**Table S1** Grain yield and agronomic traits at four experimental sites in 2020-2022.

| **Site** | **Year** | **Plant height, cm** | **Spike length, cm** | **Grains per spike** | **Grain weight per spike, g** | **1000 kernel weight, g** | **Grain yield, g/m²** |
|---|---|---|---|---|---|---|---|
| Omsk State Agrarian University | 2020 | 91.5±0.5 | 9.3±0.1 | 36.2±0.4 | 1.52±0.02 | 41.9±0.3 | 366±3 |
| | 2021 | 89.5±0.7 | 10.0±0.1 | 35.5±0.5 | 1.40±0.02 | 39.5±0.3 | 569±3 |
| | 2022 | 87.1±0.7 | 9.2±0.1 | 35.7±0.4 | 1.51±0.02 | 42.1±0.3 | 388±3 |
| Karabalyk Agric. Exp. Station | 2020 | 69.7±0.5 | 8.1±0.1 | 28.6±0.4 | 1.01±0.02 | 35.4±0.3 | 165±3 |
| | 2021 | - | 6.0±0.1 | 23.7±0.4 | 0.75±0.02 | 29.8±0.2 | 118±3 |
| | 2022 | 75.2±0.5 | 7.4±0.1 | 27.3±0.4 | 1.05±0.02 | 33.2±0.2 | 239±3 |
| Kaz. Grain Res. Center | 2020 | - | 7.3±0.1 | 26.6±0.4 | 0.91±0.02 | 35.0±0.3 | 161±3 |
| | 2021 | 65.1±0.6 | 7.3±0.1 | 28.2±0.4 | 0.93±0.02 | 35.6±0.4 | 183±3 |
| | 2022 | 56.4±0.6 | 6.6±0.1 | 25.3±0.3 | 0.78±0.01 | 35.9±0.3 | 248±3 |
| North Kaz. AES | 2021 | 58.5±0.5 | 8.0±0.1 | 26.4±0.5 | 1.02±0.02 | 36.8±0.3 | 163±3 |
| | 2022 | 74.5±0.6 | 7.1±0.1 | 21.8±0.3 | 1.16±0.02 | 41.3±0.3 | 336±3 |

**Table S2.** ANOVA results for grain yield and agronomic traits at three experimental sites in 2020-2022.

| Main effects and interactions | Probability values for main effects and interaction for the following traits: | | | | | |
|---|---|---|---|---|---|---|
| | Plant height | Spike length | Grains per spike | Grain weight per spike | 1000 kernel weight | Grain yield |
| Genotype | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Site | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Year | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Genotypes x Sites | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 |
| Genotypes x Years | 0.638 | 0.165 | 0.433 | 0.381 | <0.001 | 0.572 |
| Sites x Years | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |

**Table S3.** Grain yield (BLUEs), number of days to heading (original data), 1000KW (BLUEs)and presence of effective molecular markers in KASIB core set.

