30 Lump Gulch
Clancy, Mt.59634

Phone: 406-933-5794
Fax: 406-933-9143

markslumber.us

Environmental Quality Council
P.O. Box 201704
Helena, Mt. 59624

Dear Council Members:

On behalf Marks Lumber and our eighteen employees, I submit these comments on LC7000 "An Act clarifying the powers of the board of environmental review related to air quality permitting and rulemaking for wood grinders and wood chippers; amending section 75-2-111, MCA and providing an immediate effective date."

It is imperative that we find a solution for those of us that work in the forests products industry. We can have a net positive influence on our air quality with the use of portable grinders, chippers and other forestry equipment in managing our forests. After discussion with our peers in the forests products industry, I would propose that 75-2-111(c) be amended as follows:

75-2-111 (c) a wood chipper, wood grinder, or **other forestry equipment** and its associated engine used for forestry practices that remains in a single location for less than 12 months and is not subject to the requirements of 42 U.S.C. 7475,7503,or 7661a:

With the focus on the "RED AND DEAD", biomass utilization, less open burning, reduced fuel loading in our forests and a healthy forests, this minor addition would a long way in solving the issue of permitting chippers, grinders and other forestry equipment.

Thank you for the opportunity to comment in this issue.

Sincerely,

Steve Marks
Marks Lumber

Nowakowski, Sonja

From: Jim Brown [JBrown@doneylaw.com]
Sent: Wednesday, August 25, 2010 3:48 PM
To: Nowakowski, Sonja
Cc: Mike Uda
Subject: comment on proposed bill 7002

Remarks on draft bill No: 7002
By the Montana Small Independent Renewable Generators ("MSIRG")
Before the Environmental Quality Counsel
Contact: Mike Uda or Jim Brown at (406) 443-2211.

MSIRG consists of small wind and hydropower developers in Montana, namely Hydrodynamics, Inc. and Two Dot Wind, LLC. MSIRG's members all own or operate certified Qualifying Facilities (or "QFs") or have proposed QFs waiting to be developed. They are therefore all subject to the protection and rights granted by the federal Public Utilities and Regulatory Policy Act ("PURPA"), which has been incorporated into Montana law, and which is designed to encourage renewable energy development. MSIRG's members want to make clear that QFs can be community renewable providers, but are not necessarily community renewable energy providers.

MSIRG's members have concerns regarding the content of Draft Bill No. 7002. In short, this bill would strike the statutory requirement that public utilities and competitive electricity suppliers purchase both the renewable energy credits ("RECs") and the electricity output when they purchase power from small community renewable projects in Montana. As businesspeople, MSIRG's members support the idea of open and free market principles and believe in the promotion of open, competitive markets for disposition of RECs.

However, MSIRG believes that this proposed legislation is less about opening the market for sales of RECs than it is about throwing up another roadblock for small renewable generators in Montana to get project financing and to sell their power. The State of Montana has chosen to foster renewable energy markets by providing that, in the quest to meet the renewable resource standard, public utilities and competitive electricity suppliers shall purchase both RECs and the electricity output from community renewable projects. The idea behind this law as currently written is to provide a means for small renewable projects to get off the ground in Montana by ensuring that such entities have a guaranteed buyer for their power.

MSIRG's members submit respectfully that the problem with Montana's statutory REC provisions lies not with the law as written; but lies with the utilities that are required to buy the renewable power and the associated RECs. If utilities offered to buy RECs at a fair price, there would be no problem with the REC market and the community renewable system would work as the Legislature intended it to work. This is because the cost of power generated by community renewable projects is competitive with the cost of power bought on the open market, even when the cost of the associated REC is factored in. Yet, it has been the experience of MSIRG's members that utilities offer to buy such RECs at below market prices or work to avoid purchasing RECs at all.

In light of these facts, MSIRG's members recommend that this Committee decline to make LC 7002 a committee bill. Given the need to diversify Montana's power generators and suppliers, MSIRG believes it is essential for this Committee to do no harm to the existing renewable energy market system, which leverages market forces to encourage clean energy technology innovation and improvement. MSIRG's members urge the Committee to oppose any efforts, such as this, to delink the purchase of RECs from the requirement that utilities

comply with Montana's graduated renewable energy standard until such time as Montana's nascent small renewable energy businesses are on par with their peers located in surrounding states.

In sum, MSIRG cannot understand how this draft bill encourages the development of renewable power in Montana. MSIRG suggests that the Committee ask the proponents of this bill to justify how this bill: (1) promotes the development of small, independent renewable power producers in Montana; and (2) how it encourages the development of a diverse energy portfolio in Montana.

However, if this Committee is inclined to revise Mont. Code Ann. 69-3-2003, MSIRG's members recommend that Section 69-3-2003(4)(b) be struck. This language allows public utilities to operate community renewable energy projects. This provision was added during the 2009 legislature and seriously undermines the intent of the legislature's original intent in creating community renewable energy projects – which was to allow for small energy projects to be developed in Montana outside the control of existing utilities. If the legislature truly desires to have a diversified energy portfolio in Montana, it should not authorize large utilities such as NorthWestern Energy, to own and operate projects that qualify for Montana's 25 by 25 renewable energy/goal standard. MSIRG requests that Draft Bill No. 6002 be amended to strike the language set forth in 69-3-2003(4)(b) such that (4) reads: "Community renewable energy project" means an eligible renewable resource that is interconnected on the utility side of the meter in which local owners have a controlling interest and that is less than or equal to 25 megawatts in total calculated nameplate capacity".

James E. Brown

Associate Attorney

DONEY | CROWLEY | BLOOMQUIST | PAYNE | UDA P.C.

P.O. Box 1185

Helena, MT 59624-1185

(406) 443-2211 ; 406 683 8795 fax: (406) 449-8443

jbrown@doneylaw.com

Nowakowski, Sonja

From: Kevin & Carol Jump [kjj@centurytel.net]
Sent: Wednesday, August 25, 2010 10:20 AM
To: Nowakowski, Sonja
Subject: biomass

I am commenting on the LC 7000 regarding the inwoods grinding. I feel that it should also cover other equipment besides just grinders and chippers because this matter will arise again and to save time it should all be addressed in this legislation.
Thank You,
Kevin J.Jump, President
John Jump Trucking, Inc.
Kalispell, Mt. 59911

MONTANA
Wood Products
ASSOCIATION

August 24, 2010

Environmental Quality Council
P. O. Box 201704
Helena, MT 59624

Dear Council Members:

These comments are submitted on behalf of the 14 member companies of the Montana Wood Products Association (MWPA) all doing business in Montana. The MWPA also represents 35 associate members who depend upon the health of the timber industry for their livelihoods.

Once again we thank the Council for the opportunity to present comments on LC7000 "An Act clarifying the powers of the board of environmental review related to air quality permitting and rulemaking for wood chippers and wood grinders; amending section 75-2-111, MCA; and providing an immediate effective date."

The language we proposed during the previous comment period apparently appeared to be too big of a bite and, admittedly, caused some confusion. We apologize for that confusion and would like to now propose a very minor addition to the LC7000 language out for comment.

We agree with the last finding in the Harvesting Energy report that states "While the EQC recognizes the importance of air quality, some small portable forestry equipment should be exempt from air permitting requirements." To this end following is the slight adjustment we propose with our amendment underlined and in bold:

75-2-111 (c) a wood chipper, wood grinder, or **other forestry equipment** and its associated engine used for forestry practices that remains in a single location for less than 12 months and is not subject to the requirements of 42 U.S.C. 7475, 7503, or 7661a;

This small addition would solve the problem of similar forestry equipment being used for the same purpose of chipping and grinding and with the same engine with low emissions to be exempt from permitting.

P.O. Box 1149, Helena, MT 59624 Phone (406) 443-1566 Fax (406) 443-2439 www.montanaforests.com

Thank you for your patience with this request. While the changes seem small in nature, it is an important issue for those in the business of removing biomass products from all land ownerships to help lessen the risk of wildfire and lower fire suppression costs. The usage of this fiber also would increase timber supplies, improve forest health, and promote and maintain jobs in Montana's forestry economy.

Sincerely,

Ellen Simpson

Ellen Simpson
Executive Vice President

F.H. STOLTZE LAND & LUMBER COMPANY

Lumber Manufacturers

Box 1429 Columbia Falls, MT 59912
Phone (406) 892-7005 Fax (406) 892-1612
www.stoltzelumber.com

August 19, 2010

Environmental Quality Council
Legislative Environmental Policy Office
P.O. Box 201704
Helena MT 59620-1704

RE: LC 7000 and Air Quality Permits for portable biomass grinders and chippers.

Dear Council Members:

Thank you for your continued patience and willingness to work towards a workable solution to this air quality permitting issue. After the July EQC meeting, Stoltze, along with the other stakeholders and the DEQ have had ongoing discussions to address the concerns and perceptions that our original proposed language could be interpreted too broadly.

We want to assure you that our intentions are simple and clear. We are trying to avoid having unnecessary and overly burdensome regulatory procedure further limit our ability to actively manage our forestlands. We are trying to ensure that our forestry equipment, forest management activities, logging activities, and forest product transportation activities can continue without additional expensive, burdensome and unnecessary air quality permitting processes.

It is neither our intention nor desire to exempt those higher impact activities such as open burning, permanent installations, manufacturing facilities or any type of boiler/combustion facility from appropriate air quality permitting and regulation. We are simply concerned our forest management activities can continue to take place in multiple locations for short periods of time while really not generating any appreciable air quality concerns.

To that end, we have developed yet another draft of language that we hope you will find acceptable.

