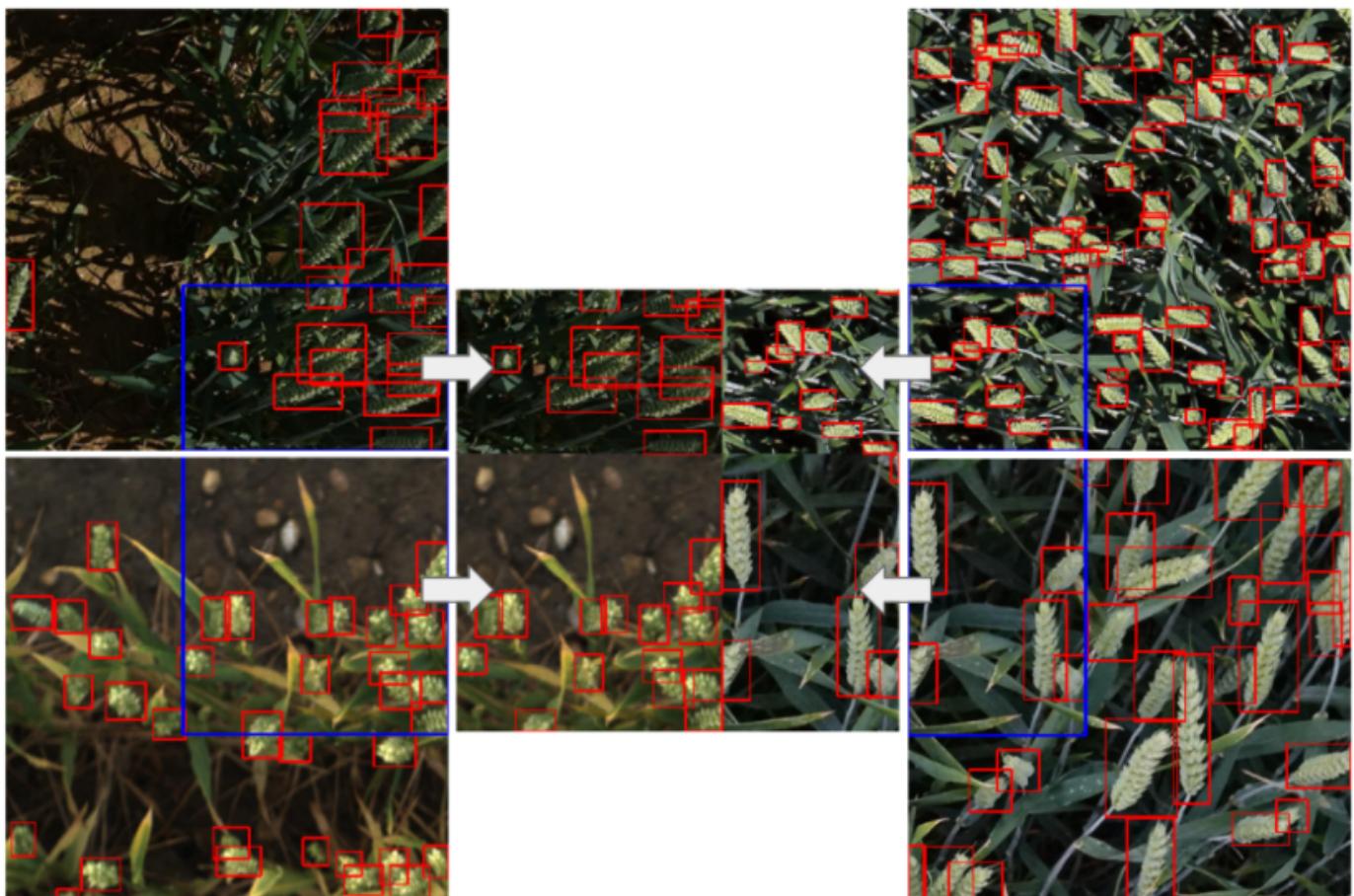


Augmentation

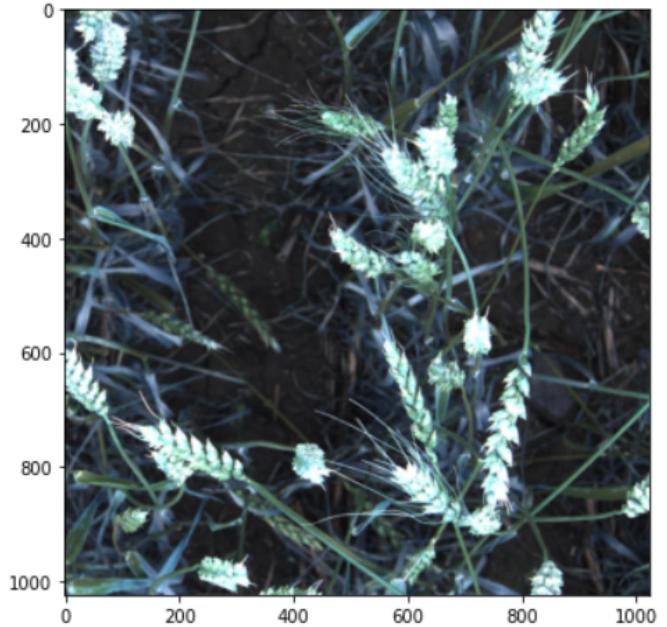
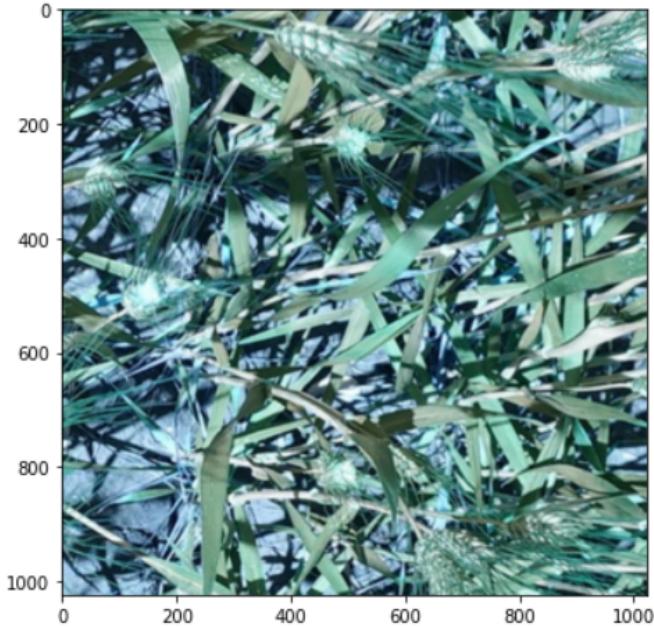
Cutmix

- Chọn ra 4 ảnh bất kì.
- Random 1 điểm A(x,y).
- Sau đó lần lượt cắt 4 ảnh và ghép lại với nhau.

