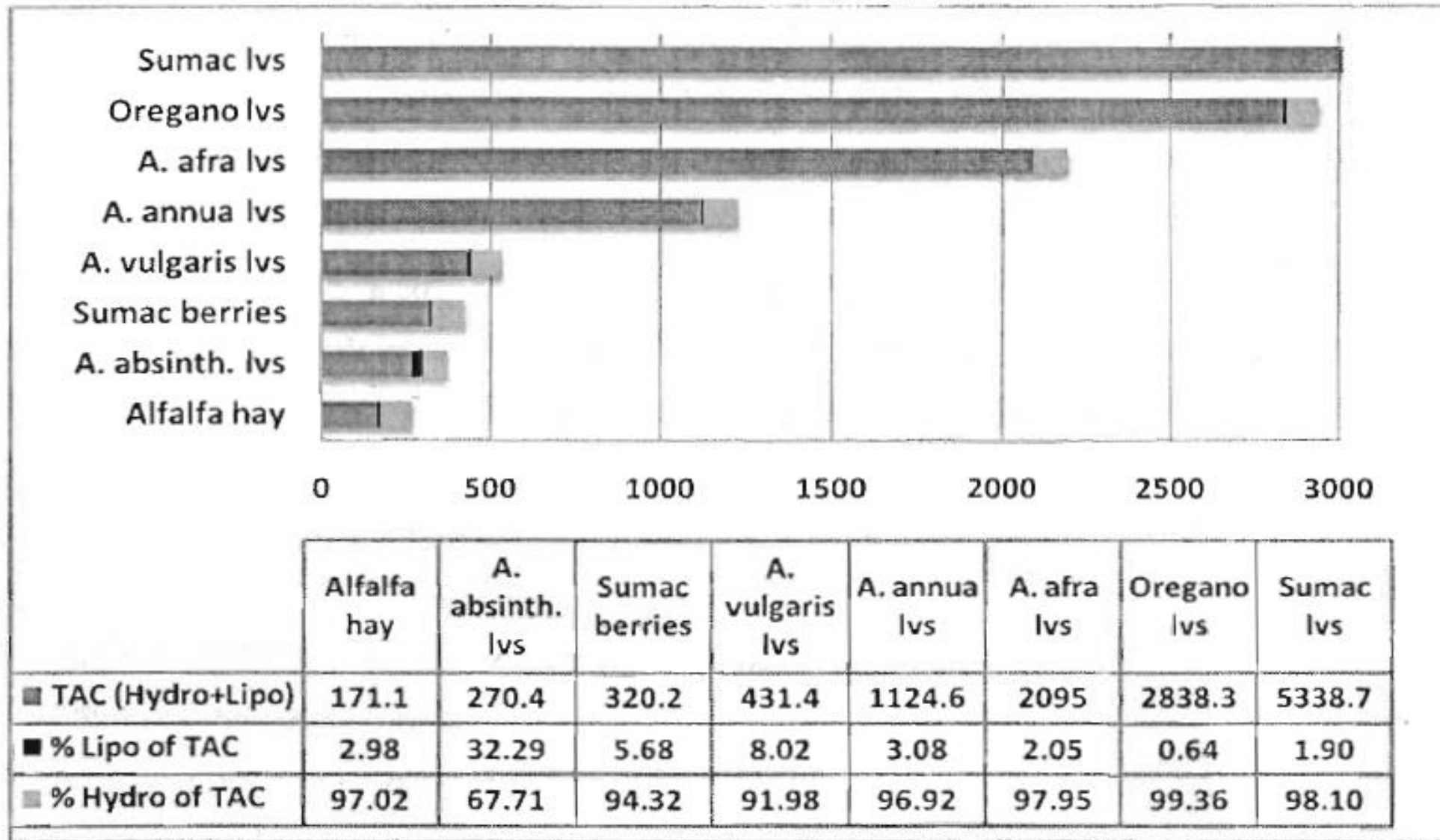


Figure 1. Total antioxidant capacity (TAC) of leaves (lvs), berries, and hay of some atemisiias determined by the oxygen radical absorbance capacity (ORAC) and



The active substances of *Artemisia afra* are luteolin, davanone, scopoletin...**not artemisinin**

Among flavonoids luteolin has the strongest antiplasmodial activity (A Lehane et al., BMC Res Notes 2008, 1:26)

Luteolin has stronger inhibition of the inflammatory uric acid generated by plasmodium, than other flavonoids or even the drug allopurinol.

