



Stewardship Newsletter Growing Season 2022

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# What's Growing at Vilicus?

Crops and Community

By Hannah Moser



Vilicus Farms is located north of Havre Montana, our northernmost fields border Canada, right on the Alberta/ Saskatchewan line. If you've never been to the Northern Great Plains, we think a friend of the farm said it best when he described this place as an ocean of earth. Imagine that feeling you get when you look out to sea, and you realize how small you are in the vast expansiveness of our planet. You get that same feeling here. The plains stretch away from you in every direction, uninterrupted, as far as the eye can see.

This year, like many recent years, the big sky over Montana's Golden Triangle has given us very little rainfall during the seeding season. This spring as we worked long hours to get our seed in the ground we got only about 3" of rain to water our crops. Now we are into

July and are experiencing unusual thunderstorm patterns but have been thankful for cooler than average temperatures which have kept our crops viable. In this area we often experience a phenomenon called virga, where rain can be seen falling from the clouds above, but the extremely dry air causes it to evaporate before it can reach the earth. Still, life persists here, and so do we.

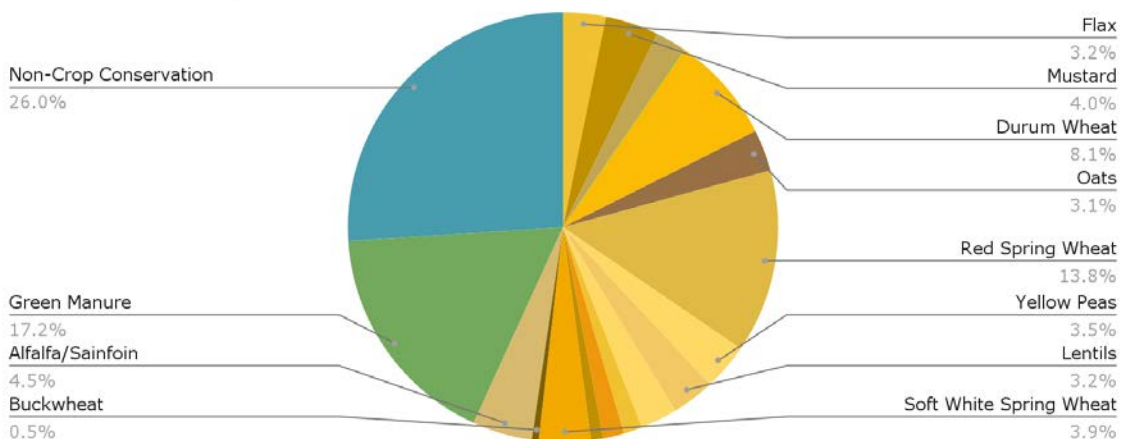


The long days of seeding may be over, but during the growing season the farm is still buzzing with activity- and it's not just our local pollinators who are keeping busy! The farm team spends their days scouting the progress of our crops, maintaining equipment in preparation for the harvest season, swathing cover crops, and rolling and rock picking in the fields. This is an important step in preparing for the harvest season. Rolling the fields pushes smaller rocks deeper into the earth and helps break up dirt clods, larger rocks get removed by hand. Removing rocks from the fields makes for a smoother harvest because rocks can get stuck in or damage the combines we use for harvesting, and the metal teeth of the combine striking a rock in a dry field can also cause fires.

Vilicus grows more than 25 diverse crops over a 5-7 year crop rotation. Roots and soil have a symbiotic relationship, in natural ecosystems the roots of diverse plant species give and receive different nutrients from the soil and the bacteria that lives within. Rotating where we grow each crop every year helps promote biodiversity in the soil and create something closer to what occurs in nature. This year we are using 57% of our available land base to grow 17 different crops to harvest and sell. We also grow green manure and cover crops across 17% of our land base, these are crops that won't be harvested for sale, but are planted to aid and maintain soil health and provide food for our grazing operation.



### What's Growing this Season?



The remaining 26% of the land is non-crop area for conservation. This includes our field borders, natural rangelands, pollinator strips, and lands enrolled in the USDA Conservation Reserve Program (CRP). We see our farm as an opportunity to have food production be part of a natural system, not removed from it, so it's important to us to maintain a diversity of natural areas!

This season we are growing so much more than just crops here at Vilicus Farms. We are also growing our community through our new CSSA program and expanding our network of stewards all over the world! We are so grateful to you for choosing to become a stewardship shareholder. Thank you for believing in a better future for agriculture and for our planet!