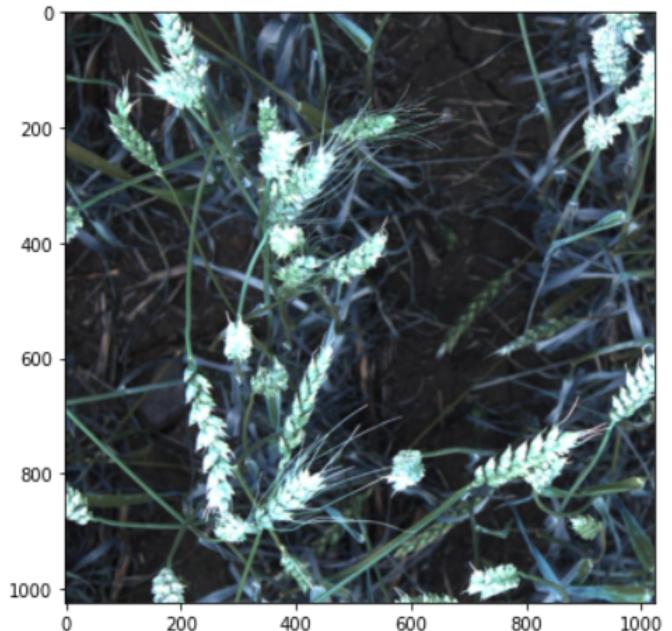
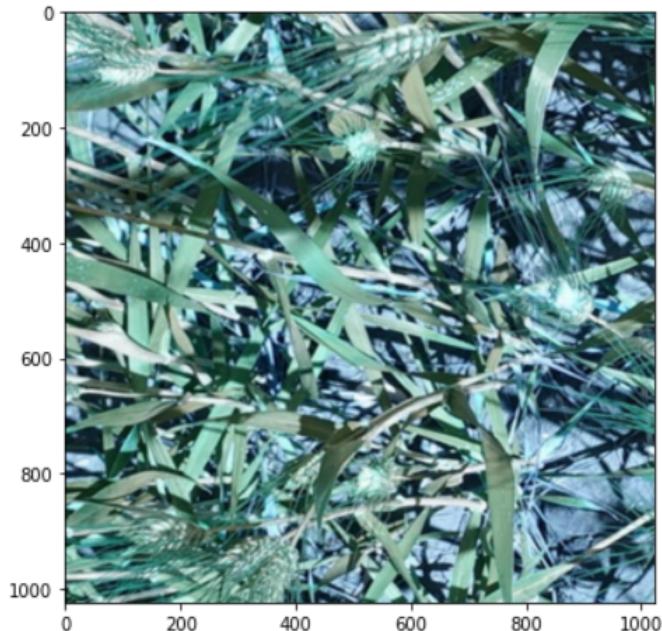


HorizontalFlip

Ảnh ban đầu

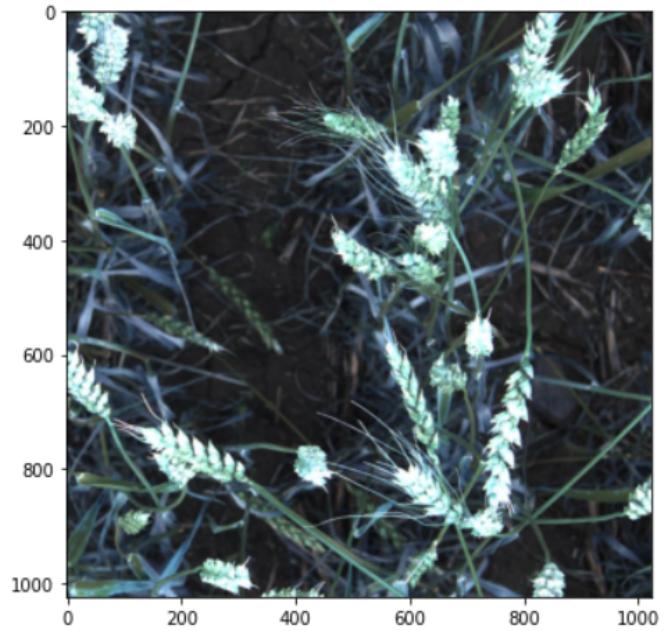
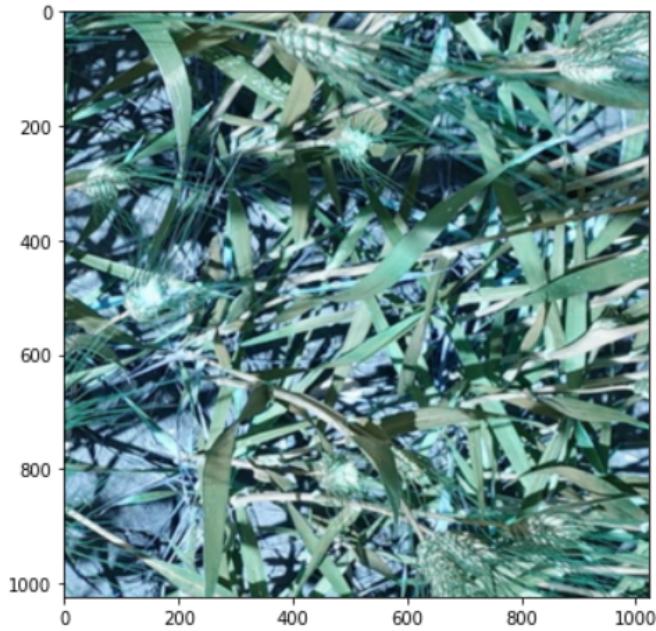


