

Dr. David Williams Information

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[This information is offered to better inform you of the Diamond V products and its health discoveries. Diamond V and its distributors and retailers supply animal feed grade product with a LIMITED PRODUCT WARRANTY. It is not intended or approved for human consumption. Epicor is the human grade product discussed below and is approved by the USDA for human consumption.]

Alternatives - FOR THE HEALTH-CONSCIOUS INDIVIDUAL

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BENEFITS of EATING Like a HORSE — Animal feed additive helps human health

Owners of livestock know that spending money on prevention pays off in the long run. Long-time readers of Alternatives [Dr. Williams newsletter] will probably remember that many of the nutritional discoveries I uncover have their beginnings in the animal world. In fact, some of my most useful discoveries have come in this manner. I'm not talking about household pets, however, but what are sometimes referred to as performance or production animals. There's a huge difference in the attitude people take toward these creatures.

Pets are very often treated like young children, particularly when it comes to what they are fed. We tend to "reward" our children with dessert or some other treat if they finish the rest of their meal. Most children learn when very young that proper behavior can be the path to receiving such treats. And, I'll admit, I can be as guilty as the next person when it comes to offering treats for good behavior. A similar thing happens with our pets. We generally think of it as a nice thing to do. After all, it doesn't get much better than to watch the joy it brings, and giving the treats quickly endears us to the child or pet. But moderation is the key; if overdone, we may be doing more harm than good in the long run. This doesn't happen with performance or production animals. Treats are generally not part of the program.

Whether it happens to be a racehorse or a heifer in a feedlot, the primary goal is to keep the animal healthy. Don't get me wrong, I'm not condoning the use of steroids or antibiotics in livestock, or the way these animals are often-times raised. The point here is how the health of these animals is very often a top consideration—primarily because the animals' health is directly related to the bottom line or profit from such ventures. Unlike the way many people treat their pets or their own body, treats don't have a place in their feeding programs. Sickly animals and too many vet bills can quickly put an owner out of business. As such, owners are always on the lookout for supplements or other techniques that will improve the health of their animals.

A Dusting of Health

A few years ago I got a very interesting call concerning an animal feed supplement. It involved a company called Diamond V Mills located in Cedar Rapids, Iowa. They make an animal feed supplement from a fermented yeast culture. Supplements like this aren't unusual.

Numerous companies manufacture and/or sell either baker's yeast or yeast cultures to add to the feed of horses, cattle, pigs, sheep, goats, and chickens. Diamond V has been doing so for over 60 years. This call, though, had to do with the health of the employees at Diamond V - not that of the animals being fed their products.

From all indications, it appeared that the employees, who were being exposed regularly to dust from the yeast culture during its production, had been experiencing significant health benefits. Over the last couple of years this has become public knowledge, but when I first started looking into the matter no one at Diamond V seemed to want to talk about it. The "official" word was that their products were manufactured for animal consumption only, not for humans. Later I was told that clinical and laboratory studies with humans were underway, but results from those tests weren't yet available. Even later, I discovered the company was in negotiations with others regarding marketing their product for human consumption and couldn't discuss the matter with me.

All of the studies up to that point involved farm animals. And for over 60 years, as a feed supplement it has performed well—very well. It improves digestion, muscle weight gain, litter weights, milk production, conditioning, and even survivability in all the various animals it's been tried on. Some of the studies I reviewed are over 20 years old, and in not one of those studies could I find any ill effects or downside to using the material. I spoke with several companies that incorporated the yeast product into their custom animal feeds, both here in the US and in New Zealand. Everyone seemed to like the product. I began to use it on my ranch as well, and continue to do so. It was the human health aspect, however, that I was—and still am—most interested in.

Good Health IS in the Air

When Diamond V checked their health claim records, they found something very peculiar. The plant workers, who came into contact with the yeast products, weren't getting sick. The support staff (accountants and the like), however, took sick leave at rates that were comparable to most companies across the country. After accounting for all the other possible factors, it appeared the improved health of those in the production plant could be traced to their repeated exposure to the fermented yeast culture dust in the production plant. Subsequent interviews revealed, time and time again, that an employee's health picture often changed dramatically after coming to work at Diamond V Mills. Some, despite experiencing yearly flu and colds in the past, reported they had not had either in the years since they started work at the plant.

