

Finding and Using Free Aerial Field Imagery



A program of the Iowa Soybean Association



Accessing Free Aerial Field Imagery



You don't need to spend money to get a basic aerial view of your farm. Aerial imagery is available online for all fields in Iowa and can be viewed, printed, and downloaded for free. Iowa State University's Graphic Information Systems Support and Research Facility maintains a website where this imagery can be viewed.

There are many reasons for viewing aerial imagery of fields, especially when considering buying or renting land. If taken at the right time, imagery can also help you locate tile lines. Recognizing yield-reducing problems can help growers adjust equipment or management practices to maximize efficiency and increase profits. Viewing aerial maps can help growers identify:

- Planter skips
- Tile lines
- Herbicide overlap
- Wide guess rows
- Magnitude of soil variation
- Areas of erosion
- Environmental problems
- Areas needing drainage
- Traffic patterns in fields
- Application and planting errors
- Broken tile lines

Accessing the Iowa Geographic Map Server

Access aerial imagery of your fields at <http://ortho.gis.iastate.edu>.



Locating a Field

Click [Map Search](#) on the top of the screen.

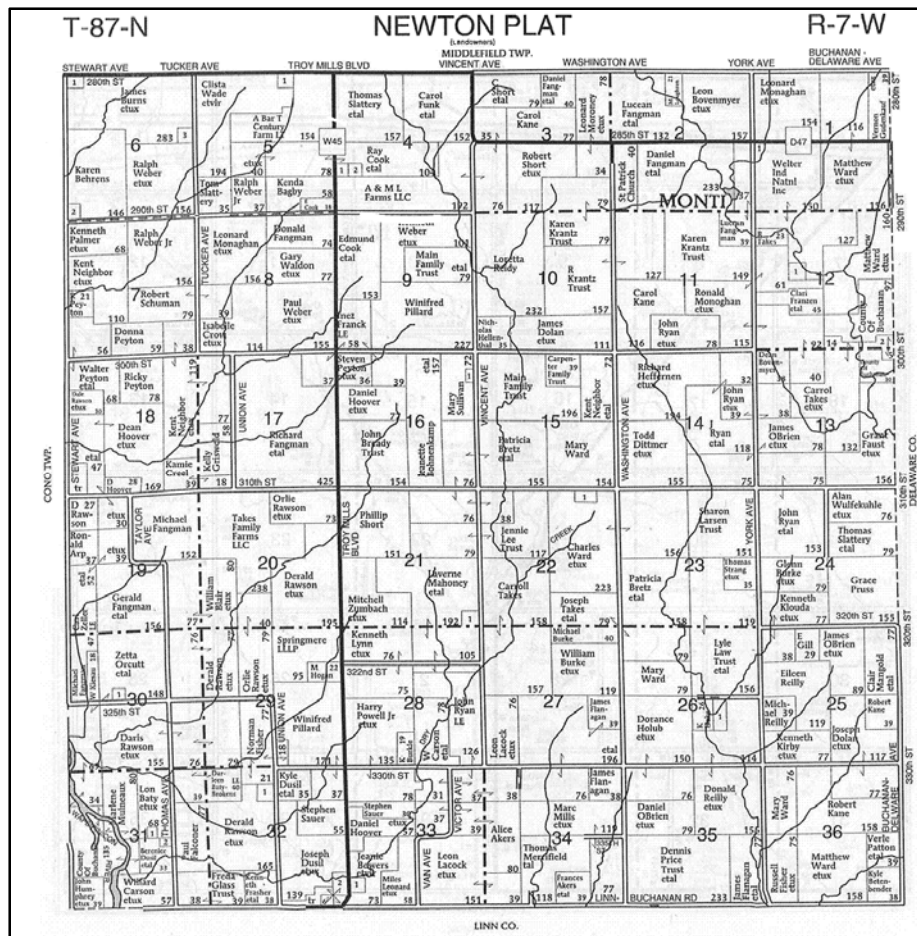
Note: On the **Map Search** page, a field can be located in one of several ways. Below are steps for two of the most commonly used methods to locate field maps on the **Map Search** page.

Method 1: Select the **Township**, **Range**, and **Section** of your property.

Township	Range	Section	
T87N	R07W	3	Show map

Using the drop down list box arrows, select the **Township**, **Range**, and **Section** in which the field is located.

Click **Show Map**.



Note: If you do not know the **Township**, **Range**, and **Section** of the field you wish to locate, you can consult a plat map.

A sample portion of a plat map is shown.

The **Township** number displays in the upper left-hand corner (T-87-N).

The **Range** displays in the upper right-hand corner (R-7-W).

The smaller numbers on the map indicate **Section** numbers.

© Plat map courtesy of Farm and Home Publishing, Belmond, Iowa. Used with permission.

Method 2: Select the *City* nearest the field.

Select a City:

Rowley

Using the drop down list box arrow, select the *City*.

Click **Show Map**.

Note: Using this method displays a map showing street numbers but not *township*, *range*, and *section* numbers.