JM Pauff et al, J Nat Prod « 009 72, 725-31)

The PhD thesis from South Africa (Meryl A Abrahams, 1996, UCT) is based on an assay which measures the inhibition of radiolabelled hypoxanthine uptake by parasites. They found that **hydroxydavanone**, a molecule present in **Artemisia afra** at concentration 0.1-1.0 ng had an inhibitory effect stronger than artemisinin, and much stronger than chloroquine or mefloquine. At these low concentrations the latter 3 antimalarials even show an increase in hypoxanthine uptake. It is likely that with some antimalarials the hormetic range is very narrow

Les sociétés pharmaceutiques basent souvent leur médicaments sur le pouvoir d'une molécule isolée et purifiée

De nombreux travaux montrent que la synergie joue un rôle important.

En combinaison le kaempferol et la chrysin voient p.ex, leur pouvoir antiinflammatoire multiplié par 5.

(O Harasstani et al., Inflamm Res 2010, 59, 711-21)

## **Study on the therapeutic effects of encapsulated *Artemisia annua* and *Artemisia afra***

**82 volunteers suffering from malaria were treated during 7 days with capsules containing powdered leaves of *Artemisia annua* from Luxembourg (AAL) or from Burundi (AAB) and *Artemisia afra* (AAF). Total dose for AAL was 15 gr, for AAB 7.5 gr and for AAF 7.5 gr. Despite these low doses all patients were free of fever after 2 days and 85% were free of parasites after 7 days for AAL, 76% for AAB and 40% for AAF.**

**This second trial confirms the results obtained in 2013. 54 volunteers suffering from malaria were treated during 10 days with capsules containing powdered leaves of *Artemisia annua* AAL All were free of fever after 2 days and 51 were free of parasites after 10 days.**

**(personal communication from Katanga)**

Results indicate that *Artemisia afra*  
and its constituents are useful for  
managing hypertensive conditions

AN Guantal et al., Pharmaceutical Biology 37.5  
351-356 1999

Antimicrobial constituents of *Artemisia afra* are very effective against periodontal pathogens

G More , University of Pretoria



Ryno Freidberg  
PhD Thesis 2009  
Nelson Mandela Metropolitan  
University

Antimicrobial and anticancer  
activities of *Artemisia afra* and  
*Artemisia absinthium*

A Lubbe, Fr Van der Kooy et al.,  
Journal of Ethnopharmacology, 2012

This is the first scientific report of *Artemisia afra* possessing significant *in vitro* anti-HIV activity and adds credence to similar *in vivo* reports in this field.