Ảnh sau khi xử lý

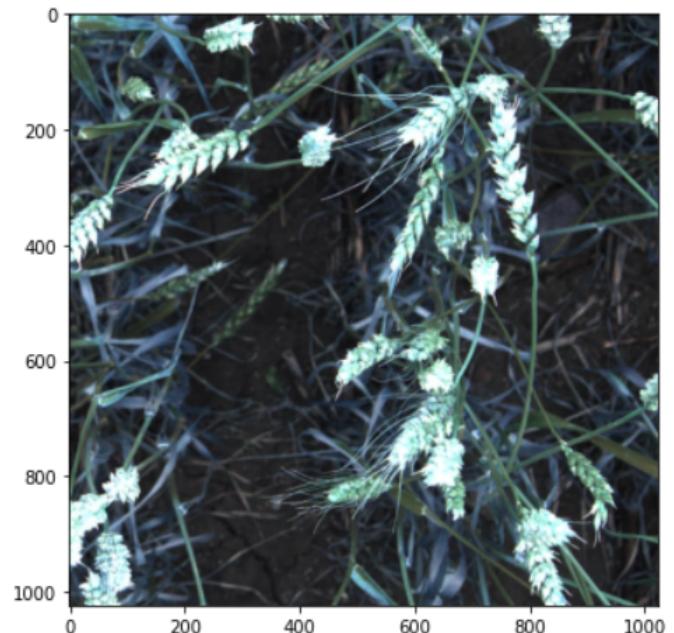
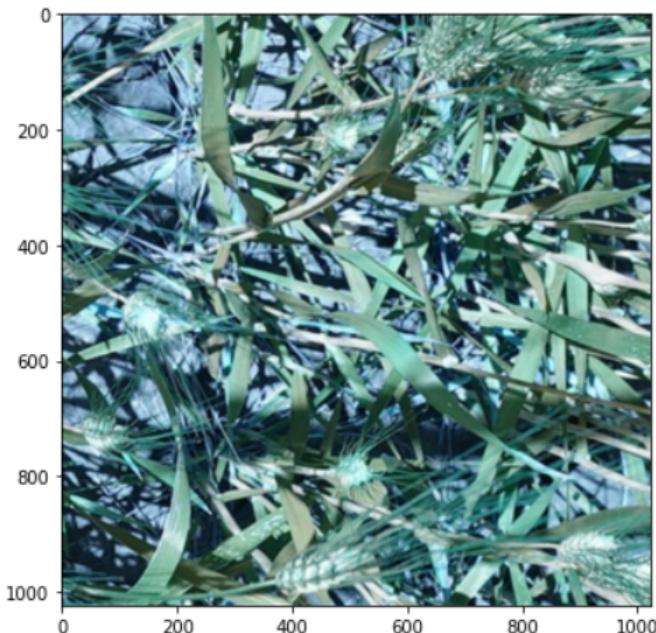


VerticalFlip

Ảnh ban đầu

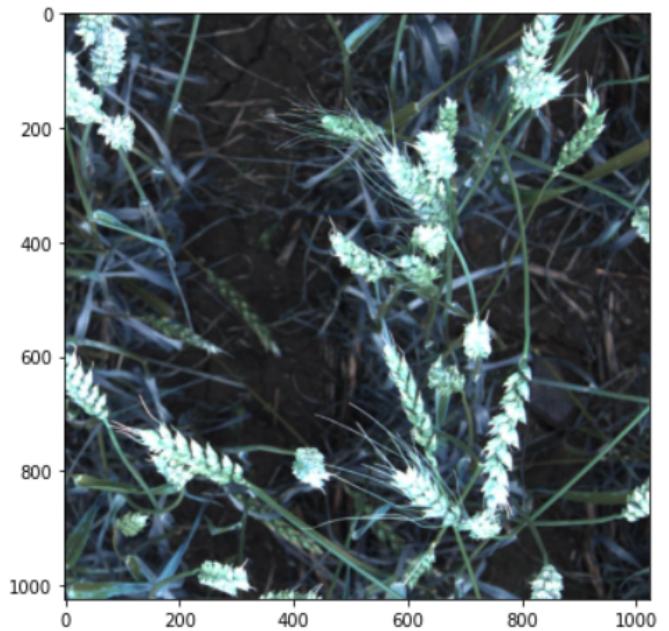
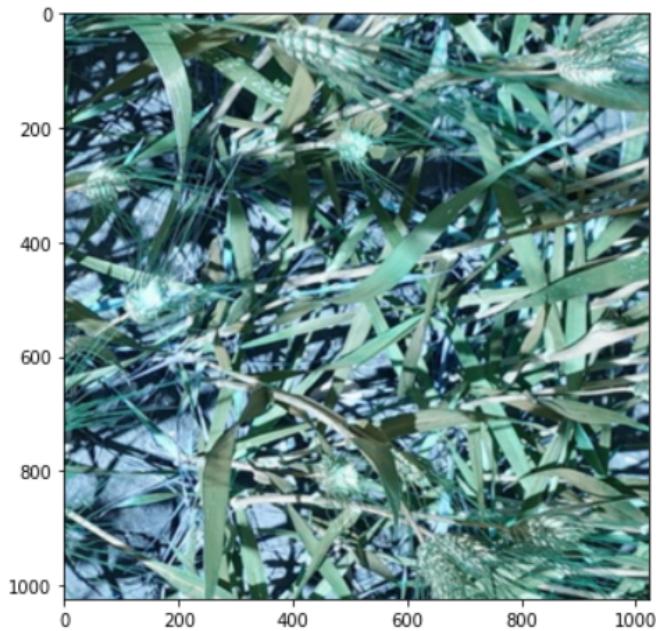