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GROWING SEASON  
STEWARDSHIP SPOTLIGHT



## Cattle Grazing Integration

*Three years ago Vilicus Farms Operations Foreman, Paul Neubauer started his own Custom Grazing enterprise, P/N Custom Grazing. Below Paul explains what Custom Grazing is, and how he started his own business at Vilicus Farms!*

Custom Grazing is a type of business that takes herds of cattle from other farms or ranches during the growing season and provides full care for those herds during the season. P/N Custom Grazing provides this service for all classes of cattle. In our 3 years of operation we have primarily grazed breeding yearling heifers, and yearling steers. We are paid for the service by the cattle owner and in exchange we manage the grazing, watering and healthcare needs of the herd while they are with us. This year we have about 200 head of cattle grazing on the farm.



We graze these cattle on parts of the farm that are in the cover crop portion of our organic crop rotation. In this way we are utilizing cover crops to generate income through grazing areas which would otherwise require machine maintenance. Custom grazing allows the cropping enterprise at Vilicus Farms to maintain successful green manure cover cropping as an essential component of the rotation, while spending less money, time and resources tilling those cover crops for termination.

With the support of Vilicus Farms I have started P/N Custom Grazing as a sole proprietorship. P/N does all the contracting, planning and management of the custom grazing enterprise in cooperation with the Vilicus Farms owners Anna and Doug.

## Cattle as Caretakers *by Paul Neubauer*

Livestock integration is and will continue to be an essential component of a holistic and healthy organic cropping system, across all agricultural environments. This livestock integration does not necessarily need to be in the form of cattle. Animals perform key functions in the healthy maintenance of nutrients, water and carbon cycling on working landscapes. In arid environments in particular, such as north central Montana, cattle and other ruminant animals have a critical part to play in catalyzing the decomposition of plant biomass into a form available for the building of soil and the growth of the soil microbiome. Thus far our grazing practice has been focused on cattle because that is where I have experience as an animal and land manager. However, there are many aspects of organic farming to which animals such as goats and sheep might be better suited, and increasing the volume and diversity of animals working on Vilicus Farms is an important goal for the future.



One particularly fascinating example of the part ruminant animals have to play in nutrient cycling on our farm ground is the appearance of dung beetles on our farm land. We have grazed ground that has not had cattle on it in a very long time over the three years we have been bringing cattle onto the farm. When these cattle start dropping manure on the land as they move across it grazing cover crops, we start to see the presence of dung beetles in the manure patties. These beetles are rooting around in the fresh manure, eating whatever within provides their sustenance, and then moving into the soil to deposit their own leavings. In this way the cattle are accelerating nutrient cycling; Cow eats cover crop, cow poops on the ground where the cover crop was grown, dung beetles eat cow poop and burrow into the soil to deposit what nutrients are carried through them, those nutrients originally a part of the crop, and drawn initially from the soil, return without much delay to the soil ready to grow another crop, or feed the soil biome. In this way the integration of livestock to our fields accelerates the building of healthy soils and expands the natural ecosystem on our farm!

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GROWING SEASON  
CROP SPOTLIGHT



# Chickling Vetch

## Chickling Vetch on the Farm *By Doug Crabtree*

Chickling Vetch is a crop uniquely suited to the ecology of the land that we steward. We grow Chickling Vetch primarily as a green manure, a crop grown to build soil. Chickling Vetch is a difficult seed to source on the market, so we also grow it as a seed crop, for our own use.

Chickling Vetch is especially suited to soil building, as it is a legume. Legumes are plants that enjoy a special, symbiotic relationship with soil bacteria. The bacteria are able to extract nitrogen from the atmosphere and convert it into available nitrogen for plants. The bacteria provide this nitrogen to the host (legume) plant in exchange for carbohydrates. The generous bacteria supply more than enough nitrogen for the host plant and the excess is stored in the soil. When legumes, such as Chickling Vetch, are incorporated into the soil, much of the nitrogen “fixed” by its associated bacteria becomes available for use by other plants- such as nitrogen-hungry grain crops grown in the next year of our crop rotation!

Chickling Vetch is among the most efficient legumes at producing nitrogen, particularly with regard to water use. The Chickling Vetch plants are rather small, growing only 12-24” above ground. But, they grow extensive roots, with many attached nitrogen-fixing bacteria. The limited “top growth” of Chickling Vetch means that the plant is very “thrifty”

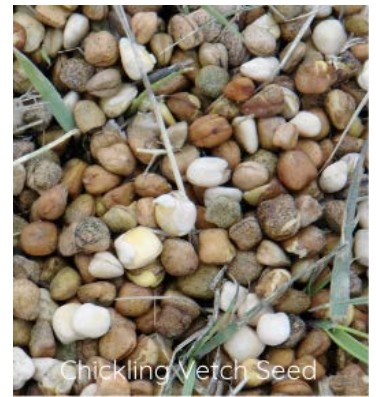
in terms of water use. Chickling Vetch produces more nitrogen per unit of water than any other legume. This feature makes Chickling Vetch the ideal annual legume for our farm and eco-region. We are water-limited in the best of times!