Navigating the Map

The screenshot displays a web-based map interface. On the left side, there are three main control sections:

- Click on the map to:** Includes radio buttons for 'Recenter', 'Zoom IN' (which is selected), and 'Zoom OUT'.
- Select a map layer:** Lists several orthophoto layers from 2004 to 2007. The '2006 Orthophotos - USDA (natural color)' layer is selected and marked with an asterisk.
- Select a zoom level:** Lists zoom levels from 900m to 1m pixels. The '2m pixels' level is selected and marked with an asterisk.

At the bottom left, there are input fields for 'View Width' (600 pixels) and 'Height' (500 pixels), along with a 'Refresh Map' button. The main map area shows a 2006 orthophoto of a rural landscape with a road and a building. The map title is '2006 Orthophotos - USDA (natural color)'. A scale bar at the bottom right shows distances in meters (0, 50, 100, 200) and feet (0, 200, 500, 1000). Four hand icons are positioned around the map for navigation.

Note: Clicking on one of the displayed hands will reposition the map in that direction.

Recentering, Zooming In, and Zooming Out

Click on the map to

Recenter

Zoom IN

Zoom OUT

To *recenter*, *zoom in* on, or *zoom out* from the map displayed on the screen, select your choice in the upper left hand portion of the screen.

Use the cursor to click on the portion of the map you wish to recenter, zoom in on, or zoom out from.

Select a map layer

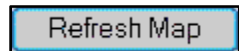
- 2007 Orthophotos NW Iowa (natural color) [Status Map](#)
- 2007 Orthophotos NW Iowa (color-infrared) [Status Map](#)
- 2007 Orthophotos - USDA (natural color)
- 2006 Orthophotos - USDA (natural color) *
- 2005 Orthophotos - USDA (natural color)
- 2004 Orthophotos - USDA (natural color)

(* Current layer)

Selecting Maps to View

Scroll down in the **Select a map layer** box to select from a variety of images to view. Click the desired map.

Click the **Refresh Map** button in the lower left-hand portion of the screen to apply the map selection.



Note: Other maps are available by scrolling down the box. **Brief descriptions of map layers are found at the end of this document.**

Selecting a Specific Zoom Level

Change the zoom by locating the **Select a zoom level** box on the left-hand side of the screen. Click the desired zoom level.

Click **Refresh Map** to apply the selection.

Note: Each level indicates a number of meters to which the map is accurate. (For instance, the *10m pixels* option means the map you are viewing shows one pixel of picture per 10 square meters of distance in your field. The smaller the number of meters, the greater the zoom level.)

Note: A red asterisk (*) indicates the currently selected level of zoom.

Select a zoom level

- 900m pixels
- 500m pixels
- 200m pixels
- 100m pixels
- 50m pixels
- 20m pixels
- 10m pixels
- 5m pixels
- 2m pixels *
- 1m pixels

(* Current zoom level)

View Width: Height:

pixels pixels

Refresh Map

Displaying the Date the Image Was Captured

Display the date the image was captured by selecting the index date which you are currently viewing. This row of index choices is located on the top of the screen when viewing a map. For instance, if you are viewing an orthophoto from 2007, click [2007 Index](#). The actual date the aerial photo was taken will appear in the center of the map you are viewing.



[Iowa Index Map](#) • [Download map](#) • [Display Streams](#) • [Display Twp-Rng-Sec](#) • [1990s Index](#) • [2002 Index](#) • [2004 Index](#) • [2005 Index](#) • [2006 Index](#) • [2007 Index](#)

Map Layer Descriptions

Following are brief descriptions of map layers available for viewing on the GISU website. The titles in bold are found in the **Select a map layer** box to the left of a displayed map. These same maps are available from the GISU homepage with slightly different names as shown below in parentheses.

Orthophotos – (All titles containing the word “orthophotos”) Aerial images rectified to be correct spatially. These are helpful for numerous applications such as detecting vegetation types and soil conditions, mapping field boundaries, delineating drainage features, and assessing soil variation within a field.

- **Color infrared orthophotos** are useful in detecting vegetation types and soil conditions.

Note: Color infrared orthophotos taken in 2002 are available for the entire state of Iowa. Color infrared orthophotos taken in 2007 are currently available only for northwest Iowa.

- **Natural color orthophotos** are useful for mapping field boundaries, delineating drainage features, and assessing soil variation within a field.

Note: Natural color orthophotos are available for the entire state of Iowa for the years listed in the **Select a map layers** box.

Aerial Photos – (1930s Historic Aerial Photos) USDA aerial photos available for portions of Iowa. These provide basic information such as street and highway locations.

Topographic Maps – (Digital Raster Graphic) Topographic images showing 10 foot differentials per contour level. These digital raster graphics were scanned using U.S. Geological Survey standard series topographic maps and then georeferenced to the surface of the earth.

Hillshade Maps – (Shaded Relief Map) Shaded relief maps are useful for displaying topographic relief in stream valleys and other landform features.

General Land Office Survey – Black and white survey maps from 1832-1859.

Historic Vegetation – General Land Office surveyer records from 1832-1859. Click on [Legend](#) to interpret colors on the map. Click [Info](#) to read more about the General Land Office project.

[1800s Historic Vegetation - ISU Legend Info](#)

Landcover – Shows landcover and land use information from 2002 satellite imagery. Click on [Legend](#) to interpret colors on the map.

[2002 Landcover - IGSB Legend](#)