75-2-211 New Section "C"

(c) a wood chipper, wood grinder, or other forestry equipment and its associated engine used for forestry practices that remains in a single location for less than 12 months and is not subject to the requirements of 42 U.S.C. 7475, 7503, or 7661a;

We have discussed this language with DEQ and they do not see any concerns. It is clear that it only includes chippers, grinders and other forestry equipment and that it is only for activities that are temporary in nature. The references to the USC codes give the assurance that higher impact activities such as manufacturing facilities are NOT exempted and should still be regulated as necessary.

Thank you for the opportunity to comment and I look forward to your next meeting. Please feel free to contact me with any questions or for clarification of any issues.

Sincerely,

Paul R. McKenzie C.F.
Lands & Resource Manager
F.H. Stoltze Land & Lumber Co.

Nowakowski, Sonja

From: wwranch@3rivers.net
Sent: Monday, August 16, 2010 9:46 PM
To: nestor.soriano@msun.edu
Cc: nathan_taylor@bresnan.net; neiltaylor@bresnan.net; scourtnage@montanafarmersunion.com; 1kfalcon@gmail.com; wcrouch@montana.edu; boettrae@ttc-mcc.net; kaiserski@mt.gov; Webb, Bill; Nowakowski, Sonja; Murdo, Patricia; jacob_cowgill@tester.senate.gov; nathan_taylor@bresnan.net
Subject: Strategic Biofuel Program, CRP fade-out and biofuels from our farmers to our pilots!
Attachments: untitled-[2]

fyi Dr. John, a pleasure talking with you on behalf of Citizens for Clean Energy, Inc. and Montana Farmers Union, which does have a policy supporting CRP to oilseed production, etc.

America's strategic biofuels, from the farmers to our brave military and naval pilots!!!

Let's pay America's farmers the good premiums for homeland biofuels, NOT to foreign princes and dictators!

Le'ts move CRP and transition to Strategic Biofuel Program, that promotes and stimulates biofuel production for our military first via DOD/USDA coordination on contracts like CRP model, etc.

Lt. Col (Ret, Army)Richard D. Liebert
Montana Farmers Union member, 25 x 25
Chair, Citizens for Clean Energy, Inc.
Purdue Aggie!
American Legion
289 Boston Coulee Road
Great Falls, MT 59405
406-736-5791

---------- Original Message ----------
Subject: Strategic Biofuel Program, transition end to CRP.....
From: wwranch@3rivers.net
Date: Mon, August 16, 2010 10:54 am
To: tjburnham@farmprogress.com
Cc: wwranch@3rivers.net

Greetings TJ,

great article from you on CRP's effect on Rural America....I'm retired Army Lt. Col and own/operate a natural beef ranch and read Farm Progress and great articles, and I'm a Purude Aggie by the way.

Montana's US Senator and farmer, Jon Tester, keen on biodiesels, Camelina crop insurance, revive Rural America, and more, stimulate our economy and deal with CRP's mixed blessings......

threads below address what we MUST do, we can use Camelina and other oilseeds for STRATEGIC BIOFUELS for military aviation, have exclusive DOD contracts to assure farmers and process locally, and have refinery capabilities set up at active/reserve installations with bulk storage and most installations have aviation. Local Guard units with aviation can be LOCALLY fueled, what's better than that?

The F-18 Hornet flight by the Navy and A-10 Warthog by the Air Force have PROVEN Camelina as a fuel, and it's value as meal, source of Omega 3 a great plus.

I don't have CRP, and it's been sore point with folks, when ranchers without it 'grunt' and I've cut if for hay in drought-ridden Montana here in Great Falls, and farmers get those 'checks' in the mailbox....

Time for CRP to become SBP, Strategic Biofuel acres, and take the crop from the FARMERS TO THE PILOTS...

Let's start paying America's farmers a premium for homeland biofuel, not SQUANDER our fuel dollars on foreign princes and dictators!

Any thoughts, comments and suggestions welcome.

Sincerely,

Lt. Colonel (R) Richard D. Liebert
Eden RR
Great Falls, MT 59405
406-736-5791

---------- Original Message ----------
Subject: [Fwd: Camelina: Biofuel Future in Asia, before US get's off its butt!!!!??]
From: wwranch@3rivers.net
Date: Sun, August 15, 2010 10:45 pm
To: joel.cusker@us.army.mil
Cc: kaiserski@mt.gov
  wwranch@3rivers.net

Joel, for consideration and pass along to BG Livingston please...I think MT Guard could help lead the way on strategic biofuels DEDICATED to military aviation first, get DOD to help do bulk purchases to stimulate this new oilseed industry, a jumpstart for strategic biofuel and homeland energy security.....

Imagine our chinooks, F-15/C-27 and Malmstrom helicopters flying on our OWN Montana camelina biofuel!!?

Rich

---------- Original Message ----------
Subject: Camelina: Biofuel Future in Asia, before US get's off its butt!!!!??
From: wwranch@3rivers.net
Date: Sun, August 15, 2010 10:41 pm
To: camelinaguy@juno.com
jacob_cowgill@tester.senate.gov
kaiserski@mt.gov
wcrouch@montana.edu
lmsgrain@mtintouch.net
scourtnage@montanafarmersunion.com
angray@mt.gov
Cc: richard.liebert@us.army.mil

Time for the USA/MT to get off it's A.... and move now, get DOD as the big 'spark' to spur on biofuel production on active/reserve military facilities from the Farmers to the Pilots, part of a Strategic Biofuel Program contract similar to CRP and establish between USDA and DOD, and DOD does the contracting with exisitng oilseed companies to help manage the contracts, but UNCLE SAM offers FIRM, reliable contracts to our farmers to help reduce the risk (We need Camelina crop insurance now, enough dithering), and get folks - young folks -FARMING again and we use the meal locally, etc.

Lt. Col (Ret, Army) Richard Liebert

ps - AND we can use strategic HOMELAN biofuels for our loca Air and Army Guard aviation units as well.....

We've done plenty of 'studies' and time for ACTION.....

---------- Original Message ----------
Subject: Camelina: Biofuel Future in Asia?
From: "Gessaman" <rkkgessaman@gmail.com>
Date: Sun, August 15, 2010 8:52 pm
To: "Richard Liebert" <wwranch@3rivers.net>
Cc: "Kathy Gessaman" <1kfalcon@gmail.com>
"Jerry Taylor" <neiltaylor1@mac.com>

The money people suggest that it won't be US investors who develop camelina as a viable biofuel, but Asians. Ron

Camelina Plant Offers Intriguing New Biofuel Published on: Wednesday, November 25, 2009
Written by: OilPrice.com
http://www.nuwireinvestor.com/articles/camelina-plant-offers-

intriguing-new-biofuel-54139.aspx

Camelina, an indigenous plant to both Europe and Central Asia , is being explored as a potentially strong source of biofuels. A Japanese test flight demonstrated that camelina oil can be used for commercial flights, and central asia provides an ideal location for growing the camelina plant. See the following article from OilPrice.com for more on this.

camelina biofuel
The recent revelations of a International Energy Administration whistleblower that the IEA may have distorted key oil projections under intense U.S. pressure is, if true (and whistleblowers rarely come forward to advance their careers), a slow-burning thermonuclear explosion on future global oil production. The Bush administration's actions in pressuring the IEA to underplay the rate of decline from existing oil fields while overplaying the chances of finding new reserves have the potential to throw governments' long-term planning into chaos.

Whatever the reality, rising long term global demands seem certain to outstrip production in the next decade, especially given the high and rising costs of developing new super-fields such as Kazakhstan 's offshore Kashagan and Brazil's southern Atlantic Jupiter and Carioca fields, which will require billions in investments before their first barrels of oil are produced.

In such a scenario, additives and substitutes such as biofuels will play an ever-increasing role by stretching beleaguered production quotas. As market forces and rising prices drive this technology to the forefront, one of the richest potential production areas has been totally overlooked by investors up to now – Central Asia. Formerly the USSR's cotton "plantation," the region is poised to become a major player in the production of biofuels if sufficient foreign investment can be procured. Unlike Brazil, where biofuel is manufactured largely from sugarcane, or the United States, where it is primarily distilled from corn, Central Asia's ace resource is an indigenous plant, Camelina sativa.

Of the former Soviet Caucasian and Central Asian republics, those clustered around the shores of the Caspian, Azerbaijan and Kazakhstan have seen their economies boom because of record-high energy prices, while Turkmenistan is waiting in the wings as a rising producer of natural gas .

Farther to the east, in Uzbekistan , Kyrgyzstan and Tajikistan , geographical isolation and relatively scant hydrocarbon resources relative to their Western Caspian neighbors have largely inhibited their ability to cash in on rising global energy demands up to now. Mountainous Kyrgyzstan and Tajikistan remain largely dependent for their electrical needs on their Soviet-era hydroelectric infrastructure, but their heightened need to generate winter electricity has led to autumnal and winter water discharges, in turn severely impacting the agriculture of their western downstream neighbors Uzbekistan, Kazakhstan and Turkmenistan.

What these three downstream countries do have however is a Soviet-era legacy of agricultural production, which in Uzbekistan's and Turkmenistan case was largely directed towards cotton production, while Kazakhstan, beginning in the 1950s with Khrushchev's "Virgin Lands" programs, has become a major producer of wheat. Based on my discussions with Central Asian government officials, given the thirsty demands of cotton monoculture, foreign proposals to diversify agrarian production towards biofuel would have great appeal in Astana, Ashgabat and Tashkent and to a lesser extent Astana for those hardy investors willing to bet on the future, especially as a plant indigenous to the region has already proven itself in trials.

