

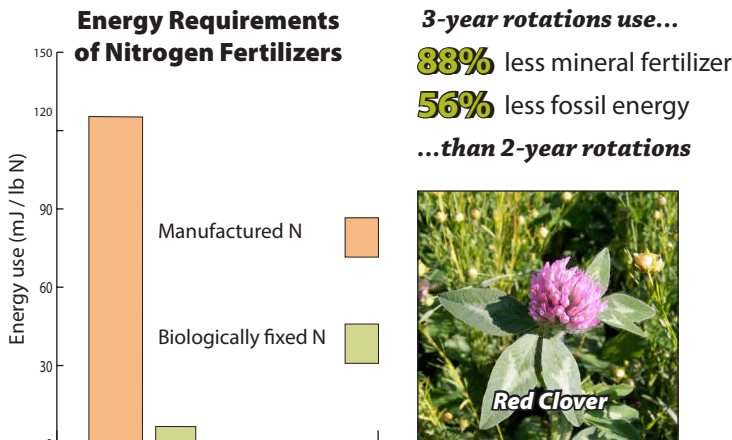
Small Grains, Large Gains

5 Reasons Why Diverse Crop Rotations are Good for Iowa

Many farmers have known this for years, but recent university research shows that adding a third crop – a small grains crop such as oats – to the more common 2-year corn-soybean crop rotation would support soil and water conservation, making Iowa's rural communities more resilient.

1 Reduce Fossil Energy Use

Small grains are harvested in the summer, which lets farmers grow legume cover crops – like red clover or alfalfa – during warm weather. This gives the cover crops ample time to fix nitrogen and **decreases the amount of fertilizer** farmers have to purchase.



3 Build Healthy Soils

Diverse crops grow **diverse roots** in the soil, which provide habitat for more soil life. These roots and soil microorganisms improve soil structure, increase organic matter and help prevent erosion.

3-year rotations have...
31% more particulate organic matter carbon
24% more microbial biomass
21% less erosion
10% lower bulk density
...than 2-year rotations

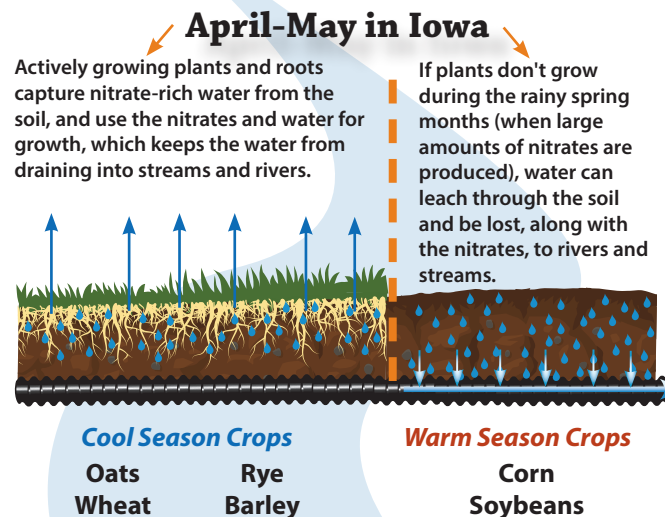


VS.



2 Improve Water Quality

Small grains are cool season crops, meaning they grow in the fall and spring, helping to **keep roots in the ground year round**.



4 Cut Pesticide Use

Because diverse rotations can control weeds effectively with up to **6 times less herbicide** use, their potential **freshwater ecotoxicity** is up to **200 times lower** than that of a corn-soybean alternation.

"It's good to know my farm supports biological diversity."
 - Dick Sloan, PFI Member

5 Stabilize Farm Income

Because small grains are harvested at a different time than corn and soybeans, diverse rotations offer potential for more even **cash flow** throughout the year.



"The ability to diversify my operation is the key. The more diversified your operation, the more able you are to ride through the rough trends by subsidizing your operation one place or another."
 - Wade Dooley, PFI Member



To read more about small grains and diverse crop rotations, visit: practicalfarmers.org/small-grains