CLAIMS

1. A method for determining volume of one or more wood stacks, the method comprising:

capturing (110) one or more images of the wood stacks;

processing (120) the one or more images to obtain a mean width, a mean height, and a conversion factor of each wood stack; and

determining (150) the volume of each wood stack applying the mean width, the mean height, the conversion factor, and one or more user predefined dimension values of each wood stacks to a predetermined formula;

wherein the conversion factor is obtained by the steps of:

selecting (320) a region of interest from the capture images to filter out backgrounds;

converting (330) the filtered images from Red Green Blue, RGB images into Hue, Saturation and Value, HSV images;

applying (340) one or more image processing techniques to reduce present of noise in the HSV images;

converting (350) the HSV images to binary images via a thresholding technique;

calculating (360) number of white and black pixels within the binary images; and

obtaining (370) the conversion factor by calculating a ratio of white and black pixels to eliminate empty gaps between woods within each wood stack.

2. The method according to claim 1, wherein the mean width is obtained by the steps of:

selecting (220) a region of interest from the captured images to filter out backgrounds;

converting (230) the filtered images into binary images via a thresholding technique;

obtaining (240) contours from the binary images;

determining (250) centroid and extreme points of each contour;

selecting (260) boundary points representing widths at different regions of each wood stack;

calculating (261) distance between two boundary points of a same horizontal plane to obtain width in pixel for each region;
calculating (262) width in meter using a pixel per metric ratio for each region; and
averaging (263) the widths of each region to obtain the mean width.

3. The method according to claim 1, wherein the mean height is obtained by the steps of:
selecting (220) a region of interest from the captured images to filter out backgrounds;
converting (230) the filtered images into binary images via a thresholding technique;
obtaining (240) contours from the binary images;
determining (250) centroid and extreme points of each contour;
selecting (270) boundary points representing heights at different regions of each wood stack;
calculating (271) distance between two boundary points of a same vertical plane to obtain height in pixel for each region;
calculating (272) height in meter using a pixel per metric ratio for each region; and
averaging (273) the heights of each region to obtain the mean height.

4. The method according to claim 1 ~~any one of claims 1 to 3~~, wherein the region of interest is selected by the steps of:
Identifying (221) a reference object from the captured images;
selecting (222) start and end points of the reference object from the captured images;
calculating (223) a distance between the start and end points;
calculating (224) pixels per metric; and
defining (225) a colour range to separate the wood stack from background.

5. The method according to claim 1~~any one of claims 1 to 3~~, wherein the thresholding technique is coupled with a machine learning algorithm or a neural network algorithm to select one or more optimum parameters for producing binary images that can best

differentiate the wood stack from the background or empty gaps between woods.

6. The method according to any one of claims 1 to 5, wherein the volume of each wood stack is determined by multiplying a predefined length, the mean width, the mean height and the conversion factor of the respective wood stack.