Known in the West as false flax, wild flax, linseed dodder, German sesame and Siberian oilseed, camelina is attracting increased scientific interest for its oleaginous qualities, with several European and American companies already investigating how to produce it in commercial quantities for biofuel. In January Japan Airlines undertook a historic test flight

using camelina-based bio-jet fuel , becoming the first Asian carrier to experiment with flying on fuel derived from sustainable feedstocks during a one-hour demonstration flight from Tokyo's Haneda Airport. The test was the culmination of a 12-month evaluation of camelina's operational performance capability and potential commercial viability.

As an alternative energy source, camelina has much to recommend it. It has a high oil content low in saturated fat. In contrast to Central Asia's thirsty "king cotton," camelina is drought-resistant and immune to spring freezing, requires less fertilizer and herbicides , and can be used as a rotation crop with wheat, which would make it of particular interest in Kazakhstan, now Central Asia's major wheat exporter. Another bonus of camelina is its tolerance of poorer, less fertile conditions. An acre sown with camelina can produce up to 100 gallons of oil and when planted in rotation with wheat, camelina can increase wheat production by 15 percent. A ton (1000 kg) of camelina will contain 350 kg of oil, of which pressing can extract 250 kg.
Nothing in camelina production is wasted as after processing, the plant's debris can be used for livestock silage. Camelina silage has a particularly attractive concentration of omega-3 fatty acids that make it a particularly fine livestock feed candidate that is just now gaining recognition in the U.S. and Canada. Camelina is fast growing, produces its own natural herbicide (allelopathy) and competes well against weeds when an even crop is established. According to Britain's Bangor University's Centre for Alternative Land Use, "Camelina could be an ideal low-input crop suitable for bio-diesel production, due to its lower requirements for nitrogen fertilizer than oilseed rape ."

Camelina, a branch of the mustard family, is indigenous to both Europe and Central Asia and hardly a new crop on the scene: archaeological evidence indicates it has been cultivated in Europe for at least three millennia to produce both vegetable oil and animal fodder.

Field trials of production in Montana, currently the center of U.S.
camelina research, showed a wide range of results of 330-1,700 lbs of seed per acre, with oil content varying between 29 and 40%. Optimal seeding rates have been determined to be in the 6-8 lb per acre range, as the seeds' small size of 400,000 seeds per lb can create problems in germination to achieve an optimal plant density of around 9 plants per sq. ft.

Camelina's potential could allow Uzbekistan to begin breaking out of its most dolorous legacy, the imposition of a cotton monoculture that has warped the country's attempts at agrarian reform since achieving independence in 1991. Beginning in the late 19th century, the Russian government determined that Central Asia would become its cotton plantation to feed Moscow's growing textile industry. The process was accelerated under the Soviets. While Azerbaijan, Kazakhstan, Tajikistan and Turkmenistan were also ordered by Moscow to sow cotton, Uzbekistan in particular was singled out to produce "white gold."

By the end of the 1930s the Soviet Union had become self-sufficient in cotton; five decades later it had become a major exporter of cotton, producing more than one-fifth of the world's production, concentrated in Uzbekistan, which produced 70 percent of the Soviet Union's output.

Try as it might to diversify, in the absence of alternatives Tashkent remains wedded to cotton, producing about 3.6 million tons annually, which brings in more than $1 billion while constituting approximately 60 percent of the country's hard currency income.

Beginning in the mid-1960s the Soviet government's directives for Central Asian cotton production largely bankrupted the region's scarcest resource, water. Cotton uses about 3.5 acre feet of water per acre of plants, leading Soviet planners to divert ever-increasing volumes of water from the region's two primary rivers, the Amu Darya and Syr Darya, into inefficient irrigation canals, resulting in the dramatic shrinkage of the rivers' final destination, the Aral Sea . The Aral, once the world's fourth-largest inland sea with an area

of 26,000 square miles, has shrunk to one-quarter its original size in one of the 20th century's worst ecological disasters.

And now, the dollars and cents. Dr. Bill Schillinger at Washington State University recently described camelina's business model to Capital Press as: "At 1,400 pounds per acre at 16 cents a pound, camelina would bring in $224 per acre; 28-bushel white wheat at $8.23 per bushel would garner $230."

Central Asia has the land, the farms, the irrigation infrastructure and a modest wage scale in comparison to America or Europe – all that's missing is the foreign investment. U.S. investors have the cash and access to the expertise of America's land grant universities. What is certain is that biofuel's market share will grow over time; less certain is who will reap the benefits of establishing it as a viable concern in Central Asia.

If the recent past is anything to go by it is unlikely to be American and European investors, fixated as they are on Caspian oil and gas.

But while the Japanese flight experiments indicate Asian interest, American investors have the academic expertise, if they are willing to follow the Silk Road into developing a new market. Certainly anything that lessens water usage and pesticides, diversifies crop production and improves the lot of their agrarian population will receive most careful consideration from Central Asia's governments, and farming and vegetable oil processing plants are not only much cheaper than pipelines, they can be built more quickly.
Camelina Plant Offers Intriguing New Biofuel Published on:
Wednesday, November 25, 2009
Written by:
OilPrice.com

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In such a scenario, additives and substitutes such as biofuels will play an ever-increasing role by stretching beleaguered production quotas. As market forces and rising prices drive this technology to the forefront, one of the richest potential production areas has been totally overlooked by investors up to now – Central Asia. Formerly the USSR's cotton "plantation," the region is poised to become a major player in the production of biofuels if sufficient foreign investment can be procured. Unlike Brazil, where biofuel is manufactured largely from sugarcane, or the United States, where it is primarily distilled from corn, Central Asia's ace resource is an indigenous plant, Camelina sativa.

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Known in the West as false flax, wild flax, linseed dodder, German sesame and Siberian oilseed, camelina is attracting increased scientific interest for its oleaginous qualities, with several European and American companies already investigating how to produce it in commercial quantities for biofuel. In January Japan Airlines undertook a historic test flight using camelina-based bio-jet fuel , becoming the first Asian carrier to experiment with flying on fuel derived from sustainable feedstocks during a one-hour demonstration flight from Tokyo's Haneda Airport. The test was the culmination of a 12-month evaluation of camelina's operational performance capability and potential commercial viability.

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Camelina, a branch of the mustard family, is indigenous to both Europe and Central Asia and hardly a new crop on the scene: archaeological evidence indicates it has been cultivated in Europe for at least three millennia to produce both vegetable oil and animal fodder.

Field trials of production in Montana, currently the center of U.S. camelina research, showed a wide range of results of 330-1,700 lbs of seed per acre, with oil content varying between 29 and 40%. Optimal seeding rates have been determined to be in the 6-8 lb per acre range, as the seeds' small size of 400,000 seeds per lb can create problems in germination to achieve an optimal plant density of around 9 plants per sq. ft.

Camelina's potential could allow Uzbekistan to begin breaking out of its most dolorous legacy, the imposition of a cotton monoculture that has warped the country's attempts at agrarian reform since achieving independence in 1991. Beginning in the late 19th century, the Russian government determined that Central Asia would become its cotton plantation to feed Moscow's growing textile industry. The process was accelerated under the Soviets. While Azerbaijan, Kazakhstan, Tajikistan and Turkmenistan were also ordered by Moscow to sow cotton, Uzbekistan in particular was singled out to produce "white gold."

By the end of the 1930s the Soviet Union had become self-sufficient in cotton; five decades later it had become a major exporter of cotton, producing more than one-fifth of the world's production, concentrated in Uzbekistan, which produced 70 percent of the Soviet Union's output.

Try as it might to diversify, in the absence of alternatives Tashkent remains wedded to cotton, producing about 3.6 million tons annually, which brings in more than $1 billion while constituting approximately 60 percent of the country's hard currency income.

Beginning in the mid-1960s the Soviet government's directives for Central Asian cotton production largely bankrupted the region's scarcest resource, water. Cotton uses about 3.5 acre feet of water per acre of plants, leading Soviet planners to divert ever-increasing volumes of water from the region's two primary rivers, the Amu Darya and Syr Darya, into inefficient irrigation canals, resulting in the dramatic shrinkage of the rivers' final destination, the Aral Sea . The Aral, once the world's fourth-largest inland sea with an area of 26,000 square miles, has shrunk to one-quarter its original size in one of the 20th century's worst ecological disasters.

And now, the dollars and cents. Dr. Bill Schillinger at Washington State University recently described camelina's business model to Capital Press as: "At 1,400 pounds per acre at 16 cents a pound, camelina would bring in $224 per acre; 28-bushel white wheat at $8.23 per bushel would garner $230."

Central Asia has the land, the farms, the irrigation infrastructure and a modest wage scale in comparison to America or Europe – all that's missing is the foreign investment. U.S. investors have the cash and access to the expertise of America's land grant universities. What is certain is that biofuel's market share will grow over time; less certain is who will reap the benefits of establishing it as a viable concern in Central Asia.

If the recent past is anything to go by it is unlikely to be American and European investors, fixated as they are on Caspian oil and gas.

But while the Japanese flight experiments indicate Asian interest, American investors have the academic expertise, if they are willing to follow the Silk Road into developing a new market. Certainly anything that lessens water usage and pesticides, diversifies crop production and improves the lot of their agrarian population will receive most careful consideration from Central Asia's governments, and farming and vegetable oil processing plants are not only much cheaper than pipelines, they can be built more quickly.