The vice president of operations is married to an ER nurse. Before taking the job at Diamond V, he, his wife, and his children routinely came down with colds, flu, and other infections - undoubtedly brought home from the hospital by his wife. He took the job with Diamond V nine years ago, and he hasn't experienced colds, flu, or an infectious disease for the last seven years. His wife and children, however, continue to succumb to several infections each year.

Another employee, along with his twin sister (who didn't work at the plant), was diagnosed as having the congenital disease retinitis pigmentosa (RP) - a condition that eventually leads to complete blindness as clumps of pigment begin to accumulate on the retina. There is no medical treatment. Vision generally begins to fail when one reaches their 30s, and blindness is typical within 15 to 20 years. After 30 years of working in the dusty plant, this employee's RP hadn't progressed at all - while his sister had lost 90 percent of her sight.

The story was pretty much the same for the other 35 individuals who worked in the plant. Some hadn't experienced a cold, flu, or other infection in 25 years. Others reported improvement in chronic allergy conditions, autoimmune problems, gastrointestinal health, and numerous other conditions after starting work at the plant.

Researchers then began to take a closer look at the effects yeast cultures might have on humans. Their findings were amazing, to say the least. After more research and product development, the company came up with a more concentrated product for humans. Very significant health benefits have now been associated with the ingestion of this product.

Immune System Performs at Superior Levels

In past articles I've discussed at length the importance of natural killer (NK) cell activity. NK cells are your immune system's first line of defense against invading pathogens or cancer cells. Researchers found that NK cell activity increased four-fold following continued ingestion of the concentrated yeast culture. This increased efficiency allowed the immune system to perform at superior levels with fewer NK cells - sparing the body the stress and expenditure of having to produce more NK cells.

It also improved the ratio of immune helper cells to suppressor cells. In the simplest terms, helper cells (CD4 cells) are crucial in coordinating the response of the immune system to pathogens. They activate other immune cells and stimulate the production of antibodies. Suppressor cells (CD8 cells), on the other hand, help maintain a balance so your immune system doesn't "over-react." They stop an attack. Individuals taking the yeast culture also exhibited higher levels of antibodies, indicating their immune systems were more effective. What I believe to be one of the most important findings of all has to do with levels of what's called IgA.

Building the Immune Barrier

The increase in antibiotic-resistant respiratory diseases has become an ever-increasing, worldwide concern. I've said before that it's not if we'll have a worldwide respiratory epidemic, it's just a matter of when.

TB, SARS, and bird flu are just a few examples of such serious threats beginning to emerge. It is my hope and prayer that bird flu will simply fade away. We continue to see periodic outbreaks in parts of Asia, but hopefully it won't spread any further. Since this flu strain and other viruses and bacteria are constantly mutating, I have little hope that any vaccine will afford protection. Trying to create a vaccine brings up the vision of my three-year-old popping soap bubbles from a bubble machine. By the time he's lucky enough to catch and break one, there are dozens more released into the air. If one of these pathogens becomes virulent and able to pass from human to human, we're going to need more than just promises of a possible vaccine.

In chickens, the bird flu is so virulent that if one chicken out of 100,000 is infected, within 24 hours 50,000 chickens would be dead. Within 48 hours the whole 100,000 would be dead. Admittedly these animals would be in immediate contact with each other, but our propensity to travel these days would allow a similar, highly infectious human disease to spread more quickly than ever seen in history. There are projections showing if an individual was infected in Asia and then immediately boarded a plane for

the US, by the time he/she arrived they would have potentially led to the infection of as many as 10,000 individuals.

Again, I hope nothing like this ever happens. Luckily, most of these pathogens simply fade away. Unfortunately, however, the underlying factors for such a pandemic certainly seem to be in place. I'd be remiss if I didn't at least warn you of the possibility and pass along any tools I uncover that could help protect you and your family. If a situation like this ever does arise, this yeast culture product could be a godsend.

You're undoubtedly aware that respiratory illnesses, and many other diseases as well, enter the body either through the nose, the eyes, or the gastrointestinal tract—from the mouth to the anus. This explains the standard hygiene recommendations during cold and flu season: Wash your hands repeatedly; cover your mouth and nose when sneezing; and keep your hands away from your mouth, nose, and eyes. Even following these precautions, however, doesn't provide total protection. The vice president mentioned earlier undoubtedly still had the same viral and bacterial exposure to his wife as did his children. His ability to stay well had more to do with his immune system than with his hygiene. Our first line of defense against ingesting pathogens is a protective mucus layer.

