Digital Art Guidelines

In order to meet *Applications in Plant Sciences* quality standards for publication it is important that authors submit digital art that conforms to the appropriate resolution, color mode, and file format. Doing so will help to avoid delays in publication and maximize the quality of images.

Color Mode: All color image files are required to be submitted in their original RGB color. Whenever possible, ensure that the submitted RGB image is tagged with the originating ICC profile.

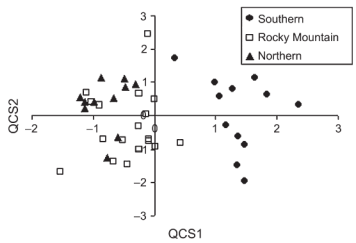
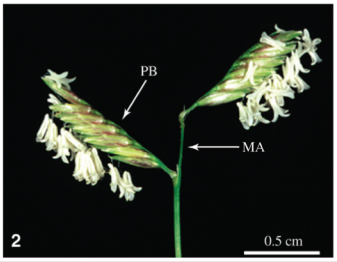
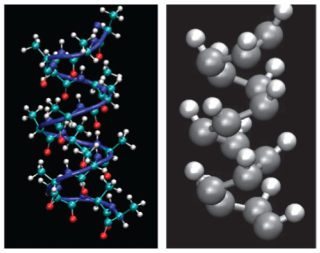
Format and Style: Use consistent style, font, and font size (between 6 and 10 pt.). Standard fonts such as Arial, Helvetica, Times, Symbol, Mathematical Pi, and European Pi are recommended. For vector application files, it is recommend to convert fonts to outlines (Adobe Illustrator) or embed fonts (MS Office).

- **Sizing:** Prepare figures at the final publication size; either one or two columns wide—8.9 cm (3.5") for one column or 18.4 cm (7.5") for two column—and less than the length of the page (23 cm [9"]).
- **Figures with multiple elements (photos, drawings, or graphs):** Group elements in a rectangle or square and label the top left corner of each element with a capital letter (e.g., A, B).
- **Label axes:** Include Standard International Units of measure in parentheses; capitalize only the first letter of the first word (e.g., "Stem growth (%)").
- **Magnified illustrations:** Provide a scale bar defined in either the figure itself or at the end of the legend.

Featured Images: You are invited to submit one or more color photographs (or artificially colorized photomicrographs) to be considered for a featured illustration on the journal's website. Submit these through Editorial Manager with your manuscript.

Resolution and Raster Images: Low-resolution images are one of the leading causes of art resubmission and schedule delays. It is important that submitted raster images meet the minimum resolution requirements. Raster images can be classified as monochrome, halftone, or combination halftone.

- **Monochrome (1-bit) images:** Common examples are graphs and charts made of solid black and white, with no gray values. The preferred resolution for this type of image is between 1000 and 1200 dpi at publication size. The preferred file format is TIFF. PDF and EPS are also accepted.
- **Halftones:** Common examples are color or grayscale figures containing pictures only, with no text or thin lines. The suggested minimum resolution for this type of image is 300 dpi at publication size. The preferred file format is TIFF. EPS, PDF, and JPEG are also accepted.
- **Combination Halftones:** Common examples are color or grayscale figures containing halftone and line art elements. The preferred resolution for this type of image is between 600 and 900 dpi at publication size. The preferred file format is TIFF. EPS, PDF, and JPEG are also accepted.

Monochrome	Combination Halftones (grayscale or color images with type)	Halftones (grayscale or color images without type)
		
1200 dpi	600 dpi	300 dpi

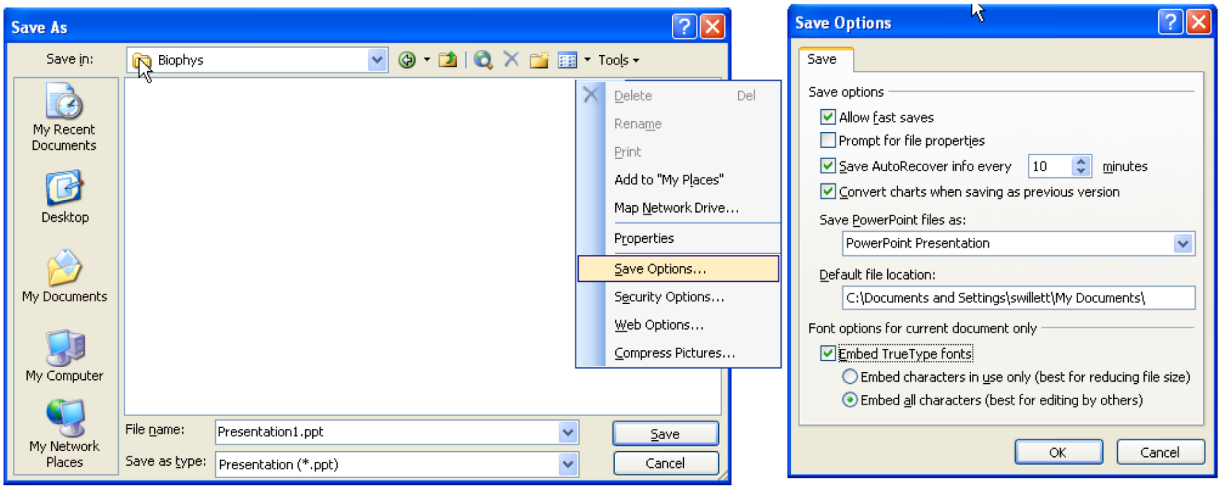
Vector Graphics: Vector images typically are generated using drawing or illustration programs (e.g., Adobe Illustrator) and are composed of mathematically defined geometric shapes—lines, objects, and fills. Vector graphics are resolution independent and can be sized up or down without quality loss.

- **Vector line art:** Common examples are graphs and charts created in illustration programs. Preferred when saved as an EPS file, with all fonts converted to outlines, and graph lines at least .25 point wide.
- **Combination line/halftone:** Common examples are color or grayscale figures containing halftone and line art elements. The halftone elements should be processed in Photoshop and the line elements in Illustrator, and the two elements from the two applications should be combined in Illustrator. Preferred when saved as an EPS file, with all fonts converted to outlines, and graph lines at least .25 point wide.
- If fonts have not been converted to outlines, always choose to embed fonts when saving files from your application.

Microsoft Office: PowerPoint slides, Excel graphs, or images embedded in Word are acceptable formats. When creating the original file in a Microsoft Office application, please follow these general rules to ensure that the initial file is properly prepared:

1. Do not use pattern or textured fills in graphics. Instead, use solid fills or percentage screens that will be effectively converted to vector images during file conversion. **Note:** A 20% difference in percent screens is most effective for differentiation.
2. Artwork placed within any MS Office application should be of acceptable minimum resolution: 300 dpi for tones, 600 dpi for combinations and 1200 dpi for line art.
3. When inserting pictures/images into files, be sure to select "insert" and not "insert link," which will not properly embed the hi-res image into the MS Office file.
4. Always embed fonts.

Embedding Fonts in MS Office:
- From the file menu, select Save As
- On the toolbar, select Save Options, select the Embed TrueType Fonts check box, and select Embed all characters (best for editing by others).



Authors who do not comply with these guidelines will be asked to resubmit their figures, which may delay publication.