Nowakowski, Sonja

From: wwranch@3rivers.net
Sent: Monday, August 16, 2010 11:16 PM
To: nathan_taylor@tester.senate.gov; jacob_cowgill@tester.senate.gov
Cc: John_Malia@baucus.senate.gov; camelinaguy@juno.com; alkurki@msn.com; nestor.soriano@msun.edu; neiltaylor@bresnan.net; aart-dolman@bresnan.net; lmsgrain@mtintouch.net; alkurki@msn.com; Kaiserski, Tom; Gray, Andy; Webb, Bill; kwiens@meic.org; Nowakowski, Sonja; Murdo, Patricia; wwranch@3rivers.net; richard.liebert@us.army.mil; joel.cusker@us.army.mil; wcrouch@montana.edu; pbeltrone@co.cascade.mt.us; scourtnage@montanafarmersunion.com; 1kfalcon@gmail.com
Subject: Letter to Senator Tester on SBP, Camelina and fuel from our farmers to our pilots!
Attachments: Senator Tester, SBP, 17 Aug 2010.doc; Camelina, Dr. Johnson 2007.pdf; growing_americas_fuels.pdf

FYI to all and initial working group for tomorrow where we'll tackle DOD, USDA, DOE goals, CRP, Camelina and other oilseed properties, challenges and oppportunities and establish follow-on gathering, milestones, etc, identify the 'stakeholders' (federal, state, commericial, academic, etc.) and make it happen...
We're going the 'charge this hill' again and nothing ventured, nothing gained.

The focus is on DOD, USDA and DOE here, and how to best navigate the often arcane 'obstacles' and 'twists', but I'm confident it can be done, and it will take time, but we've got to start. as the Air Force, Navy and Boeing have done with successful camelina/biofuel trials, and I've got more documentation, info from DOD coming.

"Believe passionately, act boldly, proceed strategically."
Teddy Roosevelt

The Honorable Jon Tester 17 August 2010
United States Senate
Washington, DC

Dear Senator Tester,

On behalf of Citizens for Clean Energy, we thank you for providing an opportunity to address a Strategic Biofuel Program (SBP) with your staffers Nathan Taylor and Jacob Cowgill. This effort has the potential to bring more DOD activity to Malmstrom AFB, and many other active/reserve military facilities which could refine and store biofuels such as Camelina for dedication military aviation utilization that will benefit DOD and taxpayers alike and provide attractive opportunities for farmers to grow Camelina and other oilseeds for our STRATEGIC military needs and missions, and that also includes our MT Guard aviation.

As you noted on ‘Face the State’ last Sunday morning with Heath Heggem of KRTV, Camelina and other oilseeds have tremendous potential to revitalize Rural America, especially in regards to how we can follow CRP with a program to grow oilseeds for biofuel, an idea supported by Montana Farmers Union and CCE. There have been many pioneers in this field such as Dr. Duane Johnson of MSU, Leonard Stone (a grower and with MT Farmers Union), Al Kurki, Bob Quinn and many others who’ve ‘carried the ball’ tirelessly and Dr. Nestor Soriano at MSU-Northern is doing great work with help from you on appropriations.

Camelina also needs to get bona-fide crop insurance and you rightly noted that farmers need assurances and I suggest that the DOD/USDA contracts can provide the stimulus for Camelina production and other strategic oilseed

applications. President Obama has established a Strategic Biofuels Roadmap and has a working group at the White House, and we can make it happen here in Montana by getting the DOE, USDA and DOD to cooperate, and utilize our military installations to help collect, refine, store and transport biofuels initially for military aviation first.

Oilseeds also have qualities that enhance crop rotations and may help counter sawfly infestations, provide valuable feed by-products for livestock and high-value Omega 3 oils, etc.
SBP could also help us transition away from CRP and revive our farm and ranch communities.

It's time to pay America's farmer the valued premiums for homeland biofuels instead of to foreign princes and dictators. This enhances our economy, revives Rural America (something USDA/DOE pledged to do), provides DOD with homeland fuel, offers clean energy with reduced GHG emissions and shows America CAN lead again. Let's get these biofuels from our stoic farmers to our brave military pilots now!

Sincerely,

Richard D. Liebert
Lt. Colonel (retired, Army)
richard.liebert@us.army.mil/wwranch@3rivers.net 736-5791 Chair, CCE, Inc. , farmer/rancher, member, MFU and Purdue University 'Aggie'!

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WIND, WATER AND FUTURE

The Honorable Jon Tester
United States Senate
Washington, DC

11 June 2010

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Richard D. Liebert
Lt. Colonel (retired, Army) richard.liebert@us.army.mil/wwranch@3rivers.net 736-5791
Chair, CCE, Inc. , farmer/rancher, member, MFU and Purdue University 'Aggie'!

Reprinted from: Issues in new crops and new uses. 2007. J. Janick
and A. Whipkey (eds.). ASHS Press, Alexandria, VA.

Camelina sativa, A Montana Omega-3 and Fuel Crop*

Alice L. Pilgeram, David C. Sands, Darrin Boss, Nick Dale, David Wichman, Peggy Lamb, Chaofu Lu, Rick Barrows, Mathew Kirkpatrick, Brian Thompson, and Duane L. Johnson

Camelina sativa (L.) Crantz, (Brassicaceae), commonly known as false flax, leindotter and gold of pleasure, is a fall or spring planted annual oilcrop species (Putman et al. 1993). This versatile crop has been cultivated in Europe since the Bronze Age. Camelina seed was found in the stomach of Tollund man, a 4th century BCE mummy recovered from a peat bog in Denmark (Glob 1969). Anthropologists postulate that the man's last meal had been a soup made from vegetables and seeds including barley, linseed, camelina, knotweed, bristle grass, and chamomile. The Romans used camelina oil as massage oil, lamp fuel, and cooking oil, as well as the meal for food or feed. Camelina, like many *Brassicaceae*, germinates and emerges in the early spring, well before most cereal grains. Early emergence has several advantages for dryland production including efficient utilization of spring moisture and competitiveness with common weeds.

In response to the resurgent interest in oil crops for sustainable biofuel production, the Montana State University (MSU) Agricultural Research Centers have conducted a multi-year, multi-specie oilseed trial. This trial included nine different oilseed crops (sunflower, safflower, soybean, rapeseed, mustard, flax, crambe, canola, and camelina). *Camelina sativa* emerged from this trial as a promising oilseed crop for production across Montana and the Northern Great Plains. Evaluation parameters included input costs, production costs, harvest costs, and yield. *Camelina sativa* was not always the highest yielding oilseed crop but it was the most economical crop to produce due to minimal input requirements.

GREAT NORTHERN GROWER COOPERATIVE

MSU worked with Montana Producers to establish a grower cooperative to produce, process, and distribute camelina. As a result of this collaboration camelina production in Montana rapidly escalated from 0 commercial hectares in 2004 to approximately 4,050 ha in 2006. Production in 2007 is estimated at 20,250 ha.

VALUE-ADDED CAMELINA PRODUCTS

Camelina oil can be used for production of biodiesel. However the omega-3 fatty acid (α-linolenic acid) and gamma-tocopherol content of the oil may preclude its use as biofuel feedstock because of its high value in food and feed. Camelina seed contains 30%–40% oil. The linolenic acid or omega-3 fatty acid (C18:3) makes up about 35%–39% of the total oil content, with the remaining fatty acids being oleic (15%–20%), linoleic (20%–25%), gondoic (5%–10%) and erucic (4%–5%). The cold pressed meal still contains 10%–14% oil by weight, with a protein content of about 40%, allowing it to compete with soybean meal as an animal feed. The glucosinolate levels in the meal are lower than in other brassicaceous species, making it more desirable as an animal feed.

A previous review by Vollmann et al. (1996) suggested that camelina oil had considerable agronomic potential as an industrial oilseed crop. In Montana, camelina is emerging as a high-value, multi-use crop with applications in food, feed, and industry (Fig. 1).

A diversity of start-up industries and government entities are in the process of sorting out the different uses for this crop. The multiple possible uses suggest to these authors that there may be a stable market demand for farm gate seed.

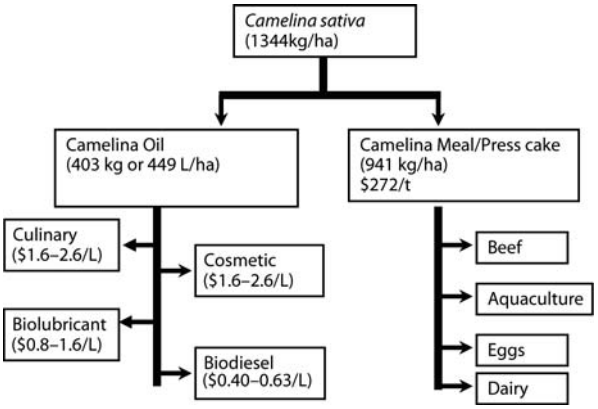

Fig. 1. Potential markets for camelina oil and meal.

* Research Funding from USDA CSREES (MSU Biobased Institute), USDA SBIR, Montana Board of Research and Commercialization, and US Egg and Poultry Association has enabled expansion of this unique Montana crop and development of value-added applications.

AGRONOMICS

Camelina is well-suited for production in Montana. A distinct advantage with this crop over almost any other is the very low seeding rate (2.5 kg/ha). A new cultivar can be increased at a rate of 500–1000 fold in a single cropping year. This low seeding rate is a key factor of the low input cost. A second factor is the true competitiveness of camelina in terms of weed control. The crop seems to be well suited to planting early, even fall planting. It is suited for dryland cropping systems when early planted to maximize the soil moisture and rainfall in the cool months of April, May and the first weeks of June. Harvest is by direct cutting, or swathing and field drying to avoid shattering. Some use of duct tape on certain key locations of a combine is necessary to prevent seed loss. Several herbicides appear promising in station trials although none are registered for use at this time. The palatability of the crop when green is not lost on grazing animals including antelope in Montana.