Immunoglobulin A (IgA) is an antibody found in the mucosal lining of the respiratory and digestive tracts and an indicator of mucosal barrier strength. The research showed that the ingestion (even if through inhalation) of this fermented yeast culture was directly associated with astoundingly higher levels of IgA. This was obviously one of the determining factors as to whether one contracted an infectious disease or went years or decades without any infection whatsoever. I suspect this will also be a deciding factor in who survives and who succumbs if we're ever hit with a virulent worldwide pandemic. (As an interesting side note, it's the presence of IgA in the "first milk" or colostrum that helps protect newborns from infection.)

One of the head researchers of this yeast culture showed the laboratory findings to a colleague who was highly trained and well-respected in the field of immunology. The colleague responded that the level of immune markers in individuals ingesting this product was much higher than that seen in other humans. This, in turn, gave those people's immune systems significantly more ability to kill viruses, bacteria, and tumor cells.

Simple Health from a Complex Compound

Like many other natural products, yeast cultures are very complex -and there are unquestionably dozens of components that contribute to its efficacy. The compounds in the human product developed by Diamond V included some surprises:

Selenium, a powerful antioxidant. Insufficient selenium in the diet allows viruses to mutate, which helps explain why we see most of the flu viruses arising from areas within China. A large part of that country has soil that is seriously deficient in selenium. Historically, the major epidemics of avian influenza have occurred in parts of the world with selenium-deficient soils. And practically all of the local outbreaks of avian influenza can be traced back to areas of severe selenium deficiency.

Squalene, a steroid precursor normally found in only a few species of sharks and a few plants. It's one of the key immune-boosting components responsible for the marketing of shark liver oil.

Resveratrol, one of the true "anti-aging" compounds, which is normally found in grape skins and red wine.

They've also found it contains all the primary minerals, trace minerals, amino acids, and several B vitamins, as well as other beneficial compounds normally found only in foods like blueberries and green tea.

Ingestion of the yeast culture increases glutathione levels as well. As I've discussed at length in the past, there is a direct relationship between your glutathione levels and health and longevity. It's typical for glutathione levels to decrease as a person ages, but individuals who are able to maintain higher levels of glutathione live longer and healthier lives.

The lab tests have also revealed that the yeast culture has over three times the antioxidant capacity of any known food. The oxygen radical absorbance capacity (ORAC) of the product was shown to be 614, which is almost four times the highest ORAC-value food, black raspberries, which have a value of 164.

Proven Safety

All of the studies conducted so far have revealed that this cultured yeast product is non-toxic and safe. Extensive toxicology studies have been undertaken, and even at extremely high dosages there has never been any indication of any side effects. It has also been tested for pesticides (over 139 of the most common) and toxic residues -and it contains neither.

Additional tests have been performed to determine if it interferes with over-the-counter or prescription medications -and it doesn't.

I'm sure one concern for many people has to be the fact that the product is a yeast culture. Individuals bothered with systemic infections from the yeast *Candida albicans* are hesitant about including any yeast products in their diet. Yeast infections have been linked to numerous chronic health problems. It's important to remember, however, that this product is a dried, fermented yeast culture.

As opposed to live yeast, this culture contains the fermented metabolites of a once-live colony of yeast, as well as the dead yeast itself and the residue of the medium it was grown on. It doesn't transfer live yeast organisms to your GI tract, but instead facilitates and increases the growth of the existing beneficial bacterial flora. Most everyone has *Candida albicans* and dozens of other potential pathogens living in their lower GI tract, but few of those people go on to experience any problems -because their level of beneficial bacteria is sufficient to keep the pathogens in check.

Research has shown that much of our immunity and ability to survive is stimulated by a limited exposure to a wide variety of these controlled pathogens. For example, repeated studies have shown that children raised in more sterile environments suffer far more allergies than children raised around pets and allowed to play in the dirt and outside environment.

Gut-Level Benefits

In effect, components of this product work as a "prebiotic" to feed the beneficial bacteria in your gut. (Don't forget to keep taking your probiotics and fermented food to replenish the beneficial bacterial as well.) Beneficial bacteria produce secondary byproducts or "metabolites" that inhibit the growth of harmful viruses, bacteria, fungi, and other pathogens. The yeast culture also provides its own, very potent metabolites.

Very minute levels (we're talking one part per billion) of this product have been shown to totally inhibit the growth of *E. coli*, the bacteria most commonly associated with food poisoning. It also completely stopped the growth of *Candida tropicalis*, which is the second most commonly encountered pathogen and a major cause of blood poisoning (septicemia) - particularly among individuals with diabetes, leukemia, or lymphoma.

