



## Reductionist's Rant: Principles of Spice Therapy

by James Duke, PhD

In a distinguished career James Duke served at the Missouri Botanical Garden and Washington University in St. Louis, the Battelle Memorial Institute in Panama, Colombia, and Columbus Ohio, and for 30 years with US Department of Agriculture. Before retiring, Dr. Duke developed his ethnobotanical and phytochemical database online at USDA (<http://www.ars-grin.gov/duke/>). It is now one of the most frequently consulted areas of the USDA website. Duke grows hundreds of interesting plants on his six-acre farmette (Green Pharmacy Garden) with his wife and illustrator, Peggy. Since retiring from USDA, Dr. Duke has served for five years as Senior Science Adviser to Nature's Herbs and with AllHerb.Com. Since 2001, he has been a distinguished herbal lecturer with the Tai Sophia Healing Institute. He has written more than 30 books on medicinal plants.

This weird rant is predicated on the following. Man has coevolved with many well-known spices for more than a thousand years. Man has coexisted if not coevolved with the phytochemicals of the plant ancestors of Biblical spices for thousands of faith-based years, or maybe millions of years according to evolutionists. I share with Bharat Aggarwal, author of *Medicinal Spices*, due out in 2011, the belief that among the medicinal plants, spices are among the best and safest.

One spice, turmeric, has been estimated to contain 5,000 chemicals, all biologically active. I suggest then that all spices will have about that many chemicals, and the number will swell to 50,000 as technologies improve by 2020. I suspect but cannot yet know, wildly speculating that a very small fraction of those chemicals (well below 1%) are unique to that one species, with some (~10%) unique to the genus or family, and some 40% rather widely distributed through the green plants, and close to 50% are ubiquitous, occurring in all living green plants.

I, an evolutionist who wishes he was a believing Deist, maintain that man or man's predecessors have coevolved with the phytochemicals for hundreds of thousands if not millions of years. Over these years man has evolved homeostasis for many of the evolutionarily familiar phytomedicinal compounds. Man, when out of balance, homeostatically sequesters from his foods needed or balancing chemicals and rejecting those unbalancing chemicals in excess

There are many medicinal plants in this world, but the spices average best medicinally often provably as efficacious as synthetic pharmaceuticals, and almost always safer and cheaper. Spices are loaded notably with antiinflammatory, antioxidant and antiseptic

phytochemicals making them notably efficacious against chronic killers like cancer, cardiopathy, and diabetes. Man empirically learned many other uses for the spices, having selected them for preserving their foods in days before refrigeration. Indeed they can preserve us too. That's why I and several others speak of them as the spices of life.

Man has no genetic experience with newly created synthetics pharmaceuticals which work on a single target. And even though they are efficacious when the patient is properly diagnosed, they tend to unbalance the patient in other chemical arenas. Spices tend to homeostatically balance the patient.

Heretically, I believe that in almost all cases, even properly targeted pharmaceuticals should be accompanied by an intelligently administered dose of spices which have been proven to potentiate the synthetic. I think it borders on criminal to allopathically challenge the use of herbs when taking chemotherapy for cancer, especially with turmeric.

The old adage "better living thru chemistry" should be replaced with BETTER LIVING THRU PHYTOCHEMISTRY.

Through studies of the Multiple Activities Menu (MAM; See Capsicum MAM below), a megaGatesian computer could ask on a rather solid evidence base which herb of the 250,000 in this world is best for which individual with which ailment. Until we are sure that shamans and Medline cannot do this empirically or intuitively, we should pursue the proof or disproof of the philosophical principles I have espoused so poorly here. Can we really call the espousal of 50,000 pleiotropically active phytochemicals in each individual plant reductionistic?

## Spice Chest Food Farmacy

My backache is a special backache, induced by both cervical and lumbar scoliosis, spondylosis, and stenosis. Coincidentally an allopathically inclined osteopath suggested topical capsaicin (and I suggest internal cayenne as well – it helps). I was pleased with that osteopathic recommendation.

I have been focused on spices and food farmacy for the last five years or so preparing a spice database. I think a famous spice-loving oncologist, Bharat Aggarwal, shares with me the opinion that spices are the best of medicinal plants. I print out first below, my secretary's recent search of my spice database for backache. Fortuitously. I have spent 40 years scoring various studies, consistently I hope, of 3,000 species and some thousands of indications and activities.

Then day before yesterday I asked Judi to first search my minuscule database of 200 spice species listing the highest evidence score on top. Only one, capsicum, attained an evidence score of 2. That means an extract of the plant has been proven clinically for this indication. It means folk evidence only, and 1 means chemical, epidemiological, *in vivo* or *in vitro* evidence, 2 means clinical proof or approval by Germany's commission E, or the Caribbean TRAMIL commission, for that indications (or activity), And I used the evidence we adduced to draft the protocol.

What would be my Spice Chest Food Farmacy protocol? Remember that I cannot recommend any food unapproved by the FDA as a medicine. Capsaicin has been approved. But if I were a licensed physician, not afraid of the FDA, I would suggest topical application of hot peppers or pure capsaicin (FDA-approved) alternating with a vertebral mustard plaster topically. And I would indulge in four herbal teas a day, comprised of those tastier mints like spearmint and peppermint, and believe it or not, spiced with capsaicin or hot sauce, maybe even black pepper as a synergist, and ginger (with its several COX-2-Is). And sweetened with Stevia. Believe it or not, I never had this piquant BackBracer tea before. Not bad. Might try that topically on the spine as well as it contains analgesics, like menthol, capsaicin (hmm, should add some of wintergreen's methyl salicylate). I recommend also a hot bath with melissa, wintergreen, and peppermint if you are generously endowed with herb. To each her own taste, tea or bath. Other higher scoring tea ingredients to consider; frost mint; thyme, wild mint, yarrow, and then bayberry, ground ivy, lemongrass, mallow, flaxseed, and walnut, for variety.

### Phytochemical Database

<http://www.ars-grin.gov/duke>

### Multiple Activities Menu:

<http://www.ars-grin.gov/duke/plants.html>

<http://www.ars-grin.gov/duke/dev/all.html>

### Bioenergy Handbook

[http://www.hort.purdue.edu/newcrop/duke\\_energy/](http://www.hort.purdue.edu/newcrop/duke_energy/)

### A Database of Central American Ethnobotany

<http://www.ars-grin.gov/duke/dictionary/tico/index.html>



*Curcuma longa* (turmeric)