Ảnh sau khi xử lý

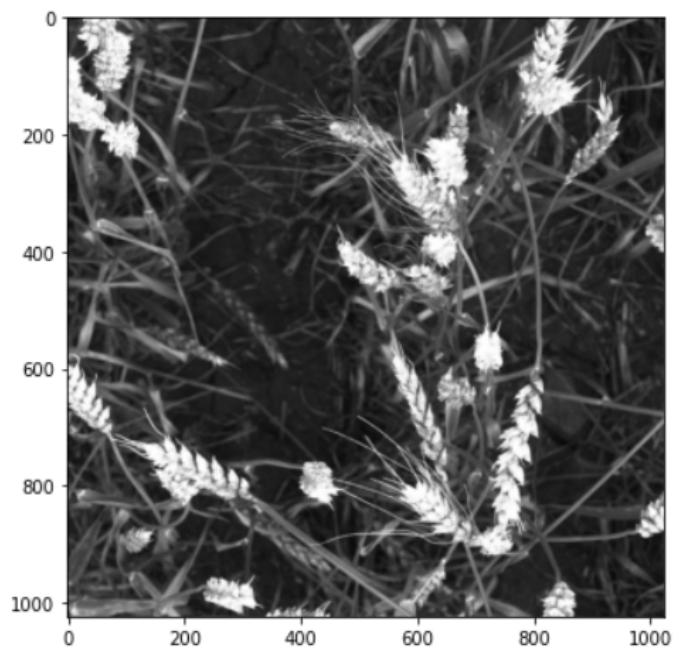
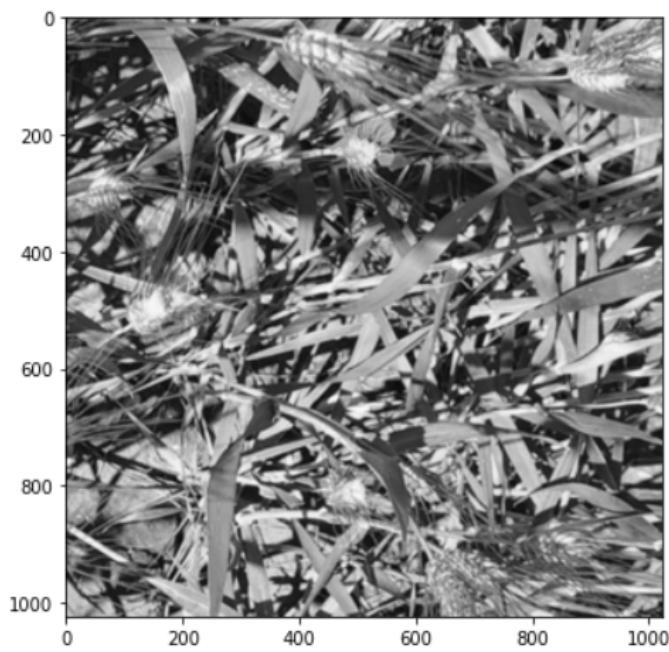


ToGray

Ảnh ban đầu

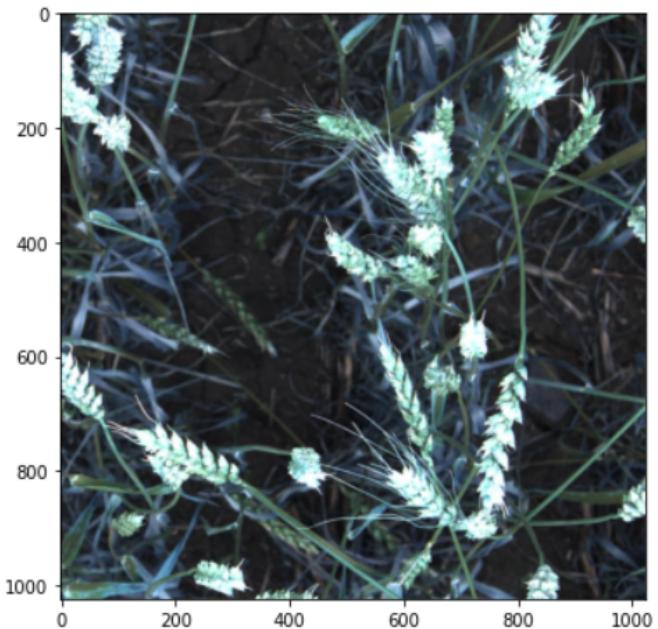
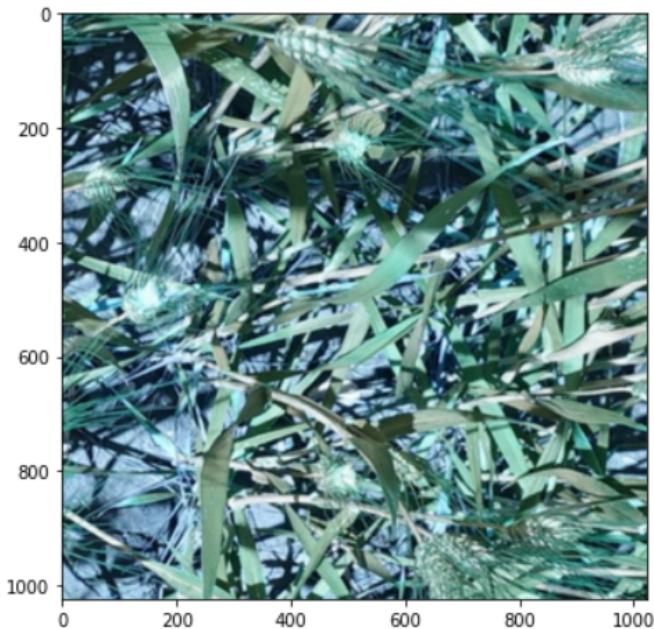