The combination of dead yeast and metabolites in this yeast culture also increases mass in the gastrointestinal tract, and improves fiber and protein digestion by supplying a long list of various nutrients and enzymes. For example, one of the enzymes was found to be phytase -necessary for the proper utilization of phosphorus, which is essential for bone health.

PREVENTION, Rather Than Cure

I have yet to uncover any downside to using this product on a regular and continuing basis. One of the strongest attributes of this product is the fact that it balances the immune system rather than acts as an immune stimulant. This is an extremely important point to keep in mind.

Individuals who suffer from what are called autoimmune diseases can make their condition worse by taking anything that overstimulates their immune system. Their immune systems have lost their ability to distinguish normal healthy cells from pathogens (bacteria, viruses, fungi, parasites) and will readily attack healthy cells. For example, in type 1 diabetes, the immune system destroys the islet cells in the pancreas that produce insulin. In rheumatoid arthritis it attacks the joints. Other examples of autoimmune disease include multiple sclerosis (MS), systemic lupus erythematosus (SLE), and Graves disease.

This is a product you can (and should) take on a consistent basis to help keep your immune system balanced without overstimulation.

Since it's not a stimulant, it wouldn't be used as a "treatment" for some acute problem like a cold or flu. Instead, it's something that can be taken continuously to prevent a cold, flu, or other infection from happening in the first place. It's a maintenance-type product that has a long history of being safe and effective for long-term use.

Getting the Yeast

Diamond V Mills has a few different cultured yeast products for animals; the formulations are essentially the same except for their concentration. The most concentrated, and the one I use and recommend, is called Diamond V XPC. It's based on the yeast *Saccharomyces cerevisiae*. The medium on which the yeast is grown consists of processed grain byproducts, roughage products, cane molasses, malt, and corn syrup. (The natural sugars are necessary to feed the yeast.)

The yeast they use is also commonly referred to as baker's yeast or brewer's yeast. It is one of the most researched yeasts and has been used for centuries for making bread, beer (particularly ales . . . my favorite), and wine. Diamond V reportedly utilizes a proprietary technique to both grow and dry the yeast, which helps maintain its health-promoting benefits.

When the company discovered that cultured yeast could benefit humans as well as animals, it formed a subsidiary called Embria Health Sciences to sell the newly developed product under the name EpiCor. This product is now being sold through several different companies. Although all the original benefits I've discussed—reduced sick days, improved immune health—are a direct result of ingesting the

products created for animals, the company literature says that EpiCor and Diamond V XPC are somewhat different. There are a number of differences I'm sure of, and a couple I can guess at. For one, the company says the drying process is different so the product retains more of its antioxidant capability. From the company's product specification sheets I've obtained, it appears that the EpiCor may also have a higher protein level.

Based on the information I've received, I'll speculate on another difference. After introducing the EpiCor branded product, Diamond V Mills released a new version of the animal product XPC designated as suitable for use in organic production. The production difference seems to be that the grains used in producing the yeast culture are non-GMO grains (genetically modified organism). This would lead me to believe that the EpiCor product is also ~ probably produced using a non-GMO base as well.)

The biggest difference I see between the two products, however, is the price. A 30-day supply of EpiCor (consisting of thirty 500 mg capsules) sells for anywhere from about \$20 to \$50. A 50-pound bag of Diamond V XPC sells at feed stores for much less.

From the company's point of view, a significant difference is that EpiCor is made in a food-grade facility, while the Diamond V products are made in a feed-grade plant. I'm sure that it matters to the FDA, but it doesn't matter to me.

EpiCor has the FDA safety status of Generally Recognized As Safe (GRAS). XPC doesn't, but then products for animals generally don't. The approval process is lengthy and expensive, and not necessary for animal feed. Nevertheless, both are obviously safe, non-toxic, pesticide-free, and non-mutagenic. They both have the same reported shelf life: a minimum of 24 months from the date of manufacture.

Getting the Right Amount—CHEAP!

Recommended dosages for XPC vary significantly depending on the size of the animal. For example, a racehorse might be given 14 grams a day, whereas an ostrich might be given only 3.5 grams a day. The company's literature obviously doesn't provide dosages for human use, but, if you use body weight as the determining factor, I would guess the dosage for an adult human would be somewhere in the ballpark of 2 to 3 grams a day. A child's dosage would probably be anywhere from ½ to 1 gram a day. At the time the company first noticed the effect the product had on humans, they carried out tests to see approximately how much was being taken in daily by the workers. Diamond V used the results of these tests to determine the dosage of EpiCor to be ½ gram per day.

