

YUCCA TECHNOLOGY



What Do You Know About Yucca?

Contrary to common belief, the yucca is not a cactus but a member of the lily family. There are about forty different species but only five have “nutritional value”. The vital force (healing properties) lie in substances known as saponin steroids. These natural steroids support and enhance the intestinal enzyme system.

Today’s refined foods move sluggishly through the intestines leaving a residue around the villi (small finger like projections lining the small intestine) which contribute to toxemia. Liquid yucca extract as a dietary supplement will do more than just speed up elimination. Since the saponin found in the yucca extract is a detergent, it cleanses not only the general surfaces, but deep around the villi, thus removing the “harmful toxins” that are the causes of many degenerative diseases and barriers to the healing process. Yucca is available in a variety of species and in several different forms. Tests show that the schidigera yucca has the highest content of saponin steroids. Ideally, the extracts should come from a cold

press process so that all the natural enzymes are left intact. It should be taken in a liquid form.

EXCERPTS FROM LITERATURE

1. At Texas A & M University it was shown that Yucca schidigera extract if fed to hens at 31 or 155 ppm, egg production increased & ammonia levels remained below 20 ppm
2. Research at Colorado State University shows that Yucca sarsaponin can cause significant improvement in economical desirable traits such as gains, conversions and carcass characteristics as well as affect digestive parameters in beef cattle.
3. Litter improves with age, as regards the control of ammonia on the turkey brooder house floor, when a 40 % Yucca saponin is mixed into tom turkey's normal feed formulation. Yucca saponin in turkey feeds has a slightly positive effect on the parameters of body weight, early mortality, or salmonella.

- 4.** Broilers fed 63 ppm of *Yucca schidigera* saponin are significantly heavier than control broilers at both 28 and 51 days of age. There is also better feed utilization when fed 63 ppm than if fed none and the effect of *Yucca* saponin in broiler feeds is probably continuous throughout grow out.
- 5.** Addition of 63 ppm to broiler feeds increases body weights, and improves feed efficiency when fed with 121 ppm of Monensin. *Yucca* saponins may condition the cell membranes, and reduce surface tension which could aid in better absorption of nutrients in cell membranes. *Yucca* saponins exhibit stress relieving properties, and it is likely that broilers on higher levels of Monensin respond by performing better when *Yucca* saponin is added to the diet.
- 6.** One trial at Purdue University has shown that pigs fed 62.5 ppm *Yucca* saponin gain weight 5 % faster and consume 4 % more feed than pigs receiving same feed without any *Yucca* saponin. Another trial has found that pigs fed 62.5 ppm *Yucca* saponin gain weight 6 % faster and consume 6 % more feed than pigs receiving same feed without any *Yucca* saponin. Gains and feed efficiency response of pigs appears to be greater as floor and feeder space is reduced.
- 7.** At the University of Kentucky feeding trials with weanling pigs when fed *Yucca* sarsaponin at 62 and 125 ppm resulted in faster gains and tended to improved feed/gain.
- 8.** In a study at Colorado State University, *Yucca* sarsaponin or its fractions were determined to be effective in reducing the production of ammonia in a rumen in vitro system.
- 9.** At Texas Tech University, it was concluded that one effect of *Yucca* sarsaponin is to decrease mean ruminal ammonia levels.
- 10.** At the University of Nebraska it was determined that grower-finisher pigs improved overall efficiency of feed conversion when fed 63 ppm *Yucca schidigera* plant extract. The effect of feeding 63 ppm *Yucca* and chlortetracycline is synergistic for grower pigs, as regards daily gains and intakes of feed.
- 11.** In a study from the University of Georgia the harmful effects of ammonia in poultry houses was well documented. Ammonia can affect the length of life of the poultry house and equipment within. A poultry house receiving 130 ppm of liquid *Yucca schidigera* extract will experience significantly lower ammonia production than an alike control house. This extract coupled with sound manure management appears to be effective in controlling ammonia in the laying house.
- 12.** Fecal odour intensity decreased significantly as levels of a *Yucca schidigera* based feed ingredient increased in both dog and cat foods... Fecal odour is reduced after *Yucca* is included in the food, by as much as 49 % in cats and 56 % in dogs.
- 13.** At the University of Minnesota, during finisher phase, pigs fed *Yucca* sarsaponin perform better than pigs fed antibiotics or antibiotics plus copper sulfate. Pigs fed sarsaponin plus copper sulfate perform better during finisher phase than pigs fed antibiotics plus copper sulfate.
- 14.** A mode of action for the steroid saponins of *Yucca schidigera* that alters the utilization rate of ammonia nitrogen, rather than its release, is consistent with all of the research data generated as of today. By stimulating microbial growth, particularly under less than ideal conditions, *Yucca schidigera* extract stimulates utilization of ammonia and other food material, resulting in a more rapid and complete digestion.
- 15.** *Yucca* was found to bind noxious gases, particularly ammonia in pig dung, preventing them escaping into the atmosphere to create obnoxious smell.
- 16.** Data presented clearly demonstrate that the presence of *Yucca schidigera* extract in solutions containing ammonia reduces the level of ammonia detected.
- 17.** At Purdue University, a combination of fermented whey and sarsaponin when fed to tom turkeys, litter ammonium nitrogen content was lower as was atmospheric ammonia levels.