Ảnh sau khi xử lý

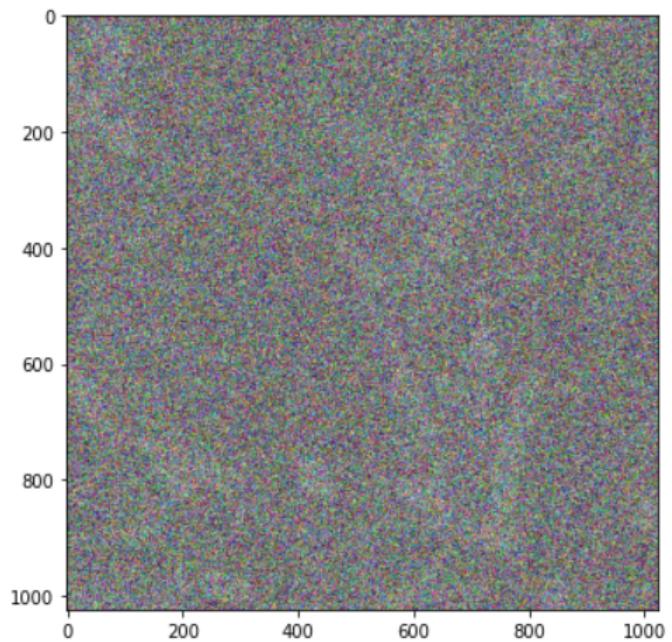
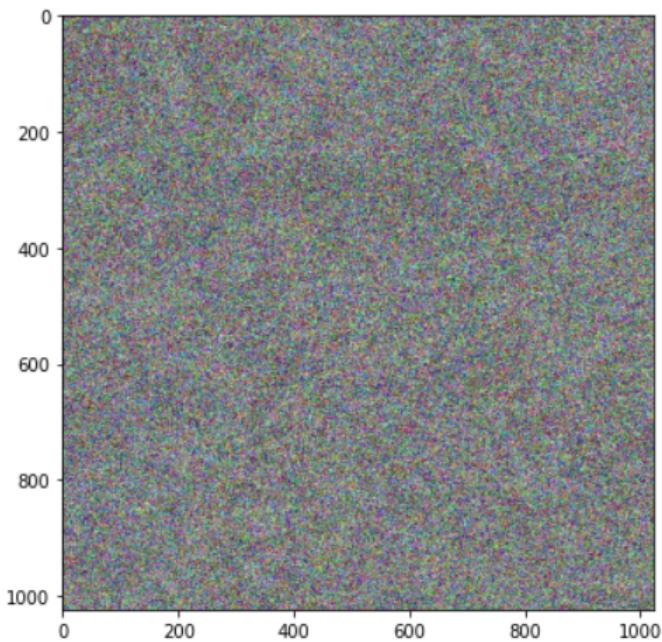


GaussNoise

Ảnh ban đầu

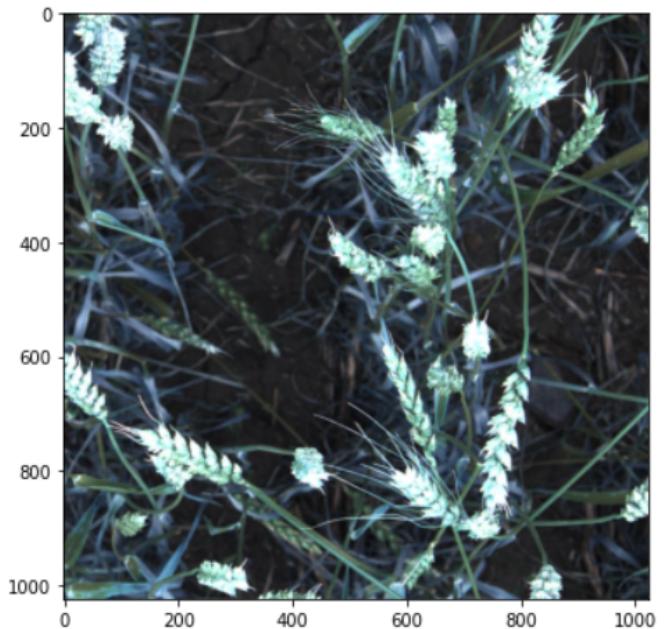
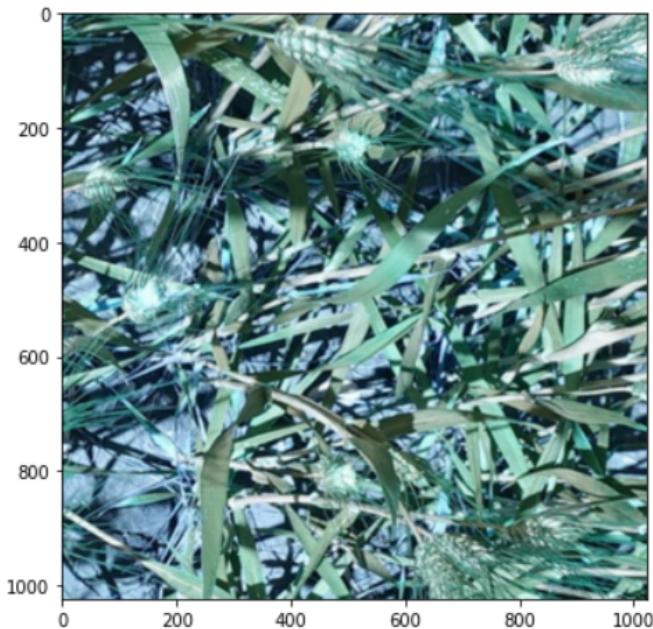


