**Table SI2** The information of the experimental design

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| treatment | tobacco species | transplanting date(mm/dd/yy) | cultivation and earthing up(mm/dd/yy) | last day for harvest | growth period |
| paddy soil | T0 | Yunyan 87 | 03/01/2017 | 03/20/201704/15/2017 | 07/08/2017 | 130 |
| T1 | Yunyan 87 | 03/01/2017 | 03/20/201704/15/2017 | 07/08/2017 | 130 |
| T2 | Yunyan 87 | 03/05/2016 | 03/25/201604/20/2016 | 07/14/2016 | 132 |
| Yunyan 88 | 03/01/2017 | 03/20/201704/15/2017 | 07/08/2017 | 130 |
| purple soil | T0 | Yunyan 89 | 03/02/2017 | 03/20/201704/15/2017 | 07/06/2017 | 128 |
| T1 | Yunyan 90 | 03/02/2017 | 03/20/201704/15/2017 | 07/06/2017 | 128 |
| T2 | Yunyan 91 | 03/06/2016 | 03/25/201604/20/2016 | 07/10/2016 | 128 |
| Yunyan 92 | 03/02/2017 | 03/20/201704/15/2017 | 07/06/2017 | 128 |