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## This time and once more will make twice – Reinventing Agricultural Hemp

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As a young boy, I distinctly remember our neighbor installing a fireplace insert in our home when my grandfather got concerned that he didn't know what he was doing. So Pap asked him "Dan, have you ever done this before?". Dan quickly replied "Yes sir, this time and once more will make twice." Confused, and not too good at math, Pap said "well that's great." You see, Dan didn't want to admit that it was his first time to do this as it might indicate he didn't know what he was doing. As I think about my involvement in the hemp industry, that's my thoughts and the thoughts of most every farmer and researcher involved with this crop. None of us want to admit our lack of experience but in reality most everything we've done in reinventing the hemp industry has been a 'first'. I appreciate the opportunity through this blog to recount my personal associations with helping to reinvent the hemp industry.

### **The beginning of the Reinvention**

Speaking of 'firsts', shortly after the 2014 U.S. farm bill became law on February 7, 2014 former Kentucky Commissioner of Agriculture James Comer called me to ask Murray State University (MSU) to participate in hemp research and referred me to Caudill Seed company in Louisville. That contact began a close association with friend Carl Gering at Caudill and led to connections to Cannavest (now [CV Sciences](#)). We quickly ordered seed and then lots of legal wrangling led to most seed that was ordered to ship to Kentucky being seized and confiscated in Louisville by the DEA and U.S. Customs. However, the seed that we ordered for MSU actually was shipped from California and came right through customs and we received a phone call from the Kentucky Department of Agriculture (KDA) on Friday, May 9, 2014 that our seed had arrived. Having pledged to my good friend Commissioner Comer that we would move quickly, I enlisted the support of recent MSU graduate and MSU Student Regent Jeremiah Johnson to take our MSU truck on Sunday to Frankfort and be there at 8 a.m. on Monday to get the seed and transport it to Murray. All went well until the truck broke down on the parkway later that night. So I did what any good Dean would do, I solicited another favorite graduate assistant Samantha Anderson to travel to Frankfort to pick up Jeremiah... and the seed! These two students picked up the seeds and became the first students to transport hemp seed all the way across the Commonwealth of Kentucky. Our farm crew under the leadership of farm manager Jason Robertson then sprang into action and by 7 p.m. on Monday, May 12<sup>th</sup> two acres of hemp were planted at MSU and the hemp industry in Kentucky was reinvented with a rather non-ceremonial first planting, a planting that is also believed to be the first federally legal planting in the U.S. after the farm bill passage and since it was made illegal by the Controlled Substances Act in 1970. That initial planting has been widely reported. What has not been so widely reported is that about 9 p.m. that night, Commissioner Comer called me and said "Tony, you might want to hold up on planting that seed with all the legal difficulty that we are having with the DEA... we are having to sue them to get our seeds released." At that point and with the seed already in the ground I replied "I'm sorry Commissioner but if the DEA wants our seed they will have to come get it out of the ground one seed at a time."



Photo credit: Brendan Cleak

## The past...

[Hemp in Kentucky](#) definitely has ‘a glorious past to uphold’. One of the first mentions of hemp that someone referenced to me as we began hemp research was an [article](#) in the February 1938 edition of Popular Mechanics magazine, an article that introduced hemp as America’s newest billion dollar crop.

Specifically, Kentucky was the greatest producer of U.S. hemp in the 19th and 20th century, with thousands of acres of hemp in production. According to a 1902 periodical, Kentucky was responsible for 3/4 of U.S. hemp fiber production. Production reached a peak in 1917 at 18,000 acres, mostly grown in the Bluegrass region, then waned due to market forces after World War I as other sources of fiber were introduced. A Federal program to reintroduce hemp for wartime needs in Kentucky and other states during World War II reached 52,000 acres in Kentucky in 1943.

As a young professor at MSU, I became familiar with Kentucky’s effort to reinvent the crop through my mentor and department chair Dr. Eldon Heathcott. Dr. Heathcott, along with other leaders in Kentucky Agriculture, was named to the Kentucky Hemp and Related Fiber Task Force established by Governor Brereton Jones in November 1994. The work of this task force came to

an abrupt [end](#) in July, 1995 when the Attorney General and State Police and other factions ruled that work with hemp was illegal.