Based on the dosage figures I mentioned earlier, a daily dose of EpiCor, from the least expensive supplier I could find, would run about 66 cents.

As I mentioned earlier, one of the differences between Diamond V's various products is their concentration. The dosage of XPC that's equivalent to half a gram of EpiCor is about 3 grams. That higher daily dosage of XPC, at the highest price, would cost just over a few pennies a day.

I'm going into such detail because I don't see how anyone can pass on this deal. I've personally never seen a better bargain when it comes to balancing your immune system. If you utilize the XPC product, you can help give your body some of the best protection ever documented for a penny a day. This is another product my dad would certainly call "cheap insurance."

I'm sure the company won't like the comparisons I'm making, but the facts are there. And for several reasons they can't recommend that humans use XPC. But it wasn't EpiCor that bestowed all the end benefits on the employees at Diamond V Mills; it was the lesser- concentrated animal products. And those products have been used successfully on all types of animals for over 63 years without incident. Like it or not, we too are animals.

Ignorance Isn't Bliss, It's Just Unhealthy

Buying this product in bulk animal form for human use isn't Diamond V Mills' preferred way of selling the product. I really don't think it should be a worry for them, however. Only a small percentage of the population in this country will read about this. Sadly, our society reads very little. I recently found the following statistics on the Internet, which are shocking, to say the least:

- *½ of high school graduates never read another book for the rest of their lives.
- *42 percent of college graduates never read another book after college.
- *80 percent of US families did not buy or read a book last year.
- *70 percent of US adults have not been in a book store in the last five years. And
- *57 percent of new books are not read to completion.

Obviously, if you're reading this newsletter you're in a very select group...not just for reading alternatives, but because of the fact that you're reading at all. Regrettably, the majority of the population won't be reading about this or other novel ways to protect their health.

I'm always being asked what one should take to prevent the flu or what can one do to lessen the chances of contracting a virulent disease. This is it. Along with a good diet, exercise, and supplement program, this yeast product should be part of your total regimen.

Endless Possibilities

I have no doubt we'll see more research on this product. When you find a product like this that increases the efficiency of the immune system to this degree, it has the potential to help prevent not just colds and infections, but also diseases like cancer and the serious autoimmune diseases I mentioned earlier. Probably one of the more difficult decisions for researchers will be which disease process to test it on. The possibilities are almost endless. I have reports of individuals obtaining relief from chronic allergies in just two to four weeks. In animals, it speeds the recovery from surgery, and I have no doubt it would do the same in humans. It would be an excellent "tonic" for both old and young.

Any type of stress to the body weakens the immune system, and is often the triggering factor in the outbreak of cold sores or herpes. This includes mental stress, as well as physical stress like overindulgence in exercise. Animal studies indicate XPC increases exercise tolerance— resulting in a decreased heart rate, lower respiration rate, and, remarkably, decreased lactic acid buildup in the muscles. It's that buildup that leads to fatigue and muscle failure in endurance exercise like marathons. Combating the effects of stress is just another of many areas where this yeast culture product would be beneficial.

But for me, I can't pass up the deal that for pennies a day, per adult, one single bag of XPC will supplement my whole family of five for two years, plus my parents, my neighbors, their neighbors, my dog, and my cat—and I'll still have plenty left over for the chickens, goats, and cattle. Consider splitting up a bag with your family, neighbors, or coworkers. There are not many people who can't afford a few pennies a day.

As I mentioned before, the product is very stable. If kept dry, in a sealed container at a temperature of 75 degrees or less, it has at least a two-year shelf life. Stability tests are still running, and I suspect the actual shelf life will be far longer than two years. . . .

I'll admit, some may not think XPC tastes that good. Personally, I find it easy to simply put the powder on my whole grain toast each morning, or just take the ¼ teaspoon of the powder (which is somewhere between 2 and 3 grams) and put it directly in my mouth. The grainy, yeast flavor reminds me of my days of a child growing up on a farm—and frankly, I like the taste.

The product isn't a cure-all, but if you expect your body to "cure all" then it's certainly one of the better tools I've ever seen to give it that power.

This article was posted by All Natural Feed Company who wishes to, once again, credit Dr. David Williams and his Alternatives Newsletter for the information provided. We took the liberty to paraphrase and edit.