



RENERTECH.
Renewable Energy Sources.
Technology For Rural Development.
Electronics for Agricultural Efficiency.

. Ex3:2

Phone. +64 3230 4525
E-Mail. renertech@xtra.co.nz
VoIP renertech@skype.com
Web. www.coffee.20m.com

183 Drysdale Road.
R.D.2.
Invercargill. 9872
New Zealand.

The Great Millennial Mistake.

From Tea & Coffee Trade Magazine.
September 1999.

Ken Calvert.

The origin of coffee, so one old legend has it, revolves around Kaldi an Ethiopian goatherd, who watched his goats getting frisky on coffee cherries, ate a few himself and then when he felt so good he told the local Abbot. That august gentleman as it turned out was in need of something to keep his monks awake during prayers. The brew that kept them going however, according to E. Britannica, was made by boiling the cherries not the beans. The fact is that due to the logistics of preservation and transportation in those days, 1000 odd years ago, the world ever since has looked only to the coffee bean rather than the cherries as well. That just might just have been a great mistake.

To our present day understanding of phytochemistry, the Kaldi story rings very true. The coffee cherry has evolved to carefully select its own propagation agents. Just enough sweetness and kick in the cherry pulp to make it desired by only certain animals, and with very slippery coated beans to make sure that they went straight down the gullet, bypassing the rumen. The seeds of course have a lot more caffeine to protect them and make sure that any attempt to bite them rather than swallow them whole would not be a pleasant experience. That same slippery mucilage was also designed to be very indigestible, to protect the precious seeds all the way through the digestive tract and ensure that they were propagated all around the countryside, deposited in a form repugnant to most predators and complete with enough fertiliser for a good start in life. Biological aeons of natural evolutionary design to produce a product wonderfully tailored to the needs of modern mankind.

The question however has always been, if the coffee cherry has been evolved for animal distribution of its seed, why is coffee pulp so toxic? Any more than 10-15% pulp in an animals diet and it goes horribly hyperactive and it will not thrive or put on weight. Surely a tree that tries to poison off its propagation agents like that should not survive for very long at all in an evolutionary sense of time?

The hypothesis of this paper, the philosophical basis for a new look at the chemistry of coffee byproducts and factory wastes, revolves around that very point of propagation! If the coffee cherry was good food for mass consumption, then the biggest billy goat of the herd would simply shoulder everyone else out of the way and hog all the goodies. That would mean however, that much of that tree's future potential would be concentrated into one small pile, making all of its seeds waste their strength in competing with each other in a fight for life from which only one or two would survive. So, what kind of phyto-alexins might have evolved to combate that kind of situation?

Would it not make better sense to turn ones fruit into a kind of herbal medicinal supplement? A health food which is extremely beneficial in small quantities, but which has some wicked ways of discouraging any excess. Something which in small regular doses will promote well being, good health, activity and ripe old age? A mechanism to ensure that its seeds will be regularly and consistently spread widely around the country in small individual quantities for many miles and of course for many years. In other words, coffee cherries may just have evolved to be an elixir of life, containing all the wonderful natural health promoting factors, plus probably a few we have not yet even discovered let alone thought about, and has placed them in a pleasant tonic form. Something for which so many people in our health conscious age are searching today. Does that mean that we should start eating raw coffee cherries too? Unfortunately not. That evolutionary line of development was aimed at sheep and goats in the Middle East, who chew their cuds and need far more crude fibre than the human frame can cope with. We have to be like the wise old Abbot and do a bit of extraction and solution, which of course is just what we do with the beans.

What we are rediscovering is that the coffee cherry, and more particularly its mucilage, contain, and as far as we are concerned have always contained, many of the prophylactic materials that Chemists are only now discovering to be good for us. Previously, Scientists testing coffee pulp as an animal feedstuff started at 10% and then scaled upwards to 20% & 30%. They should have gone downwards. But then they were not looking for a medicinal supplement, they were looking for a cheap source of basic food.

Because weight for weight the coffee cherry has not only more soluble dietary fibre than an apple, but also more efficient antioxidants than the traditional vitamins, we are discovering new ways to keep the doctor away. Coffee, the love of every jet setting executive and jaded housewife and the strawman of every 'alternative health' guru, may well be entering a new age. That era however will not be entered by the traditional pathway of the coffee house and the grocery store! Call it a food stuff and it will have to be fed to rats for ten years before the USFDA will license it for limited trials to humans for another ten years. Instead call it a health food supplement a 'nutraceutical' or some other catchword. Trumpet that it is extracted from 100% natural sources, with no additives at all, and it can be sold tomorrow over the counter of any health food outlet.

So, ever since Kaldi, we may have been sadly in error. As the highest order of animals, instead of restricting ourselves to those overly 'toxic' seeds, we should also be eating some products from coffee cherries as well, to keep ourselves fit and healthy as well as just feeling good. Who wants to go to the expense of decaffeinating coffee so that we can drink more of it, when we could be exploring a whole new range of low caffeine health foods, dietary supplements and sweetening additives, all with the coffee name and kudos. We are indeed a long way behind 'Mother Nature'. Long live the Abbot, and may Kaldi live again!

Ken Calvert.