Ảnh sau khi xử lý

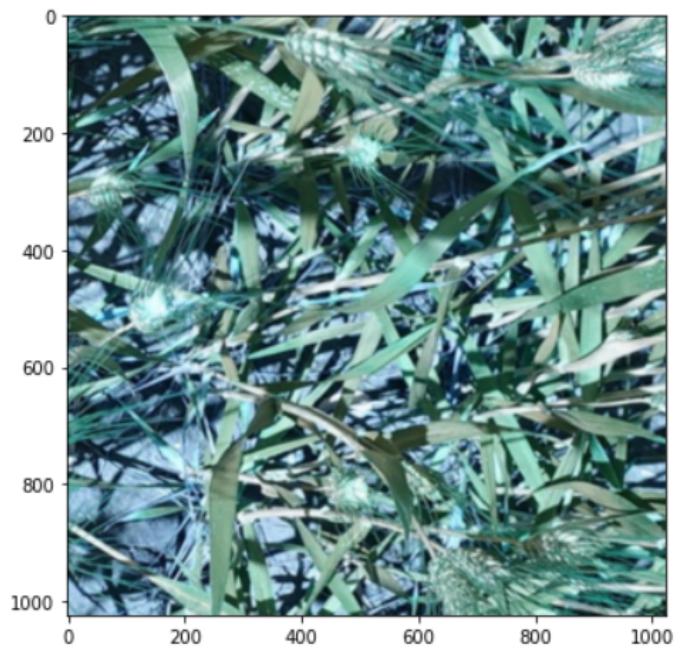
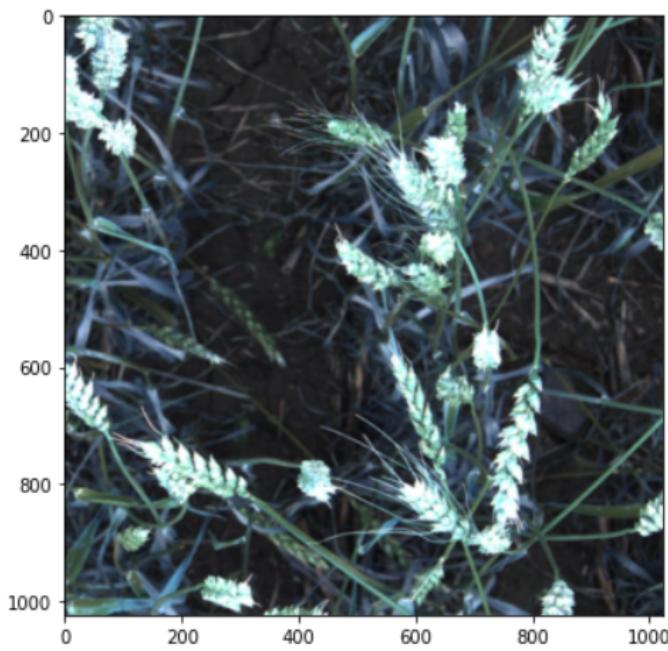


Blur

Ảnh ban đầu

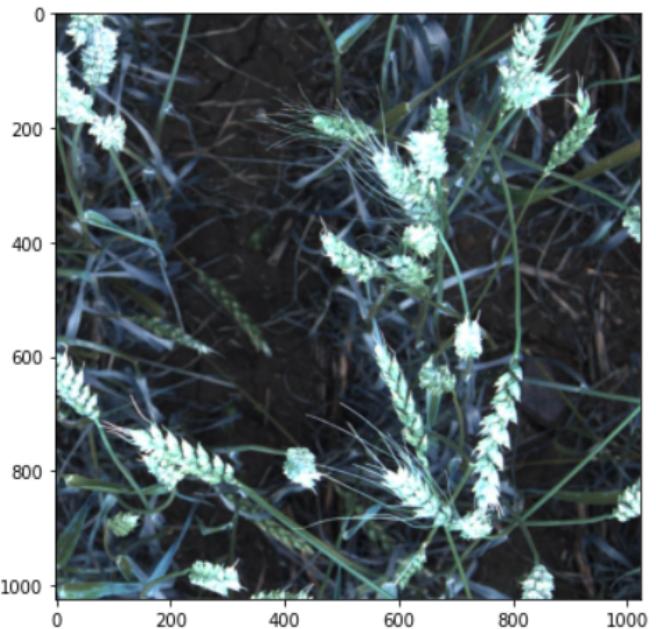
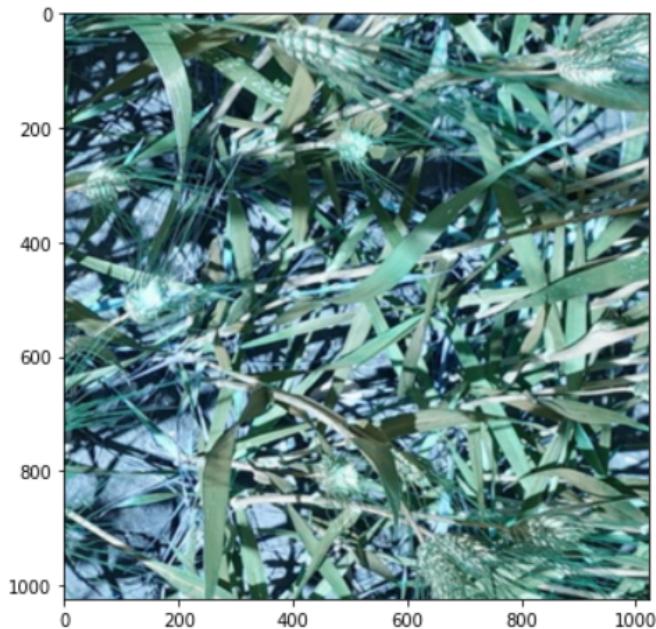