18. A 10 % increase in ammonia in the air in a chicken house will depress body weight by approximately 1%. A slight odor of ammonia reduces body weight by 1- 2%; a noticeable eye and nose irritation reduces body weight by up to 25 %.

19. Too much ammonia in the atmosphere can have a disastrous effect on housed livestock. In pigs it can result in the nasal condition known as "ape"(atrophic rhinitis), while chickens can go blind. Addition of extracts from *Yucca schidigera* to animal feeds cause the smell to be reduced. The ammonia is being bound by certain components of the extract, partly as the food is passing through the gut, but more particularly once it is outside the animal.

20. In Japan, the addition of *Yucca schidigera* extract improved palatability and digestibility of rice straw when fed to goats.

21. In a study at Kentucky State University, *Yucca schidigera* extract was shown to have some potential as a preconditioning agent in aquaculture systems because of its ability to lower ammonia and nitrite levels in a recirculating aquaculture system.

22. At Northwestern University, the use of *Yucca schidigera* in horse feeds may also decrease ammonia release into the environment without adversely affecting nitrogen utilization. Supplementation of the basal diet with *Yucca schidigera* extract tended to increase the digestibility of dietary dry matter, neutral detergent fiber, hemicellulose, acid detergent fiber and cellulose.

23. In Taiwan, the results of an experiment showed that the performance of pigs fed sarsaponin diet was superior to those fed zeolite powder diet and the control group in daily gain, feed conversion ratio, and days on test. The sarsaponin treatment had better NH₃ deodorization efficacy than those of the control group.

24. For layers there is a loss of 1.5 eggs/year/hen housed for every 10 ppm increase in ammonia. With broilers there is a loss of 15 gr. of live weight gain/bird for every 10 ppm increase in ammonia. If *Yucca schidigera* products enable us to control ammonia cost effectively we will have made significant progress in improving bird performance.

25. Intestinal ammonia level may have a significant influence on reducing ascites mortality (of broilers). Inclusion of a urease inhibitor (*Yucca schidigera* extract) in the daily diet of broilers significantly reduced mortality.

26. Research has confirmed the ability of a urease inhibitor (*Yucca schidigera* extract) to reduce mortality.

27. In Mexico, in a test with *Yucca schidigera* extract fed to heavy broilers, general mortality was reduced from 27 % to 21 % and ascites related mortality reduced from 19 % to 14 %

28. In a British journal it was reported that *Yucca schidigera* reduces ammonia and H₂S gas levels in "pig-eries". Solids in slurry are broken down more quickly because the sarsaponin in *Yucca* increases bacteria. A surprising spin-off to this activity in the sludge is that sarsaponin also seems to act as a natural growth promoter, possibly by conditioning the absorbent cells in the gut and/or by reducing surface tension at the point of absorption.

29. A research project at Oregon State University determined that dietary *Yucca schidigera* extract reduces atmospheric ammonia in poultry and rabbit houses, and increases growth rate.

30. Another test performed on steers at Oregon State University showed a tendency for *Yucca schidigera* to reduce rumen ammonia levels, plasma ammonia levels, and plasma urea-N levels. This could lead to more efficient utilization of dietary nitrogen, particularly when high roughage diets with urea are fed.

Miracles of Yucca

Laxative and cleansing suds from the root, thread nets, rope and baskets from the leaves, waterproof sealant from the pitch, rafters from the stalks, paint from the blossoms, and food from the fruit and seeds. Since pre-Columbian time Indians from the southwest have woven every part of the beautiful desert yucca into the fiber of their daily lives.

Today new practical and healing powers of this marvelous plant are being revealed. Investigations

by leading doctors and chemists at over 100 research institutes and Universities in 14 different countries are involved with the still viable uses discovered by the ancients. These modern professionals are adding further applications for human, animal, agricultural and industrial use.

Although the yucca is called the "Lord's Candle" because of its magnificent once in a lifetime bloom, it is not the blossoms of this ten foot giant but the sap and the tissue from the trunk that yield the plant's key ingredient, steroid saponins (sa'po nins).

Found in high concentrations in the yucca, it is believed that the saponin content accounts for the plants ability to flourish in the extremes of the desert. When experiments were conducted using the saponin with present day agricultural crops, the crops could better withstand drought and other stress conditions. The steroid saponin functioned as an antistress substance.

In a totally different application, the yucca is widely used at sanitation plants. In this situation, the saponin accelerate the breakdown of organic waste. This is possible because they directly influence the development of microscopic plants (bacteria) which are vital to the waste disposal process. In the early 70's, the yucca's ability to withstand stress and to accelerate the breakdown of organic waste prompted the investigation of its use in promoting animal and human health. By that time, its non-toxic nature had been well established not only by traditional usage but by the FDA. Since 1965, yucca has been on the famous GRAS list (Generally Regarded As Safe by the FDA) and used as a food flavoring adjuvant. Further testing has shown the absence of any evidence of absorption through the intestinal wall or of harmful side effects.