Selection of Montana Cultivars of *Camelina sativa*

Selection criteria for breeding programs are always more convoluted for crops of a multiuse nature. In this crop, selection can be made for oil properties to favor biofuel use (diesel and fuel cell uses), lubricant use (hydroxyl acids), nutrition (high omega-3 content), antioxidants to avoid oil oxidation and rancidity (gamma-tocopherol content), and lower erucic acid and gondoic acid content. These features are most assuredly at cross purposes, and one might need to breed and select for certain of these with the concomitant exclusion of others. Additional selection parameters include low glucosinolate content, high value protein in the meal, and gum content. Agronomic characters for selection include shattering, seed size, herbicide resistance, and resistance to downy mildew. As with other oil crops the ratios of the different unsaturated fatty acids can be influenced by day and night time temperatures, with the plant compensating for differences in geographic location.

Like many crops of ancient times, camelina has small seeds. Breeding programs in several European countries have not changed this aspect to a very noticeable extent, possibly because there is an inverse correlation of seed size with oil content. Genetically, camelina is probably the closest crop plant to that famous and completely sequenced cousin *Arabidopsis thaliana* (Flannery et al. 2006). This genetic proximity is of great value in marker assisted breeding, in identification of specific enzymes and their coded regions, the use of RNA inhibition techniques, and in the ease of genetic transformation using the *Agrobacterium tumefaciens* plasmid transformation systems (Lu, pers. commun.).

Duane Johnson has established a camelina breeding program at the MSU Northwestern Agricultural Research Center (Creston, Montana). The goal of the program is to develop camelina cultivars that are adapted to Montana and the Northern Great Plains. Selection parameters include yield, oil content, oil composition, and disease resistance. Over 50 accessions from the USDA and world collections of camelina have been evaluated. Three lines (MT-1, MT-3 and MT-5) have been selected for future development as Montana cultivars (Fig. 2, 3).

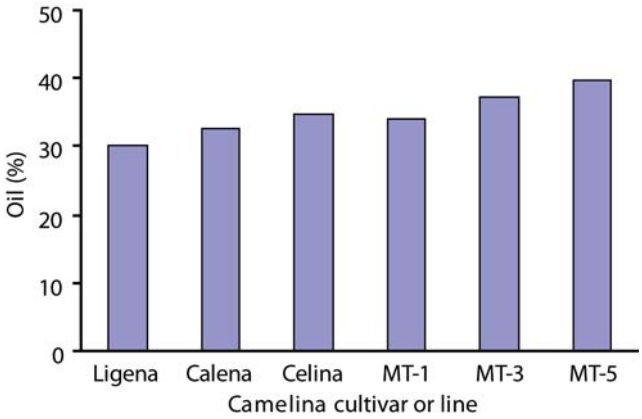

Fig. 2. Oil Composition of European camelina cultivars ['Celine' (France), 'Calena' (Austria), and 'Ligena' (Germany)] and 3 Montana breeding lines (MT-1, MT-3, and MT-5).

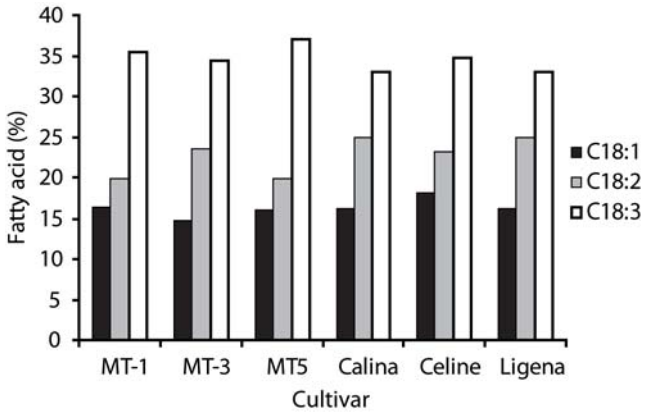

Fig. 3. Fatty acid profile of 3 European camelina cultivars ['Celine' (France), 'Calena' (Austria), and 'Ligena' (Germany)] and 3 Montana selections (MT-1, MT-3, and MT-5). Fatty acid profile was determined using GC-MS.

CAMELINA MEAL

Camelina meal, the extruded product remaining after cold extraction of the oil generally contains 10%–12% oil (approximately 5% omega-3 fatty acid) and 40% protein. Camelina meal and oil are also being evaluated as a source of omega-3 in feeds for fish, beef, poultry, and dairy production.

Poultry

Camelina meal was analyzed as an ingredient for production of omega-3 rich eggs. This study was done in collaboration with Nick Dale at the University of Georgia. Poultry readily consumed feeds containing up to 15% camelina meal. There were not adverse effects on chicken health or egg production. The fatty acid profile of yolks from eggs from chickens fed different levels of camelina (0%, 5%, 10%, 15%) were analyzed for omega-3 (C18:3) content. The content of omega-3 in the egg increased with increasing camelina content in the feed (Fig. 4). Currently, camelina meal is being fed to nearly 40,000 laying hens in Montana. The camelina eggs contain enriched levels of linolenic acid (Fig. 4). The increase in the omega-3 content is relative to the percentage of camelina meal in the feed.

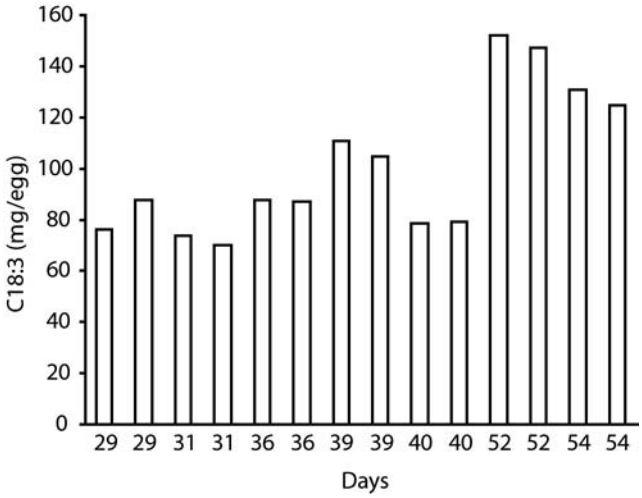

Fig. 4. Linolenic acid (omega-3) content of yolks from chickens fed 12% camelina meal.

Dairy

Camelina meal has been evaluated for production of omega-3 enriched goat milk. Similar to poultry, milk from camelina-fed goats contained increased concentrations of linolenic acid. Researchers at the University of Idaho and Idaho Ag Experiment Station will evaluate camelina meal as a feed ingredient in dairy cattle in 2007.

Beef

Darrin Boss conducted a study to evaluate camelina meal in beef finishing feeds. Cattle were fed formulations containing soy meal or camelina meal. There were no statistical differences in the feed efficiency or average daily gain of beef fed soy-based or camelina-based feeds. No detrimental effects on health were reported throughout the feed study or at harvest. The fatty acid profiles of the muscle and fat tissue are currently being evaluated.

SUMMARY

Camelina sativa is a new crop with a variety of uses. It is relatively easy to breed, and easy to grow with low input costs. Its meal is valuable as animal feed, and its oil has an important nutritional components (alpha linolenic acid and gamma-tocopherol). The industrial potential of this crop, given the current fuel crisis, is rather large.

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Growing America's Fuel

An Innovation Approach to Achieving the President's Biofuels Target

Vision. New jobs and greater economic vitality in rural America, increased energy independence, reduced economic vulnerability to volatile oil prices and uncertain supplies, technological and industrial leadership in renewable biofuels, and reduced global warming pollution – all will be achieved by fulfilling the President's commitment to meeting Congressional biofuels goals.

Strategy. Supporting the existing biofuels industry, while accelerating the commercial and sustainable establishment of the advanced biofuels industry, by using the best skill and knowledge across many Federal departments, as well as public-private partnerships.

The Existing Situation.

- **The U.S. is producing 12 billion gallons per year of biofuels, mostly from corn grain ethanol, but we are not on a trajectory to reach the Congressional 36 billion gallons per year goal by 2022 or to meet the 100 million gallons cellulosic biofuels target in 2010.**
    - The recession has raised significant barriers to private sector capital financing and investment in new biofuels production.
    - First-generation corn grain ethanol is a critically important renewable fuel source that is lowering our reliance on foreign petroleum dependent fuels, and cellulosic ethanol will soon be contributing as well.
    - Advanced next generation biofuels will be one of the nation's most important industries in the 21st century.
    - Many next generation biofuels feedstock and process technologies that are promising at bench scale are just beginning to be developed through the scale-up process.
    - Challenges exist in matching existing petroleum fuel distribution infrastructure and current generation biofuels, but cost-effective solutions must be found.
- **Hundreds of projects have been funded, but stronger, more robust supply chains would emerge if there were integration of effort across government agencies.**
    - There has been minimal active management to achieve targets across the federal government or private sector.
    - Significant gaps in the biofuels supply chain need to be addressed. Some key policy tools, such as DOE and USDA project loan guarantees and research programs, could be targeted more effectively to support the emerging industry and to deliver outcome-driven results.

A New Approach – An Outcome-Driven, Re-engineered System.

- **Strong management for results using a regional supply chain systems approach that ensures all fuels produced are compatible with the U.S. transportation fuel infrastructure.**
    - Manage by a small centrally-located team accountable to the President's Biofuels Interagency Working Group that has clearly defined roles and deliverables for all participating federal department, private sector, tribal, and international partners.
    - Establish Lead-Agency responsibility for each supply chain segment – discovery science, sustainable feedstock development and production, feedstock logistics, pilot scale feedstock conversion to biofuels, commercial-scale feedstock conversion, regulatory, education-extension, and workforce development. This effort will be driven by clearly defined deliverables and milestones, with the understanding that sustainable commercial options will emerge and be rapidly deployed.