I also love this plant for its beauty! Chickling Vetch produces delicate multi-colored flowers and blooms indefinitely until the plant reaches maturity. Chickling Vetch brightens our fields with the colorful blooms and attracts numerous beneficial pollinator insects! I sometimes pick CV to provide a bouquet for our table.

## Chickling Vetch around the World By Hannah Moser

Chickling Vetch is part of a family of legumes that contains neurotoxins which cause a condition called Lathyrism. For humans, consuming chickling vetch can result in paralysis and muscle atrophy of the lower limbs. This condition is more common in young men and individuals are at highest risk when the toxic legume makes up 30% or more of their diet.

Despite the risks, some cultures still incorporate Chickling Vetch into their diets. Chickling Vetch is known for its extreme drought tolerance and hardiness. Crop failures due to drought, monsoons, and other severe weather conditions have caused communities to depend on Chickling Vetch for food. Chickling Vetch has been consumed for centuries in India, Africa, China, and some parts of Europe during times of famine. The most recent recorded epidemic of lathyrism was in 1997 in Ethiopia when a year of drought and civil war caused the population to rely on Chickling Vetch for survival and more than 2,000 people were treated for symptoms of the condition.





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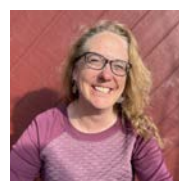
GROWING SEASON  
MEET THE STEWARDS!



**Doug** - Owner/ Operator

What is your favorite thing that we grow at Vilicus?: *Chickling vetch because it's one of our unquities!*

What is your secret superpower?: *I can lift rather heavy things! Both physical and mental!*



**Anna** - Owner

What is your favorite thing that we grow at Vilicus?: *Love!*

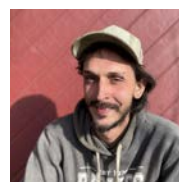
What is your favorite animal?: *Giraffes, because they're tall blondes!*



**Paul** - Farm Operations Foreman

What is your favorite thing that we grow at Vilicus?: *I would say I really find flax in bloom very beautiful, and it's such an extremely delicate plant but it can thrive in this extremely harsh environment.*

If you could travel back in time, when would you go?: *I would travel to the Northern Great plains before any European explorers had come to the continent.*



**Ben** - Maintenance, Technology and Logistics Coordinator

What is your favorite thing that we grow at Vilicus?: *Chickling Vetch because I think it does its best work in the harshest conditions.*

What are you reading right now?: *A few different things! One is The Winter of Our Discontent by John Stienbeck, he's my favorite American author.*



**Hannah** - Chief of Staff

What is your favorite thing that we grow at Vilicus?: *My favorite thing that's growing this season is our community.*

If you could travel anywhere in the world, where would you go?: *So many places... Japan, Turkey, Argentina, The Balkans, and Finland are top of the list right now!*



**Megan** - Bookkeeping and Payroll Accounts Manager

What is your favorite thing that we grow at Vilicus?: *I really like the flax because when it's ready to harvest they sound like tiny rattles, and then we get to make flax crackers!*

Do you have any pets?: *Currently, I have two dogs, a cat, a Russian box tortoise, two European Starlings, 8 chickens, a Scottish Highland bull, my newest additions are two simmental x red angus heifers, and in the next few months I'll have five sheep!*



**Landon** – Facilities Manager and Social Media Coordinator

What is your favorite thing that we grow at Vilicus?: *My favorite thing that we grow at Vilicus is a deep relationship with the landscape.*

What’s one thing you wish you had more time for?: *If I had more time I would like to work on composing music and art installations around the farm.*



**Jim** – Operator/Mechanic

What is your favorite thing that we grow at Vilicus?: *Organic crops are my favorite thing we grow at Vilicus Farms.*

What is your favorite tool?: *GPS Autopilot is my absolute favorite tool.*



**Tyler** – First Year Immersion Apprentice

What is your favorite thing that we grow at Vilicus?: *The most valuable thing that Vilicus Farms produces is the next generation of land stewards!*

What 3 things would you bring to a deserted island?: *I would bring a multitool, cast iron pot, and a tarp.*



**Stu** – P/N Custom Grazing Associate

What is your favorite thing that we grow at Vilicus?: *Muscle 🍊*

What is the best gift you’ve ever received?: *A singing lesson.*



**Dalton** – Value Added Intern

What is your favorite thing that we grow at Vilicus?: *Opportunity - it's a total sandbox and I love getting to work in that environment with the goal of contributing toward the betterment of our social, environmental, and economic structures.*

If you could only eat one meal the rest of your life, what would it be?: *Overnight oats with peanut butter, raisins, and some cinnamon. Or, rye bread slathered with peanut butter and raisins and Trader Joe's Everything but the bagel seasoning. Both super hearty and tasty!*



**Chloe** – Summer Intern

What is your favorite thing that we grow at Vilicus?: *Lentils!*

What is your all time favorite movie?: *The Big Lebowski*



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