The theory that some forms of arthritis as well as allergic reactions, migraines and other stressful ailments, are caused by harmful bacteria and toxins in the colon, made yucca a natural choice for relief. In fact, veterinarians were using it to successfully treat

digestive and arthritic problems in dogs and horses before it came into use by human subjects resulted in evidence that steroid saponin could not only reduce stress and reduce swelling but also improve digestion and decrease the tendency to develop toxic waste in the colon.

In one study, the yucca extract was administered to 149 patients. No therapeutic claims were made. Relief of pain, and swelling and stiffness were reported by 60.7% (The remainder reported no change). There were no ill side effects reported. According to the doctors involved in the testing, the yucca saponin reduces the production of inflammatory toxins in the alimentary canal, relieving the resulting stress problems.

Body Purification

In order to fully understand that this unique kind of environmental process yucca is capable of doing within its system, it is necessary to focus attention on two levels: the philosophical and the biochemical. To better comprehend the first, we need to briefly examine an ethical culture in which yucca plays a vital role. To the Navajo states on anthropological works, "elimination or friction and restoration of harmony in the total economy of things" is the primary importance.

This is probably why yucca is in such demand among these particular American Natives for washing wool or clothing, shampooing hair, bathing the body, ceremonial baths, purification baths, following burials, and for childbirth as well. In all of these various functions it will be observed how closely intertwined the secular is with the spiritual. The Navajo view them as inseparable and consider yucca to be the only plant capable enough of thoroughly cleansing both realms.

On the more rational side of biochemistry, we know that the herb contain many saponin which in the words of one authority, "are as cleansing as any store bought soap is." According to an important reference

work saponin reduces inflammation and swelling, kills harmful microbes, and destroys deadlier viruses, reduces serum cholesterol, and eliminates mucus wastes from the body. From this brief description we can see just how well these yucca constituents can scrub crystallized joints, wipe away germs, clean out clogged arteries, and generally throw out the junk and goo our bodies can do without.

Disease Process Under Attack

Thanks to these miraculous saponin, yucca stands ready to fight in our behalf when the body's overall health is threatened in anyway. Nowhere is this more evident in cancer. Two separate studies confirm it's strong anti-tumor activity. Early research with the Cooke Memorial Cancer Lab in Lakeland, Florida, and later was successfully reduplicated by the renowned Sloan-Kettering Institute for Cancer Research in New York City. And a research team at the AMC Cancer Research Center and Hospital in Lakewood, Co. In their own experiments notices that species of yucca "have potent, anti-cancer effects" and should be treated further. Considering how widespread the AIDS epidemic is becoming, yucca may yet prove to be the formidable friend many weakened immune systems are desperately in need of these days. Yucca's miracle extends even to arthritis and beyond. A wealth of testimonials obtained by yucca have been accumulated regarding the relief of pain. But it is really the documented, clinical evidence which carries the most weight in the long run. During the mid 1970's, Drs. Bernard A. Bellow and Robert Bingham conducted studies with 101 patients giving half yucca tablets and the other half look alike placebos. These kinds of results are not merely commercial pipe dreams cooked up by the slick promoters, but the legitimate research performed by diligent scientists attempting to unravel yucca's extraordinary healing powers.

Rescuing Pets and Livestock

The miracles which continue to come from environmentally processed yucca, provide an equally thrill-

ing sequel for household pets and domestic livestock as reports from leading veterinarians, trainers, pet owners and dairy farmers have been pouring in at a steady rate, describing the herbs tremendous restorative powers with arthritic animals. Blue ribbon dogs, fully pedigree cats, champion race horses and prize dairy stock that were once relatively incapacitated are able to hobble, run, gallop, leap and leisurely meander in contented pleasure, much to everyone's utter amazement.

Nutritional Enhancement

Yucca does to the daily diet what any commercial gas additive does to the tankful of unleaded or regular fuel, giving you more mileage for the fuel that's been consumed! Volunteers who've taken their regular astritional supplements with and without yucca, have reported a definite difference in how they felt. Yucca seems to have given them more energy and maximized whatever they've consumed beforehand. Nothing is wasted when yucca is taken, but everything is put to good use. Is Yucca Compatible With In-Feed Antibiotics?

Yucca is completely unaffected by all antibiotic growth promoters and does not interfere with their use.

Currently, Yucca has a GRAS (Generally Recognizes As Safe) status in both US and Canada. It is not regulated as a drug in either country and it has been granted a labeling claim statement of "...as an aid in the control of manure and / or ammonia odors" by the US and Canadian governmental regulatory bodies.

CONTACTS US

AxSys Direct Mfg

4523-97ST
Edmonton,AB
T6E5Y8
CANADA
Phone 1-866-543-5276
Fax 1-780-434-5906
e-mail info@simplyboss.com

sales contacts for specialty chemicals

Toll free order desk 1-866-543-5276
e-mail orders@simplyboss.com

Brian Charman
1-403-819-1942
e-mail bcharman@shaw.ca

Richard Boissonneault
1-780-718-8334
email rich@SimplyBOSS.com



www.SimplyBOSS.com