

Blog for EDN 103.

We often come across interesting material related to articles in EDN that could not fit into the space available for the articles. We share the most relevant of those here. For more information on the following, click on the article name:

[Artemisia](#)

[Aflatoxin](#)

[Indigenous Leafy Vegetables](#)

[Phytases](#)

[Baobab Leaves](#)

Artemisia (Martin Price)

In my reading I find that sometimes the author uses the word “artemisinin” and sometimes “artesunate.” Wikipedia says that artesunate is a water-soluble and hence injectable derivative of artemisinin. It is made by adding a succinic acid molecule to dihydroartemisinin. Dihydroartemisinin is the active metabolite of all [artemisinin](#) compounds (artemisinin, [artesunate](#), [artemether](#), etc.) and is also available as a drug in itself.

Another thing I encountered in researching this article is that artemisia is also effective in treating schistosomiasis, a common parasitic disease in places where people come into contact with bodies of water that are infested with infected snails (the alternate host for the parasite). You will find many hits if you do a Google search of the words artemisinin and schistosomiasis.

This led me to wonder if it might also be effective against Lyme disease. I must confess that I did that search out of ignorance, believing that Lyme disease was caused by the same kind of organism as the one that causes malaria (a protozoan). Wrong! Lyme disease, now common in parts of both Europe and North America, is caused by a bacterium. But it turns out that a Google search for “artemisia” and Lyme” brought up scores of hits. The reason artemisia appears to sometimes be effective is that Lyme disease patients are sometimes co-infected with the protozoan that causes the tick borne disease babesia. Presumably any effect of artemisia treatment would only be seen in cases where there is this co-infection. (Lyme disease is spread by the bite of a deer tick and the results can be incapacitating.)

[Return to Top](#)

Aflatoxin (Martin Price)

In my reading research in preparation for this article, I often find that instead of measuring aflatoxin in blood or urine, scientists measure “aflatoxin-albumin adducts (AF-alb).” As aflatoxin is broken down in the liver, it is turned into a very reactive chemical that can damage DNA (hence its association with liver cancer). A small amount, perhaps 1-2%, of this reactive chemical reacts with albumin protein. This “adduct” is stable in the bloodstream for much longer than aflatoxin itself, which will be metabolized and eliminated within a few days.

Because the aflatoxin-albumin adduct is a measure of what has been eaten over approximately two to three months, it is much more useful in studying longer-term effects of aflatoxin in the diet. For example, Dr. Williams (referenced in our article) mentions a situation where measuring aflatoxin M₁ in human urine only reflected exposure over the previous 24 hours. This led to an estimate that one-third of the members of the sample population were exposed to aflatoxin. In contrast, measuring the aflatoxin-albumin adduct in the same population led to an estimate that around 90% of the population were exposed.

[Return to Top](#)

Indigenous Leafy Vegetables (Tim Motis)

The nightshade (*Solanum* spp) shown in the photos below was growing in the demonstration gardens at Tengeru Agricultural Training Institute near Arusha, Tanzania. These gardens were part of a demonstration sponsored by "Hearts Helping Hands." Photo by Bob Hargrave.



ECHO seed bank staff member Sara Hendershot found a presentation describing the promotion of **Amaranth**, **Spiderplant** and **African nightshade**. "It's a very thorough report on how they introduced it to farmers through a participatory promotion program. It also includes a breakdown of the nutritional value of these crops as compared with cabbage and cowpea leaves." [Click here to read the report](#).

Below are a few more links to online information about indigenous leafy vegetables.

- Information on [indigenous leafy vegetables in Nigeria](#), including nutrient composition of many plants
- Fact sheets on indigenous [leafy vegetables from AVRDC](#)
- [ECHO's seed catalog](#)

[Return to Top](#)

Phytase in Grains and Legumes (Dawn Berkelaar)

Regarding the presence of phytase in grains, Sally Fallon commented, "Phytase in grains is completely eliminated with the extrusion process [used in making cold breakfast cereals]—so

someone eating a bowl of All Bran, for example, would not be able to neutralize any of the phytic acid. Whole grain extruded cereals are a recipe for mineral deficiencies.”

The [Nourishing Traditions book](#) by Sally Fallon, mentioned in the article, contains a wealth of information. At 688 pages, it is a recipe book, but also includes much, much more. Information about the book mentioned in this article can be found here:

A similar source of information is the [Wise Traditions](#) website. [Return to Top](#)

Baobab Leaves (Dawn Berkelaar)

Nutrient content of fresh Baobab leaves	
Protein (in 100 g)	3.8 g (16.5%)
Vitamin A	9,710 mcg (high)
Vitamin C	38-106 mg (good)

Source: FAO, taken from 100 g sample

[Return to Top](#)