Ảnh sau khi xử lý

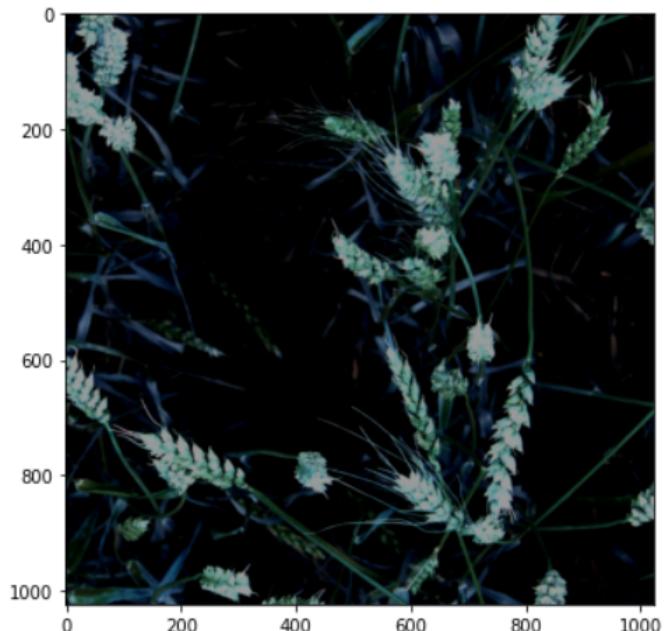
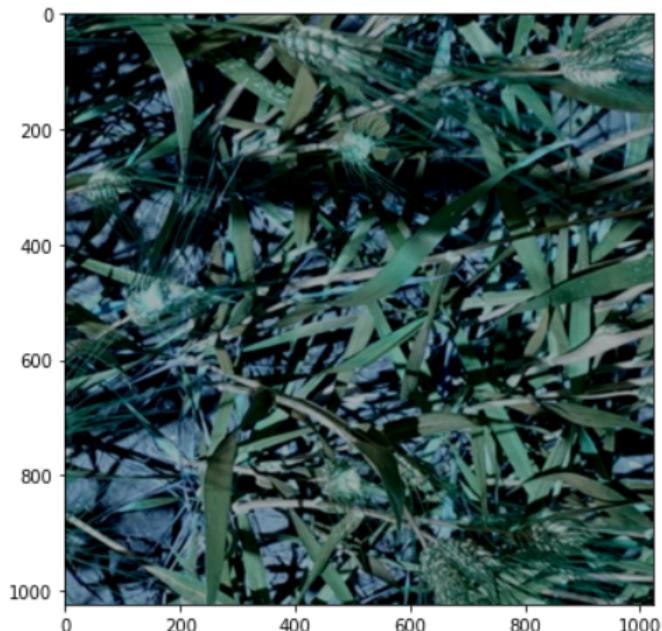


Brightness

Ảnh ban đầu

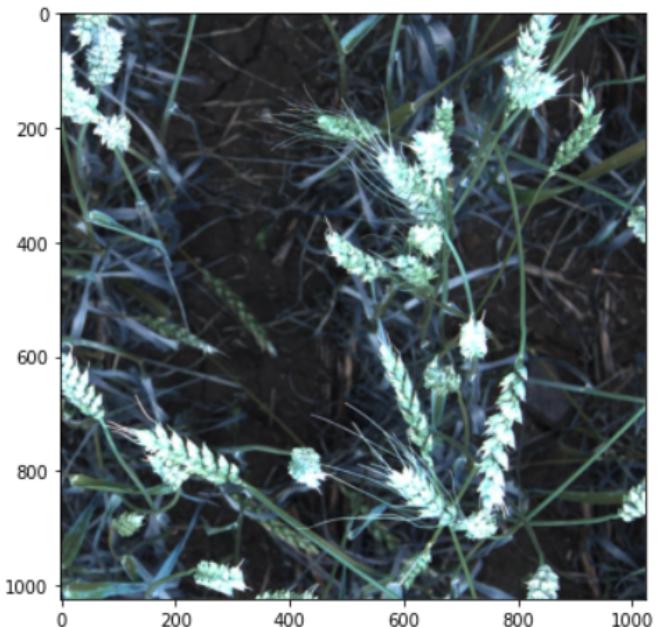
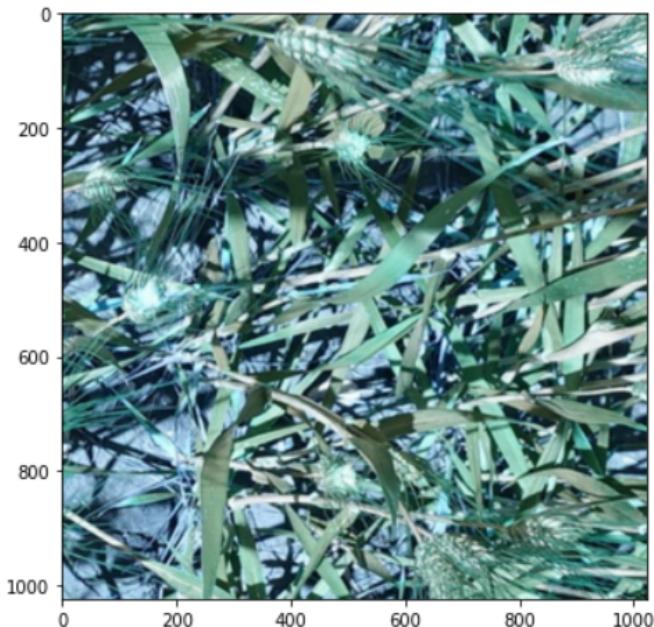


