



April 19, 2012

Uses for Bare Soil Imagery

Bare soil imagery, taken before the crop is established, can help assess soil organic matter differences and indicate drainage needs in a field.

While we can learn a lot about a crop by studying mid to late season aerial imagery, bare soil imagery can provide a lot of information about the field surface and the soil. Because of this, bare soil imagery can be helpful when reviewing potential problem areas in fields. Particularly, bare soil imagery can show soil differences in organic matter content and soil/field drainage, both of which can translate into yield.

There are several things to consider when shooting, in order to collect useful bare soil imagery. Try not to shoot on a cloudy day, since cloud shadows on the field surface can mask some of the soil issues you're attempting to document.

Besides avoiding clouds, the two key factors for shooting useable images are the right soil moisture and less residue/more soil exposed. If soil is too dry, the ability to detect differences is diminished. Planting time, or shortly before or after, is usually when the most soil is visible in the field, and also it's when the odds are best of having the correct soil moisture status to make good comparisons. Below are four images of the same field to show what can be seen.

2012 TRIAL OPPORTUNITIES

We still need fields in some Iowa counties for the High Intensity Soybean Management trials we told you about a couple of weeks ago. If you're interested in participating in these and haven't already done so, please contact Matt Sweeney immediately (msweeney@ia soybeans.com or 515-334-1048).

In addition to these trials, there are several other trial opportunities available. For both corn and soybeans, we're continuing our plant population and plant nutrition studies. Other possibilities for soybean trials include plant health, insect control, and seed treatment. For corn, we're continuing our usual nitrogen and manure management trials as well.

Growers interested in any of these can find more information at the [On-Farm Network website](#). A convenient on-line trial sign-up form will be posted very soon. Look for it in the "What's New" section on the left side of the On-Farm Network [home page](#).



Image 1 is a near-infrared bare soil field image. Darker areas are lower and tend to be higher in organic matter. Lighter areas are higher, tend to be lower in organic matter, but may or may not be lower yielding than the darker areas of the field, depending on rainfall and fertility.