      Create a collaborative process for delivery of Federal investments to assure a user-friendly, effective and efficient delivery of programs and services offered.
    - Present quarterly reviews to the President's Interagency Working Group, Secretary(s) of DOE and USDA and EPA Administrator.
- **Continue support on development of first- and second-generation biofuels with additional strong focus on accelerating third generation (drop-in) biofuels development – gasoline, diesel (for transportation, home and industrial use), aviation fuels, and industrial biofeedstocks (such as biobased crude).**
    - Improve current delivery programs to support current generation and advanced biofuels technologies.
    - Streamline strategies that move technology research and development rapidly to pilot-demonstration phase and to full-scale commercial production facility construction for next generation technologies and systems.
    - Comprehensive analysis that addresses up-front the elements of feasibility and sustainability for all existing and new technologies (environmental, technical, management, economic, market, financial) to build confidence for creating markets, investments, and credit to sustain long-term biofuels production.
    - Develop new technologies and alternative processes to improve economic and conversion efficiencies for biofuels production. Multiple conversion routes are researched in parallel, including: biochemical, thermochemical, and hybrid designs.
    - Support development of new uses and markets using existing ethanol infrastructure (e.g., green ethylene and biobutanol) and other vertically produced value-added bio co-products (e.g., biochar, dried distillers grains, synthesis gas) with shortened supply chains to enhance long-term rural wealth creation within regions.

- **Support feedstock research and demonstration to ensure sustainable supply chain development that minimizes transaction costs and creates wealth for farms and rural communities.**
    - The President's FY2011 Budget will develop five USDA regional feedstock research and demonstration centers with robust partnerships with land grant and other universities, industry, and other federal and state agencies, tribal nations, and internationals.
    - Identify economic, environmental, and social issues up-front for all supply chain segments to build confidence for creating markets, investments, and credit that help provide long-term sustainable biofuels production supply chains.
    - Develop the needed sustainable production and logistic systems that are suited to regional conditions and biofuels refinery specifications.
    - Develop superior genetic biofuels feedstocks for perennial grasses, energy cane, biomass sorghum, oil seeds crops and algae, and woody biomass.
    - Coordinate efforts with research conducted by the DOE Biomass Program's Regional Feedstock Partnership, the Integrated Biorefinery projects, USDA's biomass and research activities, and the DOE Office of Science's Bioenergy Research Centers.

The Existing Situation. The Energy Independence and Security Act of 2007 (EISA) established a goal of 36 billion gallons of biofuels by 2022 to power our cars, trucks, jets, ships, and tractors. This is a substantial goal, but one that the U.S. can meet or beat. However, past performance and business as usual will not get us there. Today, only 12 billion gallons of biofuels are produced annually. EIA's Reference Case for the 2010 Annual Outlook projects that most of the growth in liquid fuel supply will be met by biofuels – yet EIA also projects that we are not on track to meet Congress' 2022 goal of 36 billion gallons.

Why is this so? In part, it is because hundreds of projects have been funded, but there has not been an explicit USG management plan for achieving our targets. Also, significant parts of the needed supply chain have received little attention, including varieties of dedicated biomass crops suited to different growing environments across the country, sustainable production systems to produce the needed biomass, production of biofuels compatible with the existing transportation fuels infrastructure, and support for development and demonstration projects that bridge the gap between promising research and commercial deployment. If we are to reach our targets, we will need a more strategic approach that in a new way unleashes the creativity and skills of people in government, in college laboratories, in the garages of aspiring entrepreneurs, and in the R&D facilities of the private sector. This plan calls for 36 billion gallons of biofuels in twelve years. If we are to meet this target, we will have work in a new way and set much more aggressive internal benchmarks for progress.

American farmers know how to efficiently produce corn, and the technology for producing corn-based ethanol is well established. This helps account for the remarkable growth in the agricultural-based ethanol biofuels industry that grew from 1% of the U.S. fuel supply in 2000 to 7% in 2008. However, the Renewable Fuel Standard in the EISA has effectively placed a 15 billion gallon cap on ethanol production from corn starch as part of a new 36 billion gallon target for 2022. The remainder of the target is to be met with advanced biofuels, including cellulosic ethanol, biobutanol,

biomass-based diesel, and other biofuels that are a direct replacement for petroleum-based fuels. Also, as a greater portion of the Nation's fuel supply is met with ethanol, technological barriers to using greater amounts of ethanol in gasoline blends will be approached. EPA could allow higher percentage alcohol blends for use in motor vehicles, if the DOE testing program validates the suitability of E15 or E20 in light duty vehicles. However, there are challenges for higher concentration ethanol blends in the existing transportation fuel distribution and utilization infrastructure, which will likely require investment in different storage, transportation, and distribution infrastructure. Also, other significant users of liquid fuels, such as the air transportation industry and the military, have needs that cannot be fully met today by ethanol or electric power sources. Therefore, expansion of the biofuels industry should focus on advanced biofuels and direct substitute fuels that can leverage the existing American multitrillion-dollar liquid fuels infrastructure.

To reach and exceed our biofuels targets, we will need to take a new strategic approach that continues to support the existing biofuels industry and accelerates the creation and rapid commercial deployment of new technologies so our Nation's efforts to establish an advanced biofuels industry are met. Success in meeting these targets would bring many benefits to the United States: new jobs and greater economic vitality in rural America, increased energy independence, reduced economic vulnerability to volatile oil prices and uncertain supplies, technological and industrial leadership in renewable biofuels, and reduced global warming pollution. In short, America will be in firmer control of its energy future. As we have in the past, when facing significant national challenges, we have a rare opportunity to galvanize our country and its talent.

A New Approach – An Outcome-Driven, Re-engineered System.

A highly focused supply chain approach is used that assures all phases of development (research, pilot-scale demonstration, commercialization, and distribution to customers) complement each other, optimizes government investments, and leads to commercially viable farms and companies that sustainably produce supplies of biofuels. The new approach requires strong management for results using a regional supply chain systems approach.

Key features of the approach are:

- Integrated management approach. Create an overall project management structure through the Biomass Board that builds on the core competencies of all contributors, and integrates all Federal-funded project activities across all supply chain elements. Those agencies that are not leading will participate in any of the segments where appropriate, and partners will be welcomed to contribute in any segment. Provide guidance to the existing Biomass R&D Board co-chaired by DOE and USDA.
- Science and technology deliverables defined by timelines, with coordination among the USDA and DOE Offices of Science, and Energy Efficiency and Renewable Energy. Set outcome timelines for development and discovery science.
- Robust partnerships. Federal leadership is used to developed strategic partnerships among private sector, academic institutions, state and local governments and international partners on all segments of the supply chain. Up-front shared intellectual property rights will establish guiding principles on protection, ownership and dissemination of intellectual property. Innovative public-private partnerships will facilitate rapid adoption of research and technology by private sector companies for the commercial production of goods and services.

- Pre-established market outlets. Secure lead customer purchase commitments to stimulate production of feedstocks and biofuels with a concerted effort directed to our military and airline industry.
- Expanded government use of biofuels. To the extent possible, the U.S. Government will work to utilize greater quantities of biofuels in its cars and trucks with flex fuel vehicles, particularly in the urban areas of the upper Midwest states. Encourage state and local governments to do so as well.
    - Performance-based milestones. Establish interim milestones that are widely shared within and outside the Federal Government that show a pathway to results in achieving outcomes.
    - Regular reviews of progress. Create a Quarterly Progress Review by Under Secretary of USDA and DOE and Deputy Administrator of EPA, and recommend mid-course changes as needed.

Manage the effort by a centrally-located small team. The President's May 5, 2009, memorandum formed the Biofuels Interagency Working Group (IWG) with high-level USDA, DOE, and EPA participation and specific charges. This plan builds on that directive by creating a small, centrally-located Management Team that reports to the IWG. The Team helps establish lead agency responsibilities for each supply chain segment; sees to it that clearly defined roles and deliverables are defined for all participating federal department, private sector, tribal, and international partners; monitors progress and results; works with the private sector and international partners; helps lead corrective actions when efforts get off track; and reports progress. This Management Team will oversee the coordination of efforts between IWG and the Biomass Board.

Establish Lead Agency responsibilities for each supply chain segment. The responsibilities for each segment of the supply chain are based on the core competencies and resources of participating federal departments:

- Discovery Science – DOE (Office of Science). Provide discovery science inquiry that focuses on longer-term, advanced biofuels breakthroughs .
- Feedstock Development – USDA (Research, Economics and Education (REE) and Forest Service (FS)). Focus will be on five classes of feedstocks: perennial grasses such as switchgrass, Miscanthus, and mixed native grasses; energy cane, a biomass form of sugarcane; biomass sorghum; oil seed crops and algae, including canola and camelina oil seeds; and woody biomass from fast-growth trees and wood residues. USDA will coordinate with DOE to enhance work underway through DOE's Regional Feedstock Partnerships and the Bioenergy Research Centers.
- Feedstock Production Systems – USDA (REE and FS). Sustainable feedstock production and harvest systems designed for continued high performance across a range of geographies that will provide opportunities for contributions from both farm and forestlands, and diversify economic benefits to many rural areas across the country. Economic and environmental issues are addressed up-front and evaluated to ensure sustainable biofuels production.