Ảnh sau khi xử lý

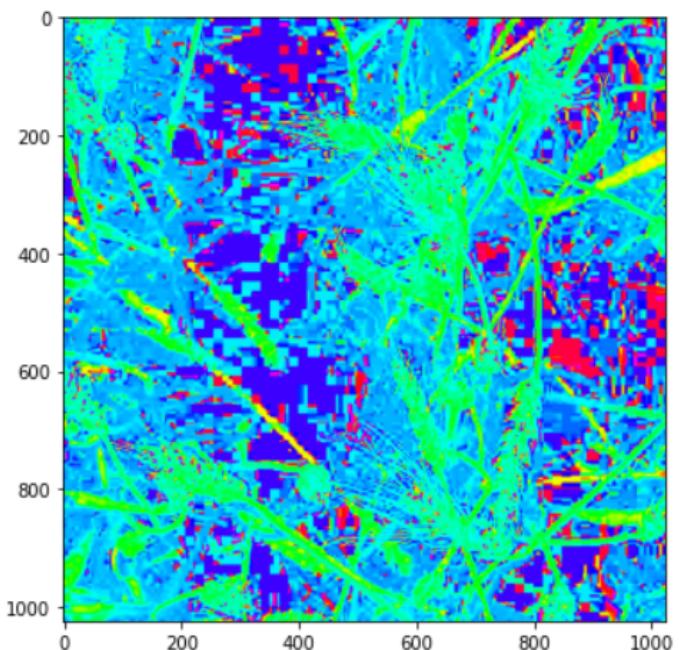
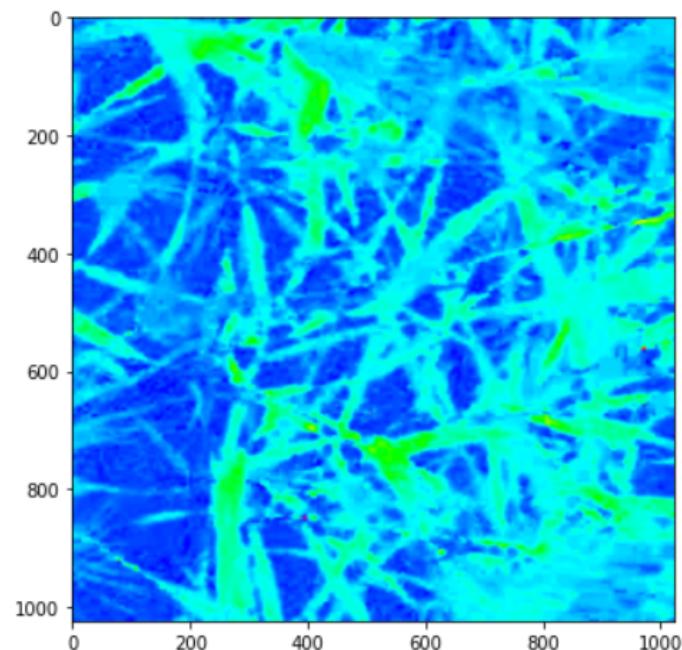


HueSaturationValue

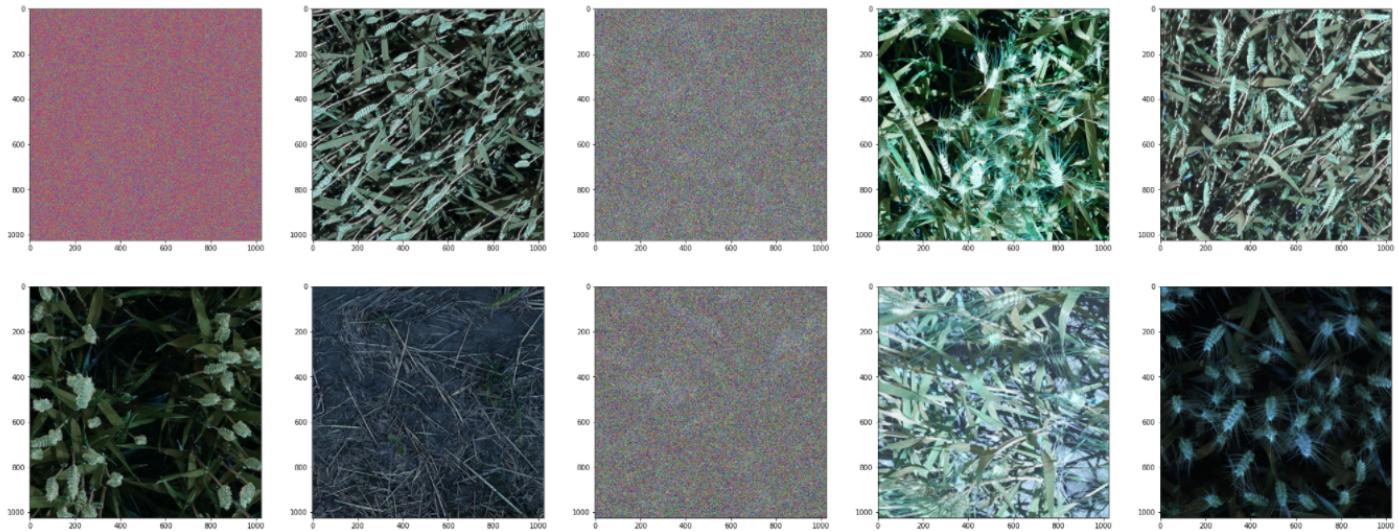
Ảnh ban đầu



Ảnh sau khi xử lý



Kết hợp các phương pháp trên một cách ngẫu nhiên:



Code:

```
o... 286         return img, image_id
287
288     class WheatPseudoTestset(Dataset):
289         def __init__(self, df, img_size, mode='train', bbox_removal_threshold=0.25):
290             super(WheatPseudoTestset, self).__init__()
291             self.df = df
292             self.image_paths = list(np.unique(self.df.image_path.values))
293             self.img_size = img_size
294             assert mode in ['train', 'valid']
295             self.mode = mode
296             self.bbox_removal_threshold = bbox_removal_threshold
297             if self.mode == 'train':
298                 random.shuffle(self.image_paths)
299             self.train_transforms = get_aug([
300                 HorizontalFlip(p=0.5),
301                 VerticalFlip(p=0.5),
302                 ToGray(p=0.01),
303                 OneOf([
304                     IAAAdditiveGaussianNoise(),
305                     GaussNoise(),
306                 ], p=0.2),
307                 OneOf([
308                     MotionBlur(p=0.2),
309                     MedianBlur(blur_limit=3, p=0.1),
310                     Blur(blur_limit=3, p=0.1),
311                 ], p=0.2),
312                 OneOf([
313                     CLAHE(),
314                     IAASharpen(),
315                     IAAEmboss(),
316                     RandomBrightnessContrast(),
317                 ], p=0.25),
318                 HueSaturationValue(p=0.25)
319             ])
320             self.resize_transforms = get_aug([
321                 Resize(height=self.img_size, width=self.img_size, interpolation=1, p=1)
322             ])

```