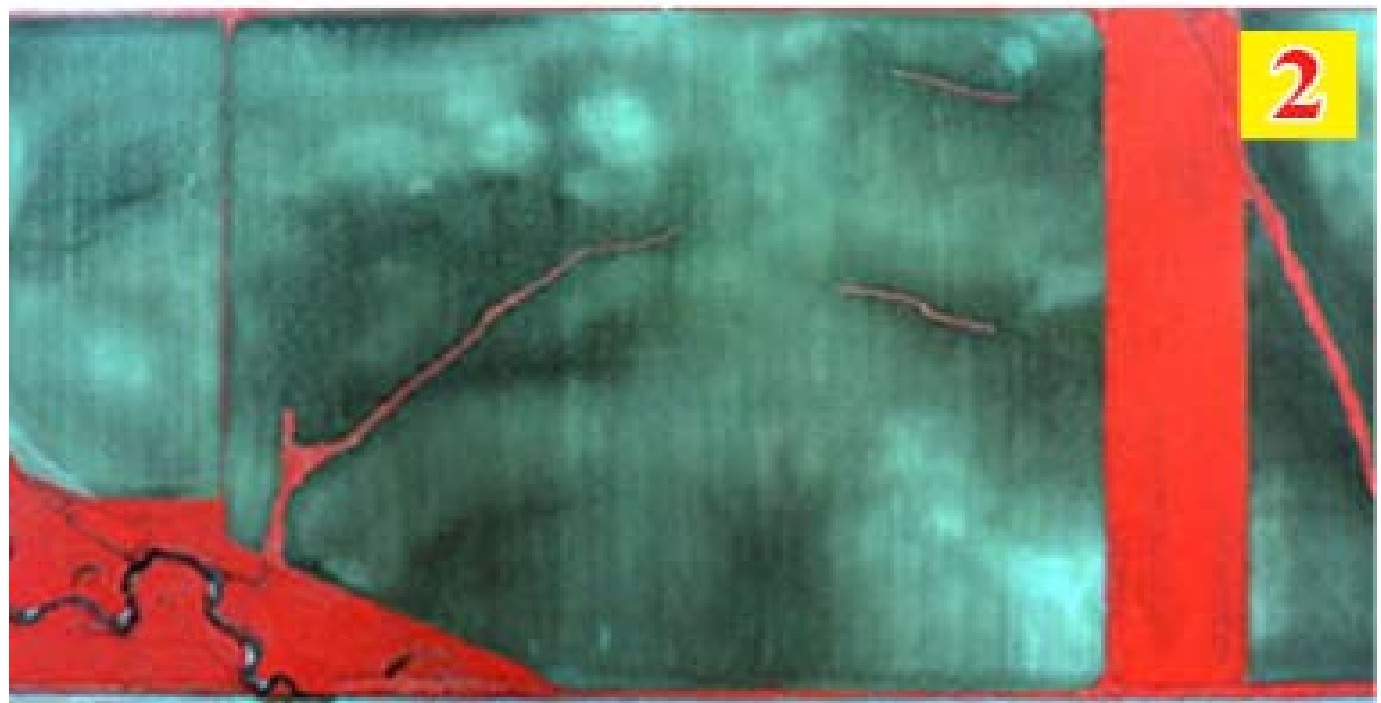


Image 2 shows the same field two years later. This illustrates that once you have a good bare soil image of a field, it can be useful for several years, as organic matter does not change dramatically from year to year.



Image 3 is the same field shortly after a rain. Lighter areas are where soil is dryer. The parallel lines in this image show where tile drainage lines are located in the field.

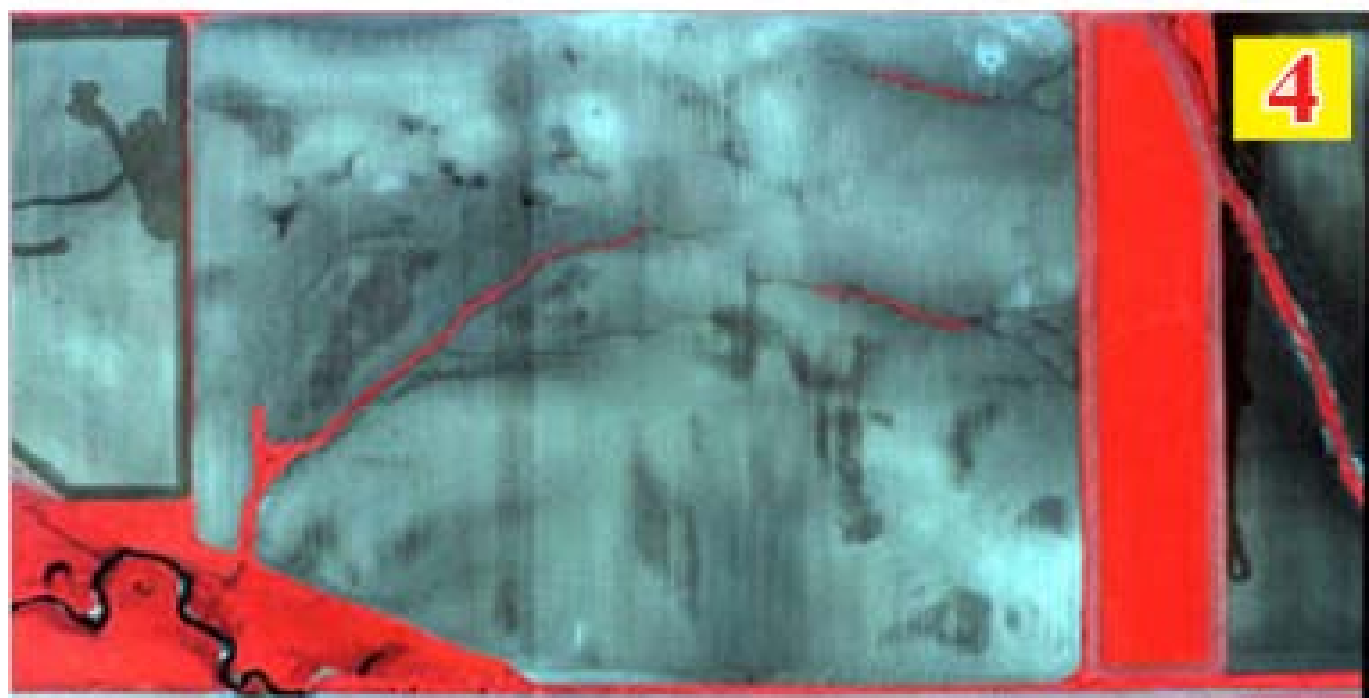


Image 4 was taken shortly after Image 3, after water had infiltrated into the soil. Note that the tile lines are no longer visible.

More information on using aerial imagery in remote sensing is available at the [On-Farm Network home page](#).