Of course, it didn't end there as the self-proclaimed President of the MSU Student Hemp Society found out Dr. Heathcott was on the Task Force and delivered a large sack of seeds to his office, a fact that I never let Dr. Heathcott forget. As a very conservative leader, I remember vividly how much of a crisis it became that he was left with these seeds. It may very well could have been the first planting at MSU but my suspicion is that Dr. Heathcott immediately called the MSU Police to come and confiscate those seeds. Nevertheless, I had lots of fun with Dr. Heathcott about the Task Force being shut down while, in the words of Jim Stafford in the 'Wildwood Weed' song, he was 'sitting there on his sack of seeds'.

Then my next association with hemp came through conversations with Kentucky Senator Joey Pendleton who invited me to some meetings as the [debate](#) began to stir. This debate really began to boil with the promotion after the election of former Kentucky State FFA President James Comer as Commissioner of Agriculture. He tirelessly promoted hemp and led the state to pass Senate Bill 50 which prepared the way for Kentucky to reinvent hemp 'if' the federal government ever made the crop legal. It was on one of these promotional tours at the Murray Rotary club where Commissioner (now Congressman) Comer thrust me into the media blitz. He casually mentioned that when it became legal that MSU might grow some of the new crop. This mention became the impetus for Murray Ledger and Times journalist John Wright to begin to consistently question me about MSU growing hemp. After several attempts to answer him with "no comment", one day he got to me with questions about an upcoming Dark Tobacco Field Day which I answered with confidence and then he once again hit me with the hemp question to which I replied "John, look, if hemp ever becomes legal and as a regional university striving to serve the region, of course we would consider growing it." The next day, John wrote an article for the local paper and led with the admission that I had made regarding hemp. The next thing we knew this appeared in an AP story:

***"MURRAY, Ky. (AP) - Officials with Murray State University are eyeing hemp research should the crop be made legal in a federal farm bill. The dean of the university's agriculture school, Tony Brannon, says he'd be interested in research opportunities involving hemp and focusing on how effective the crop would be. Congress is weighing a provision to allow research into hemp as part of the 2013 farm bill. Kentucky has been pushing for the federal government to either allow it to be grown for commercial use or research. Kentucky Agriculture Commissioner James Comer told The Murray Ledger & Times that along with Murray State, the Toyota plant in Georgetown has already shown interest in using hemp for manufacturing parts for the automobiles it produces."***

Bingo! This AP story was picked up by media outlets around the state and nation including the Miami Herald and the San Francisco Chronicle and various TV stations. I have to admit...at that point I still thought the legalization in the federal farm bill was a long shot. However, I thought that we better start getting our act together so I sought the approval of Interim MSU President Tim Miller and the Board of Regents. Again, expecting another roadblock, I was excited to learn that they were all for it. Matter of fact one of the Board members, Harry Lee Waterfield, who knew of the Kentucky history with hemp contacted me wanting to know more and encouraging us to become a leader in the reinvention. One thing that has been constant through this entire process is



the commitment of MSU and our administrative leadership to support our efforts in hemp production and research. One by one the road blocks and hurdles came down leading to that now famous contact by Commissioner Comer about our seeds arriving and the subsequent planting of hemp that took place at MSU on May 12, 2014.



### **What's in a name?**

First, let me explain a little about my background. I am a fifth generation farmer having been born on a farm and having cut my teeth on a Model B Allis Chalmers tractor. Our farm consisted of the traditional crops of corn, wheat and soybeans and a localized and specialized crop called Dark Tobacco. This crop essentially is the primary ingredient in smokeless tobacco. While corn, wheat and soybeans and beef cattle and a few hogs from time to time were important to keep our family busy throughout the year, it was Dark Tobacco that paid the bills. Matter of fact, Dark Tobacco money paid for every penny of my education all the way through to my Doctorate. This Dark Tobacco industry happens to be very important to our geographical area and our region. If you draw a 100-mile circle around Murray, Kentucky, you will have encompassed well over 95% of the world's dark tobacco production. Dark Tobacco, as opposed to Burley Tobacco, although it has gone through the reinvention of the Tobacco Buyout, has not seen nearly as drastic a decline and it remains a viable crop and economic driver in our area. So I grew up with a specialty crop

background and we always were ready to try out a new crop on our farm. Additionally, we had experimented with specialty crops such as triticale and crambe on our home farm.

