The creation and intended use of this dataset is described in the paper: “Data Synthesis Methods for Semantic Segmentation in Agriculture: a Capsicum annuum Dataset.” Please find the DOI in the description of this dataset. The structure and contents of the dataset is as follows:

/empirical_image_color

50 color images of real greenhouse photographs.

/empirical_label_class_colorscale

50 color labels of the empirical_image_color set. Labels are color coded, intended for convenient human use.
For computer processing, use empirical_label_class_grayscale instead.

/empirical_label_class_grayscale

This folder consists of subfolders, each with 50 grayscale class labels that correspond to the empirical_image_color set.

/empirical_label_class_X_grayscale

50 grayscale images for class X, coded as RGB = (X,X,X) and (0,0,0) being background.

/empirical_label_class_X_grayscale_binary

50 grayscale images for class X, coded as RGB = (1,1,1) and (0,0,0) being background.

/empirical_label_class_all_grayscale

50 grayscale images with each class C included, coded per class as RGB = (C,C,C) and (0,0,0) being background.

/synthetic_image_color

10500 synthetic color images.

/synthetic_label_class_colorscale

10500 color labels of the synthetic_image_color set.
Labels are color coded, intended for convenient human use.
For computer processing, use synthetic_label_class_grayscale instead.

/synthetic_label_class_grayscale

This folder consists of subfolders, each with 10500 grayscale
class labels that correspond to the synthetic_image_color set.

/synthetic_label_class_X_grayscale

10500 grayscale images for class X, coded as RGB = (X,X,X) and (0,0,0) being background.

/synthetic_label_class_X_grayscale_binary

10500 grayscale images for class X, coded as RGB = (1,1,1) and (0,0,0) being background.

/synthetic_label_class_all_grayscale

10500 grayscale images with each class C included, coded per class as RGB = (C,C,C) and (0,0,0) being background.

/synthetic_label_depth_colorsacle

10500 depth labels of the synthetic_image_color set. Images are color coded intended for convenient human viewing. For computer analysis, use synthetic_label_depth_grayscale instead.

/synthetic_label_depth_grayscale

10500 depth labels of the synthetic_image_color set. Images are grayscale coded intended for computer processing. Please be referred to the paper mentioned previously for intended use.

/source_scenes

6 source scenes, each with 7 unique plants. For each plant position, 250 frames can be rendered to color, label and depth images. Hence, for each source file, 1750 images can be produced, totalling to the corresponding 10500 images in the dataset.