|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Root | Method | Pixel accuracy | DSC | IoU |
| 1 | Otsu | 0.973 | 0.655 | 0.487 |
| U-net | 0.995 | 0.916 | 0.845 |
| SE-ResUnet | 0.996 | 0.936 | 0.880 |
|  |  |  |  |  |
| 2 | Otsu | 0.971 | 0.744 | 0.582 |
| U-net | 0.994 | 0.915 | 0.844 |
| SE-ResUnet | 0.996 | 0.937 | 0.882 |
|  |  |  |  |  |
| 3 | Otsu | 0.972 | 0.689 | 0.525 |
| U-net | 0.995 | 0.916 | 0.846 |
| SE-ResUnet | 0.996 | 0.936 | 0.880 |
|  |  |  |  |  |
| 4 | Otsu | 0.950 | 0.640 | 0.47 |
| U-net | 0.988 | 0.898 | 0.815 |
| SE-ResUnet | 0.991 | 0.921 | 0.854 |

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | D:\ProjectManage\Rice-Root-Segmentation-and-Keypoint-Detection\test\RootMask\u_netGW46_1_1.png |  |
| (a) Original root system image | (b) Segmentation result of Otsu | (b) Segmentation result of U-net | (d) Segmentation result of our model |