Consequently, I was not afraid of trying a new crop like hemp. However, I do admit that the association of 'Industrial' Hemp with its illicit cousin caused me quite a lot of consternation. This consternation led me to a lot of background and research to be able to justify it to those who might question my involvement. Of special concern was the fact that I have prided myself with no past involvement with illegal drugs or alcohol and with my service as a Deacon in our local church. My sense of relief with my leadership in this area did not arrive fully until my pastor Bro. Mike Rhodes coined the phrase "Don't skimp on the hemp!" From this point, I was all in!

So, what is in a name? I contend that we should have reinvented this crop by ditching its former name 'industrial hemp' and coining a new name... 'Agricultural Hemp'. The name 'industrial hemp' immediately conjures up an association with its illicit cousin and it will forever be linked to it. If we are truly serious that it is a viable agricultural crop why don't we begin to call it that? We don't call soybeans 'industrial soybeans' although certainly there are many industrial uses. We don't call corn 'food corn' or 'ethanol corn' although most it is used as human or animal food or ethanol. So why do we let the word 'industrial' hang with hemp? From the get go, I have recommended the term agricultural hemp to get away from the negative connotations with the former name and to recognize that it is a viable agricultural crop with *new* uses such as CBD production and animal feed and 1000's of other uses rather than just the fiber uses of the 1940's. So from this old country boy you'll never hear the word Industrial hemp from me...it's simply hemp or 'agricultural hemp'. So far my cry from the agricultural wilderness to call it by a different name has not been heard. That doesn't mean I'll quit trying, though.

### **The present...**

This is our 5th year under the pilot research program of the Kentucky Department of Agriculture. From a meager beginning of 33 acres in 2014 to over 12,000 acres permitted in 2018, we've seen a lot of growth. We have also seen many processing companies flood to our state. These processing opportunities run the whole gamut from fiber to CBD production and everything in between. It is an interesting crop that I commonly refer to as a triple crop all in one...no other crop I know has a market for seed, floral material, and the stalk. Our research at Murray State has concentrated on practical things like variety trials, row spacing, seeding rates, THC/CBD levels, poultry feed, and planting dates. The main and *consistent* supporter of our agricultural hemp research has been [CV Sciences](#) under the leadership of our regional representative Josh Hendrix. With their support, we have conducted research and held educational field days. They have even made me out to be a celebrity of sorts with their promotional [video](#) tabbing me as the Dean of hemp.

Other universities have provided much needed work with similar trials including herbicide options and alternative uses. We have discovered some basic information but there is so much to be researched and developed. I've often made a comparison with the Dark Tobacco industry. When our ancestors first started growing this crop, how did it develop? Quite simply, it developed because of literally 100's of years of research. We are just not that far along with Agricultural Hemp research.

Although we've seen lots of increase in acreage and lots of influx of interest in processing opportunities and admittedly lots of successful beginnings, I contend that if we are really honest we really don't know much more than we did 5 years ago. We still don't know why we have emergence problems with the seed. One local farmer planted 1800 acres this year but only 1600 acres came up...is losing 200 acres of a crop going to be the standard? I hope not! We planted two University of Kentucky trials this year on our farm and did everything by the book. Neither one of them emerged with what we would call a 'good stand'. We still don't have any solid herbicide approvals and regular farmer producers still can't use herbicides on their crop while it is growing. We still don't have a reliable method of mechanical harvest for all the different products that can be harvested. Leading companies like Hesston and John Deere don't even have hemp harvest on their radar. There are still no risk management options provided through crop insurance. Financial assistance using hemp crops as their own collateral are not existent. Last but not least we have not scratched the surface of the use of agricultural hemp as an animal feed additive. In a very exciting, rudimentary trial, MSU researcher Dr. Brian Parr fed some hemp hearts to broilers and layers and our chemists have found some significant differences in Omega- 3 and Omega – 6 and other compounds in the eggs and the meat.

