

Table S1 Comprehensive evaluation score of rice quality

| Type                   | Score | Rank | Type              | Score | Rank |
|------------------------|-------|------|-------------------|-------|------|
| 0N-Tianyuanxiangjing   | -0.38 | 49   | 350N-Yongyou4949  | -1.35 | 69   |
| 25N-Tianyuanxiangjing  | -0.71 | 60   | 0N-Yongyou7850    | 2.09  | 5    |
| 50N-Tianyuanxiangjing  | -1.62 | 76   | 0N-Yongyou4949    | 1.93  | 6    |
| 75N-Tianyuanxiangjing  | -1.60 | 74   | 25N-Yongyou4949   | 1.02  | 17   |
| 100N-Tianyuanxiangjing | -1.75 | 79   | 50N-Yongyou4949   | 0.79  | 24   |
| 125N-Tianyuanxiangjing | -2.03 | 83   | 0N-Meixiangzhan   | 3.03  | 1    |
| 150N-Tianyuanxiangjing | -1.75 | 78   | 25N-Meixiangzhan  | 1.65  | 10   |
| 175N-Tianyuanxiangjing | -1.56 | 72   | 50N-Meixiangzhan  | 1.46  | 12   |
| 200N-Tianyuanxiangjing | -2.26 | 84   | 100N-Meixiangzhan | 0.86  | 23   |
| 250N-Tianyuanxiangjing | -1.76 | 80   | 125N-Meixiangzhan | 0.44  | 31   |
| 300N-Tianyuanxiangjing | -1.55 | 71   | 150N-Meixiangzhan | 0.70  | 25   |
| 350N-Tianyuanxiangjing | -1.25 | 66   | 175N-Meixiangzhan | 0.94  | 19   |
| 25N-Jiafengyou         | -1.31 | 68   | 0N-Lvyinzhan      | 2.82  | 2    |
| 50N-Jiafengyou         | -0.59 | 58   | 25N-Lvyinzhan     | 1.45  | 13   |
| 75N-Jiafengyou         | -1.17 | 63   | 50N-Lvyinzhan     | 1.83  | 8    |
| 100N-Jiafengyou        | -1.20 | 64   | 75N-Lvyinzhan     | 1.42  | 14   |
| 125N-Jiafengyou        | -1.70 | 77   | 100N-Lvyinzhan    | 1.66  | 9    |
| 150N-Jiafengyou        | -1.77 | 81   | 150N-Lvyinzhan    | 0.19  | 38   |
| 175N-Jiafengyou        | -1.62 | 75   | 175N-Lvyinzhan    | 0.87  | 22   |
| 200N-Jiafengyou        | -1.56 | 73   | 0N-Huanghuazhan   | 2.78  | 3    |

|                  |       |    |                   |       |    |
|------------------|-------|----|-------------------|-------|----|
| 250N-Jiafengyou  | -1.49 | 70 | 25N-Huanghuazhan  | 2.13  | 4  |
| 300N-Jiafengyou  | -1.27 | 67 | 50N-Huanghuazhan  | 1.86  | 7  |
| 350N-Jiafengyou  | -2.02 | 82 | 100N-Huanghuazhan | 1.08  | 16 |
| 25N-Yongyou7850  | 0.90  | 21 | 150N-Huanghuazhan | 0.58  | 28 |
| 50N-Yongyou7850  | 1.33  | 15 | 175N-Huanghuazhan | 1.50  | 11 |
| 75N-Yongyou7850  | 0.97  | 18 | 0N-Jiafengyou     | 0.30  | 35 |
| 100N-Yongyou7850 | 0.91  | 20 | 75N-Meixiangzhan  | 0.19  | 39 |
| 125N-Yongyou7850 | 0.35  | 33 | 200N-Meixiangzhan | -0.52 | 55 |
| 150N-Yongyou7850 | 0.67  | 26 | 250N-Meixiangzhan | -0.40 | 51 |
| 175N-Yongyou7850 | 0.67  | 27 | 300N-Meixiangzhan | -0.54 | 56 |
| 200N-Yongyou7850 | 0.09  | 42 | 350N-Meixiangzhan | -0.89 | 61 |
| 250N-Yongyou7850 | -0.08 | 43 | 125N-Lvyinzhan    | 0.17  | 40 |
| 300N-Yongyou7850 | 0.54  | 29 | 200N-Lvyinzhan    | -0.54 | 57 |
| 350N-Yongyou7850 | -0.26 | 47 | 250N-Lvyinzhan    | -0.60 | 59 |
| 75N-Yongyou4949  | -0.17 | 45 | 300N-Lvyinzhan    | 0.29  | 36 |
| 100N-Yongyou4949 | 0.54  | 30 | 350N-Lvyinzhan    | 0.16  | 41 |
| 125N-Yongyou4949 | -0.47 | 54 | 75N-Huanghuazhan  | 0.32  | 34 |
| 150N-Yongyou4949 | -0.40 | 50 | 125N-Huanghuazhan | 0.36  | 32 |
| 175N-Yongyou4949 | -0.10 | 44 | 200N-Huanghuazhan | 0.21  | 37 |
| 200N-Yongyou4949 | -1.24 | 65 | 250N-Huanghuazhan | -0.19 | 46 |
| 250N-Yongyou4949 | -1.13 | 62 | 300N-Huanghuazhan | -0.47 | 53 |
| 300N-Yongyou4949 | -0.32 | 48 | 350N-Huanghuazhan | -0.47 | 52 |