*Artemisia afra* is able to control  
tuberculosis in rats

S Ntutela et al., Tuberculosis, 2009 Dec,  
33-40

**The Aqueous Extract of *Artemisia afra* shows  
good Antidiabetic Activity in Wistar Rats**

TO Sunmonu et al., Evid Based Compl and Altern  
Med, 20 May 2013

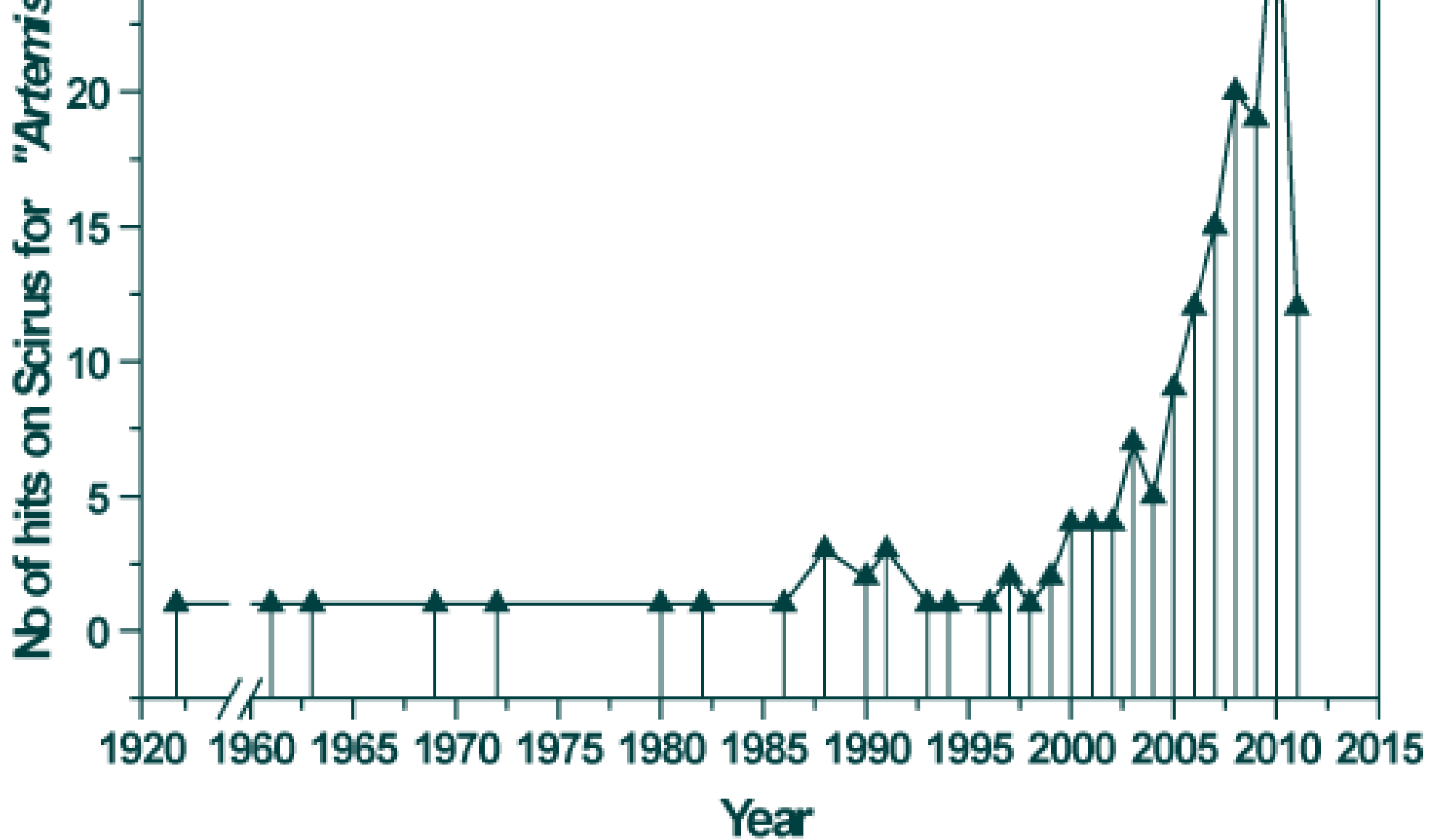
Acute doses of *Artemisia afra* are relatively non-toxic in mice and rats irrespective of the route of administration.

At high doses it may have a hepatoprotective effect.

JT Mukinda

PhD thesis

University of Western Cape 2005



Nombre publications scientifiques *Artemisia agra*

# 13<sup>ÈME</sup> FORUM ÉCONOMIQUE INTERNATIONAL SUR L'AFRIQUE

AFRIQUE 20 : Tirer parti des ressources naturelles pour la transformation économique

ORGANISÉ PAR LE CENTRE DE DÉVELOPPEMENT DE L'OCDE, 7 OCTOBRE 2013, PARIS, FRANCE



## Les chercheurs craignent une résistance précoce au Coartem Addis-Abeba- Ethiopie (PANA) --

### [Will drug resistance become pandemic?](#)

**Saturday Star | April 5, 2014** The rising trend of resistance to pharmaceuticals is one of the most important and worrying topics raised at the 16<sup>th</sup> International Congress on Infectious Diseases (ICID) currently underway in Cape Town. With no sign of any new drugs becoming available, increasing wide-spread resistance to existing drugs has the potential to relegate humanity back to an era not experienced in decades.

Et profitons de la porte ouverte par l'OMS  
en février 2014

**WHO Traditional Medicine  
Strategy 2014 – 2023**

*apps.who.int/iris/bitstream/10  
665/92455/1/9789241506090\_  
eng.pdf*



In 2014 we have Artemisia afra plantations in 10 countries