- Pilot-scale Conversion and Biorefinery facilities – DOE Energy Efficiency and Renewable Energy (EERE), USDA (REE and FS). Integrated pilot and ten percent of full-scale conversion facilities will be financed to determine suitable technologies for full-scale commercial deployment.
- Full-scale and Widespread Deployment of Commercial Facilities – USDA (Rural Development (RD) and FS) and DOE. Financing is provided for innovative first time commercial technologies (DOE), the continuation of 1st generation facilities and the development of first-of-a-kind, scaled-up commercial and multiple-commercial deployed 2nd and 3rd generation conversion facilities (USDA).
- Regulatory compliance – EPA and USDA. Provide environmental quality monitoring and regulatory compliance to ensure compliance with regulatory statutes to assess the impact of the industry on air and water. EPA and USDA will be responsible as appropriate for oversight, compliance and licensing protocols for biotechnology crops and organisms
- Sustainability – EPA and USDA. EPA will provide expertise and leadership in assessing the environmental impacts of development and implementation of feedstock and production options. USDA will assess the impacts on the agricultural economy in the development and implementation of feedstock and production options.
- Policy support – All departments and agencies.
- Dissemination of Best Practices and Technical Assistance – USDA/State/Local Extension Offices and partners. New information/technology transfer structures will be developed to target all supply chain components to help ensure new technologies are rapidly utilized. In addition, technical assistance to accessing federal grants and loan programs should be readily and easily available. The DOE Clean Cities program has significant dissemination and outreach capabilities, so it could support infrastructure and end-use deployment.
- Feedstock Supply Chain Workforce Development – USDA (REE, FS, and RD) and universities. New vocational and higher education programs will be developed to ensure the next generations of crop developers, producers, processors, technicians, engineers, analysts, and economists are available.
- The Departments of Labor, Commerce, Defense, Transportation and other federal partners can also play important roles in each of these sectors.

Work back from targets. This effort will be driven by clearly defined deliverables and milestones. Since technology development and deployment usually takes longer than expected, the 2022 target should be aggressively managed to meet or beat the targets. Each supply chain component will have specific goals that are informed by the rest of the supply chain. For example, a feedstock development team will need to deliver commercially robust crops that can be produced and delivered to commercial conversion facilities to produce biofuels so this goal can be achieved. At the same time, a feedstock production team will need to identify and ensure that the necessary feedstocks are available in the required timeframe. To ensure continued management focus, there will be quarterly reporting to the President's Interagency Working Group, the Secretaries of DOE and USDA, and the Administrator of EPA.

Continue support on development of first- and second-generation biofuels with additional strong focus on accelerating third generation (drop-in) biofuels development – gasoline, diesel, aviation fuels, and industrial feedstocks.

Improve current delivery program processes. Create a collaborative process for delivery of Federal investments to assure a user-friendly and efficient delivery of the programs and services offered in support of all current and advanced biofuels technologies. Program services can be improved by possible joint solicitations, combined agency marketing and outreach programs, leveraged financial and technical resources, and streamlined application processes for grant and payment applicants and loan guarantees. Also, strategies can be put in place to help move promising new technologies more quickly through the research and development phase rapidly through pilot-demonstration phase to full-scale commercial production facility construction.

Comprehensive analysis of facility feasibility. If aggressive goals are to be met, strategic implementation plans must comprehensively cover all aspects of potential facility feasibility and viability. A dedicated biomass commodity sector and next generation biofuels conversion systems are not well understood, so it will be necessary to develop an understanding of all elements of commercial feasibility so viable facilities and predictable markets can be developed. To do this, the elements of feasibility for existing and new technologies must be addressed up-front to build confidence for creating markets, investments, and credit to sustain long-term biofuels production. The elements of feasibility include:

- Technical feasibility. Technical feasibility will need to be demonstrated for the multitude of new conversion and processing technologies that will be created and tested.
- Management feasibility. A wide variety of talents will be needed for the new technologies that are developed in order to demonstrate operability and access the needed people with skills.
- Economic feasibility. The existing corn based ethanol system is mature and widely understood with several metrics that allow predictability. Advanced fuel systems are less well understood, so there are information and modeling needs that will have to be developed to predict the success of new projects.
- Market feasibility. As with any other new product, new companies will have to be assured that they have buyers for their product. Acquiring capital for facility construction costs hinges on committed contracts to buy products at prices adequate to support plant operation costs.
- Financial feasibility. Capital must be brought together with technology before a new project can be financed, and this will depend upon all of the previous elements of feasibility being met.
- Environmental Feasibility. Development and implementation of new feedstock and production systems will need to be addressed to ensure that our investments provide sustainable solutions to the nation's energy needs.

Technology improvement and new technology discovery. A multitude of new technologies and processes will need to be created and tested to improve the economics and conversion efficiencies of biofuels production. The existing first-generation corn-based ethanol, biodiesel and renewable diesel systems are widely understood and predictable in their performance. Yet, there are opportunities to develop new markets for corn-based ethanol that can provide improved economic stability, increased rural wealth and reduced use of petroleum based

feedstocks. To accelerate advanced biofuels supply chains, it will be necessary to develop information from models to demonstrate which technologies and strategies have the greatest opportunities for success. Once promising new technologies are identified, streamlined implementation strategies will need to be developed and deployed to move technically feasible conversion technologies from the research and development phase rapidly through the pilot-scale demonstration phase to full-scale deployment of commercial production facilities. Advanced biofuels will be produced and used where appropriate as defined by the state of technology, economic viability, natural resource quality, policy and regulatory supporting them. Research and development will also support development of new uses and markets using existing ethanol infrastructure, including the production of green ethylene and biobutanol. Multiple conversion routes are researched in parallel, including biochemical, thermochemical, and hybrid designs. In addition, value-added bio co-products (e.g., biochar, dried distiller grains, synthesis gas) will be added to diversify product options and diversify risk.

Support feedstock research and demonstration to ensure sustainable supply chain development that minimizes transaction costs and creates wealth for farms and rural communities.

USDA Regional Feedstock Centers. The President's FY2011 Budget proposes developing five USDA Regional Feedstock Research Centers. Regionalized biofuels feedstock production and conversion systems need to be developed to minimize transaction costs and create new rural wealth. The existing multibillion-dollar national USDA science and research infrastructure will be used to support the establishment of USDA Regional Feedstock Research Centers along with robust partnerships with land grant and other universities, industry, and other federal and state agencies. The centers will develop sustainable supply chain strategies and science-based implementation plans designed to accelerate biofuels feedstock production and reduce transaction costs to feedstock producers and biorefineries. The centers will be responsible for planning and developing regional supply chain systems that link feedstock development, production, logistics, conversion, co-product production, and distribution. USDA will coordinate with DOE to enhance work underway through DOE's Regional Feedstock Partnerships and the Bioenergy Research Centers

Address economic, environmental, and social issues up-front. Expanding the biofuels industry to achieve the 36 billion gallons target by 2022 will require the development of an expanded agricultural and wood fiber commodity sector, and presents many opportunities and challenges. Rural land use is constantly changing, but there are limits to the extent to which existing land uses can change without disrupting existing food, feed, and fiber markets. One strategy for integrating biofuels feedstocks into existing agricultural production systems is to replace higher-risk, less productive crops or abandoned lands with lower-risk and more productive cellulosic feedstock crops. Also, more intensive, multiple-year management strategies could be used to get greater production from the same amount of land, and thus reduce pressure to expand production onto environmentally sensitive or marginally viable lands.

Economic, environmental, and social issues will be addressed up-front for all supply chain components to build confidence for creating new markets, investments, and credit to sustain long-term biofuels production and ensure that soil, water, air and other natural resources are protected. As more farms and forests are utilized for biofuels production, careful consideration of feedstock production practices and location of biomass conversion plants will be required to

avoid serious impacts on existing food, feed, and fiber markets and the quality of natural resources upon which we all depend on for clean air and water.

A large and rapid expansion of U.S. biofuels production affects virtually every aspect of agriculture, ranging from domestic demand and exports to prices and the allocation of acreage among crops. Many aspects of the livestock sector are affected as well. As a consequence of these commodity market impacts, farm income, government payments, and food prices also change. Adjustments in the agricultural sector are already underway and will continue for many years as interest grows in these new markets. Careful monitoring of the development of the structure, conduct and performance of the new markets can help alleviate conflicts and smooth the transition to the new bioeconomy.

The implementation of sustainability management plans for biorefineries and their surrounding landscapes can be accomplished by using decision tools that mimic biophysical and economic conditions throughout the supply chain so planning for sustained production can be done by those who participate in both the supply and market sides of this sector. These new crops will need to be more profitable and as predictable as existing enterprises before operators change what they produce. Contracts between energy crop producers and conversion facility operators can help reduce or shift risk, or build capacity to deal with risk. Lower risk makes farmers more likely to grow energy crops because they will have assured markets for their crops. With contracts, processors can make sure they have uninterrupted supplies of feedstock delivered for biofuels production, which could lead to additional investment in processing facilities. Because this plan is developed around a diverse regional strategy, the benefits of economic development are spread across many rural areas, and the risks of interrupted biofuels supplies due to natural disasters can be appropriately considered.

Attention to regional implementation will optimize a variety of liquid fuels, based on conversion facilities that are supplied with adapted dedicated feedstocks that do not disrupt existing food and fiber production systems, and which can utilize the existing fuel distribution infrastructure. For example, ethanol could form the backbone of the regional E85 strategy in the upper Midwest, while advanced fuels produced from energy cane could be the basis for a new biofuels industry in the Southeast. Having such regional strategies will allow logistics and transportation systems to be optimized, as well as expand new supply chain opportunities across Rural America. Also, significant new markets are emerging for ethanol used in bio-based or green products replacing crude oil, so these opportunities should also be pursued. Even though there is a diversity of regional strategies that will be combined to achieve our targets, all fuels produced must be compatible with the U.S. transportation fuel infrastructure to allow Americans to travel anywhere and be able to fill up their cars, planes, and trucks.

Specialized strategies will be developed to take advantage of opportunities to utilize existing resources within regions. Municipal and farm waste and agricultural and forest residues will be encouraged to be addressed locally or regionally to minimize transportation costs, but the greatest predictable potential for biofuels production will come from dedicated crops.