Bottom line, there is much to be found out. Most of these research roadblocks and hurdles come from one major problem – the lack of it being recognized as a legal crop. No chemical company is going to invest large dollars in chemical development on an illegal crop. The USDA is not going to allow research dollars on an illegal crop. Certainly, we are still going to fight the involvement of the DEA in our agricultural hemp as long as it is illegal. Herein lies the greatest battle and the greatest opportunity for advancement of this crop. Hence, excitedly we look forward to...

### **The Future...**

It is my belief that the Agricultural Hemp industry has suffered from tunnel vision. Although there are a growing number of believers it has certainly not been a revelation. Through my belief in this crop, I have even been referred to as a 'Tunnel Visionary'. When I looked up the term 'Tunnel Visionary' on the internet I found this quote: "The first bit of advice that pops up after being labeled a Tunnel Visionary is to take the blinders off and look at the world differently. Getting out of our usual space always helps widen our view. But even seeing our most familiar things in a new light can be refreshing". This resonated with me. That's what we need to happen with the Agricultural Hemp industry. We need to, as the old spiritual song goes, realize that 'it only takes a spark to get a fire going'.

What is this spark? No doubt, the spark needed to ignite our industry is to make this a legal agricultural crop. With Congressman James Comer's introduction of *The... Hemp Farming Act of 2017* (I refuse to include the word Industrial) and Senator McConnell's inclusion of *The Hemp Farming Act of 2018* into the 2018 farm bill and the continued leadership of our current Agriculture Commissioner Ryan Quarles and Governor's office of Agricultural Policy Executive Director Warren Beeler, Kentucky is *continuing* its great leadership in reinventing this crop. Certainly the inclusion of Congressman Comer and Senator McConnell on the Farm Bill conference committee is significant toward passing new legislation to make Agricultural Hemp a legal crop.

When this happens, we move from Tunnel Vision to taking the blinders off. At that point, we will suddenly have USDA research opportunities, chemical companies wanting to invest in research, equipment companies beginning to work on harvesting systems, investment moving from the relative few to the mainstream investors and many more impacts. It will be a game changer... and it needs to happen.

As an industry, we have been wading in the shallow end. It's time to move to the deep end. I am reminded of one of the most memorable happenings of my childhood. While attending church camp I took with me a new swimming mask that my mom had purchased for me. Admittedly, I could not swim but the confidence of having this mask led me to a crisis of belief that I was akin to Olympic champion Michael Phelps and enabled me to just jump off in the deep end with my new mask. Of course, the first thing that happened was that the capabilities of new mask became a moot point as it was ripped off my face by the impact of my jumping in the deep end. Coming to the quick flashback to my former admission that I couldn't swim suddenly I came to the realization that I had two options... either sink or swim. After bobbing up to the surface to breathe and then down to the bottom of the 8 foot of water to propel myself back up to the surface to breathe over and over again and for what seemed like an eternity, the life guard finally came to my rescue. The quick transformation from 'sinking to swimming' for me was assisted by the life saver provided for me by the life guard. Indeed, I believe that our transformation of the hemp industry from bobbing up and down to breath on the surface to sinking to drowning in the depths of regulatory death and the difference between sinking to swimming is dependent on a lifesaving effort of the U.S. government to make us like 30 plus countries in Europe, Asia, and North and South America that currently permit farmers to grow hemp.

It's time we take the blinders off!

## **Summary**

Simply said, the first reinvention of Agricultural Hemp has a glorious past to uphold, an even more exciting future to mold.

## **About**

Dr. Tony Brannon is Dean of the Hutson School of Agriculture at Murray State University, a regional comprehensive university located in far western Kentucky. The Agriculture program at Murray State has experienced exponential growth and now has more than 1100 agriculture students enrolled. Murray State University's Hutson School of Agriculture has a long-standing tradition of agricultural and academic excellence. The School of Agriculture provides students with more than a degree; it gives them a true education through hands-on experiences and its knowledgeable faculty. Students in the Hutson School of Agriculture receive a "large university" education in a small school setting.