No one kind of dedicated bioenergy crop or particular region in the U.S. will be able to provide all of the required amounts of feedstocks to produce the needed volumes of biofuels. A diversified suite of dedicated biofuels feedstocks must be adapted to a range of conditions across the country where production will be most economical. A diversity of feedstocks also reduces resource pressure on any one location and provides greater resilience to drought, pests, and other production risks. This strategy focuses on a suite of regionally adapted feedstock types that

are matched to different regions of the U.S, and allows us to take advantage of geographically diverse natural, business, and workforce resources within different regions. To ensure continued productivity from the same land area, utilization of genetic diversity and genetic improvement for adaptation to different environmental conditions will be used to increase resilience of crops to climatic extremes and disease and insect pest challenges. Lessons learned from the past have shown that increased skill in management practices can have as great an effect on increased productivity as genetic improvement does, so improved varieties will be developed to enhance sustainable production and minimize natural resources use. Conventional breeding and advanced genetic methods can also be used to enhance feedstock quality to meet the specifications of the biorefineries, and to enhance the production of value-added co-products in feedstocks that are then recovered as part of the bioconversion process. These courses of action can make feedstocks more valuable to biofuels refineries, so higher prices can be paid to farmers that can make feedstock crop more competitive with other land uses.

Summary. The President's and Congress's mandated biofuels goals will be met by supporting the existing biofuels industry, while accelerating the commercial establishment of advanced biofuels, by increasing communication and having a strategic plan across the U.S. Government, and by employing strategic public-private partnerships. This plan builds upon the President's May 5, 2009, memorandum forming the Biofuels Interagency Working Group (IWG) with high-level USDA, DOE, and EPA participation. We will innovate, grow fuel and create new jobs in America with this plan.

Nowakowski, Sonja

From: PLOVAASP@aol.com
Sent: Tuesday, August 03, 2010 9:58 PM
To: Nowakowski, Sonja
Subject: Biomass
Attachments: Public Lands Mgmt to State Article.pdf

Sonja,

I have been pretty involved in this topic. If elected to the legislature, one of the first bills I will introduce will be to utilize our resources. Attached is a news article explaining my position. With the current budget deficit the State is facing, this plan would generate revenue for the schools, reduce energy costs and create jobs.

Patty Lovaas
Missoula, MT

Patty Lovaas: Give most federal lands to Montana DNRC

Wednesday, July 07 2010 @ 04:14 PM MDT

Contributed by: Admin

by John Q. Murray

If elected in November, state senate candidate Patty Lovaas said she will seek to transfer management of most federal lands in Montana to the state.

In fact, if she hadn't gotten so deeply involved with property tax issues, Montanans might have decided the issue themselves. Patty introduced an amendment to the Montana Constitution last July invoking state sovereignty rights so that most public lands would be managed by local communities and state agencies.

"This absolutely has to happen, for the health of our state, for the health of our people, and for the health of our economy," she said. "It would be better to transfer these public lands to local control. There is a code in the Federal Regulations that allows for local control of the public lands. It is absolutely a viable option."

The constitutional amendment would not apply to national parks and wilderness areas. She was forced to postpone the public lands effort when she started fighting property tax reassessments, but promises that public lands will be atop her legislative agenda.

"That's what needs to happen, because the U.S. Forest Service and the BLM never get anything accomplished, due to political bureaucracy," she said.

Patty made the remarks in response to a query from the Chronicle, asking community leaders how to increase local decision-making in the federally-managed forest lands.

Patty said she has been deeply involved with the issue for the past 10 years in Beaverhead County, which is about 60 percent public land.

"There is a huge bunch of beetle kill in the Wise River area. We were involved with the Resource Advisory Committee. Beaverhead County has a good Resource Use Plan that they spent a lot of time developing, but it's never been utilized."

Every issue on the public lands becomes politically charged, she said. "It was so politically motivated, it became really frustrating," she said.

Even when the Forest Service offers a timber sale, it is typically purchased by a large company that squeezes out the local economy, she said. A lot of times, their subcontractors don't even buy fuel in the community.

Patty and others decided to buck the system and create a land management trust. The trust coordinated with private landowners to put together and manage timber sales.

"We started up this local land management trust, and basically the only thing they are is an oversight for a project," she explained. They find buyers and collect money, and distribute it based on an agreement that is made up front.

For every dollar, all but five cents is paid to landowners, harvesters, and haulers. The trust keeps five cents.

At the end of the project, the five cents is distributed, less costs for administration. The trust itself gives five percent of its five cents back to local charities.

"So we keep all the money in the local community for local economic benefit," she said. A recent project involving cleaning up 160 acres generated a million dollars in economic activity for the state, with half of that staying within the county. "It was absolutely astronomical," she said. "The people came in, cut the logs, bought groceries, and stayed at the local places. The wood was sold to the local mills and local people were employed. The project generated local economic benefits," she said.

Montana needs to utilize its resources and generate jobs and local economic activity, she said.

"We just approached local landowners where we saw dying trees, and said, would you like these removed, because we have the resources. We don't go in and clear-cut anything, we just go in according to Healthy Forest standards. So then we'd contact all these logging operations and ask if they wanted to work on this project . We would coordinate the resources and get the project done."

The trust has proven that local management is possible, she said. The next step is to give the state Department of Natural Resources and Conservation (DNRC) oversight of the public lands.

Not all the projects need to involve commercial timber, but the state could look at woody biomass for use as fuel. Western Montana University has reduced its costs by moving to biomass heat. Public schools and public buildings could reduce their heating costs, she said.

The local residents know areas that need to be cleaned up, where the fire risk needs to be reduced, and even that material can save the state money and put people to work. "If I do get elected to the legislature, that's one of the bills I will put in," she said. "It would use the resources we have in a responsible manner to generate economic activity."

Patty, a CPA, is completing her first year of law school and continuing to pursue her lawsuit against state officials on property tax issues. Her recent documents filed in the case quote from a famous Supreme Court decision involving an insurance company, charging that like the company, Montana officials "were trained to target the weakest of the herd--the elderly, the poor, and other consumers who are least knowledgeable about their rights and thus most vulnerable to trickery or deceit, or who have little money and hence have no real alternative but to accept an inadequate offer to settle a claim at much less than fair value."

She has no problems going after high-ranking officials and big government agencies on behalf of those who are struggling at the local level. "I'll take on the bullies," she said.

The Chronicle asked local community leaders, What would be a good approach for shifting more control to local residents and allowing greater local decision-making over the federally-held lands in Mineral County and western Missoula County? We are asking now because there are several possible vehicles for change coming up in the near future:

* In November 2010, Montana residents will be asked whether to convene a new constitutional convention.

* In June 2014, Montana voters will be asked if they want to create local government study commissions (which in the past have recommended county charters).

* The Secure Rural Schools and Local Community Self-Determination Act is up for renewal and could include language authorizing local pilot projects.

In addition to Patty Lovaas, the Chronicle has also interviewed Dan Kemmis and Mike Byrnes.

Dan, the former mayor of Missoula, is author of the book, "This Sovereign Land" and "Community and the

Aug 25, 2010

Environmental Quality Council
Attn. Sonja Nowakowski
P. O. Box 201704
Helena, MT 59624

EQC Members,

Thanks for your time and attention regarding these comments from the Montana Logging Association (MLA). The MLA represents 447 logging/log hauling businesses in Montana with and additional 293 Associate and Sustaining members.

The chipper/grinder issue has raised the question of whether or not other logging equipment may be brought into the portable source permit requirements. There is other logging/forestry equipment i.e.; trailer mounted slasher /merchandiser; various pull-through de-limbers, log loaders, etc. that are moved by another piece of equipment and have an engine that powers the machine. This is the same principal as the trailer mounted chipper/grinder which under current law is required to be permitted.
It would be great if we could add other "other forestry equipment" to the current language in LC 7000 so that this question is clarified once and for all. To my knowledge there have been no issues at this point with any equipment other than the grinder/chippers, however the question remains whether or not permits could be required for other logging equipment under the current law. We greatly appreciate the language that you have included in LC 7000 that eliminates the need for portable grinders and chippers to be permitted (as long as they are not at a location for longer than 12 months). That being said, we support the following draft language to be inserted into LC 7000.

75-2-111 (c) a wood chipper, wood grinder, or **other forestry equipment** and its associated engine used for forestry practices that remains in a single location for less than 12 months and is not subject to the requirements of 42 U.S.C. 7475, 7503, or 7661a;

(1) … for purposes other than agricultural open burning or forest slash open burning, the board…

Thanks again for your time and attention,

Jason Todhunter

Montana Logging Association

DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

BRIAN SCHWEITZER, GOVERNOR

1625 ELEVENTH AVENUE

STATE OF MONTANA

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PO BOX201601
HELENA, MONTANA 59620-1601

August 26, 2010

Legislative Environmental Policy Office
Attn: Sonja Nowakowski
P.O. Box 201704
Helena, MT 59620-1704

RE: LC 7000 – RULEMAKING FOR WOOD CHIPPERS AND GRINDERS

Dear Environmental Quality Council,

I would like to take this opportunity to write in support of the proposed Bill for an Act entitle: "*An Act clarifying the powers of the board of environmental review related to air quality permitting and rulemaking for forest practices activities; amending section 75-2-111, MCA; and providing an immediate effective date*" with the addition of "***other forestry equipment***" in paragraph 75-2-111 (c).

I am aware members of the Montana Biomass Work Group – an advisory group to the State Forester - have actively engaged with the Department of Environmental Quality (DEQ) to craft modified language to existing Montana code that better addresses wood chippers and grinders, or other forestry equipment used in the daily practice of forest management. The proposed language is an important modification codifying equal treatment of equipment used in agriculture and forest management.

Thank-you for this opportunity to comment. I look forward to working with your committee on policy issues relative to biomass and renewable bioenergy in the future.

Sincerely,

Mary Sexton,
Director