| № | VARIETY-ENG | ORIGIN-INSTITUTE | Grain yield, g/m² | Days to heading | 1000 KW, g | 1B.1R | TaMOT1-D1-Ria | vrn-A1 | TaGS-D1 | ISBW10-SM2-G | ISBW2-GY-C | ISBW3-BM-C | ISBW11-GY-T |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Early heading group (35-39.9 days) | | | | | | | | | | | | | |
| 27 | Novosibirskaya 18 | Novosibirsk ARI | 273 | 39.6 | 34.3 | - | - | - | + | + | - | - | - |
| 78 | Lutescens 166-СП94 | Kaz. Farming Inst. | 272 | 39.5 | 42.7 | - | + | - | + | + | + | + | + |
| 127 | Lutescens KS 963 | Kurganseeds | 270 | 39.8 | 33.6 | - | - | - | + | + | - | + | + |
| 38 | Lutescens 1193 | Samara ARI | 267 | 39.3 | 34.1 | - | - | - | + | + | + | - | + |
| 52 | Lutescens 2102 | Karagandy ARI | 263 | 39.7 | 38.1 | - | + | - | + | + | - | + | - |
| 54 | Lutescens 1501 | Karagandy ARI | 260 | 39.8 | 34.8 | - | - | - | - | + | + | + | - |
| 31 | Aktobe 1580 | Aktobe AES | 258 | 39.8 | 41.3 | - | - | - | + | + | + | + | + |
| 60 | Astana | Kaz. Grain Inst. | 254 | 39.9 | 32.8 | - | + | - | + | + | - | + | + |
| 144 | Pamyati Azieva | Siberian ARI | 253 | 39.1 | 36.0 | - | - | - | + | + | + | + | + |
| 91 | Fiton 41 | Fiton | 252 | 38.9 | 39.2 | - | - | - | - | + | n.a. | - | - |
| 135 | Stolypinskaya 2 | Omsk SAU | 248 | 39.8 | 39.4 | - | n.a. | - | + | + | + | + | + |
| 42 | Saratovskaya 29-2 | South-East ARI | 246 | 38.8 | 36.2 | - | + | - | + | + | + | + | + |
| 20 | Lyazzat | East-Kaz. ARI | 245 | 39.9 | 36.3 | - | - | - | + | + | + | + | n.a. |
| 71 | Aray | Kaz. Farming Inst. | 236 | 38.7 | 37.3 | - | + | - | - | - | + | + | + |
| 92 | Fiton 156 | Fiton | 234 | 39.3 | 35.1 | - | - | - | + | - | + | + | - |
| 25 | Novosibirskaya 15 | Novosibirsk ARI | 229 | 35.0 | 32.7 | - | + | - | + | + | + | + | - |
| 32 | Asap | Aktobe AES | 227 | 37.8 | 37.0 | - | - | - | + | + | + | + | + |
| 29 | L. 196/94-6 | Novosibirsk ARI | 225 | 38.5 | 40.5 | - | - | - | + | + | - | + | + |
| 73 | Lutescens - 70 | Kaz. Farming Inst. | 220 | 38.0 | 39.5 | - | - | - | + | + | + | - | - |
| 111 | P-23-14 | Kurgan ARI | 218 | 39.3 | 33.1 | - | + | - | - | + | + | + | - |
| 117 | Alfa 79 | Kurgan ARI | 211 | 36.3 | 35.1 | - | - | - | + | + | + | + | n.a. |
| 26 | Novosibirskaya 29 | Novosibirsk ARI | 208 | 38.4 | 34.1 | - | + | - | + | + | + | + | - |
| 74 | Yrym | Kaz. Farming Inst. | 197 | 38.5 | 36.1 | - | - | - | - | - | + | - | - |
| 23 | Novosibirskaya 16 | Novosibirsk ARI | 188 | 35.0 | 34.5 | - | + | - | + | + | + | - | - |
| Intermediate heading group (40-44 days) | | | | | | | | | | | | | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 41 | Saratovskaya 75 | Saratov ARI | 317 | 40.8 | 37.5 | - | - | - | + | + | - | + | - |
| 110 | Lutescens 37-17 | Kurgan ARI | 313 | 43.7 | 40.3 | + | - | - | + | + | + | + | + |
| 36 | Ekada 113 | Ekada | 311 | 42.5 | 39.5 | - | + | - | + | + | + | + | - |
| 126 | Liniya-241-00-4 | Kurganseeds | 306 | 43.3 | 38.1 | + | + | - | - | + | + | - | + |
| 130 | Erythrospermum 78 | Omsk SAU | 305 | 40.5 | 34.8 | - | + | - | - | + | - | + | + |
| 146 | Lutescens 186/04-61 | Siberian ARI | 302 | 43.5 | 39.0 | + | + | - | + | + | + | + | + |
| 49 | Lutescens 1764 | Karagandy ARI | 300 | 43.0 | 38.4 | - | + | + | + | + | + | + | + |
| 132 | Lutescens 126-05 | Omsk SAU | 299 | 41.2 | 36.7 | - | + | - | - | + | - | + | + |
| 70 | Samgau | Kaz. Farming Inst. | 297 | 42.2 | 40.6 | - | - | - | + | + | - | - | - |
| 28 | Lutescens 307/97-23 | Novosibirsk ARI | 297 | 43.6 | 36.8 | + | + | - | + | - | + | + | + |
| 148 | SPChS 69 | Siberian ARI | 296 | 43.0 | 39.0 | - | + | - | + | + | + | - | - |
| 50 | Lutescens1082 | Karagandy ARI | 296 | 43.4 | 40.0 | - | + | + | + | + | + | + | + |
| 116 | OK-1 | Kurgan ARI | 293 | 41.8 | 39.9 | + | - | - | + | + | + | + | + |
| 112 | Lutescens 106-0/2003 | Kurgan ARI | 293 | 42.2 | 36.3 | - | + | + | - | - | + | + | - |
| 68 | Lutescens 9-33 | Pavlodar ARI | 290 | 42.0 | 37.2 | - | + | + | - | - | + | + | - |
| 115 | A-125 | Kurgan ARI | 290 | 41.0 | 35.2 | - | + | - | + | + | + | - | - |
| 18 | GVK 1857/9 | East-Kaz. ARI | 288 | 43.7 | 39.2 | - | + | + | + | - | + | - | + |
| 107 | Chebarkuljskaya | Chelyabinsk ARI | 288 | 42.1 | 38.7 | - | - | - | + | + | + | - | + |
| 1 | Altayskaya zhnitsa | Altay ARI | 288 | 41.9 | 37.7 | - | + | - | + | + | + | - | + |
| 131 | Lutescens 89-06 | Omsk SAU | 287 | 41.6 | 36.3 | - | + | - | - | + | - | + | - |
| 119 | Lutescens 363/96-4 | Kurganseeds | 286 | 43.7 | 38.2 | + | + | - | + | + | + | + | + |
| 118 | Lutescens 8-108-1 | Kurgan ARI | 286 | 42.6 | 34.8 | - | n.a. | - | + | + | - | + | - |
| 123 | Lutescens KS 14/09-2 | Kurganseeds | 286 | 43.4 | 38.0 | + | - | - | - | + | - | + | + |
| 33 | Stepnaya 259 | Aktobe AES | 283 | 41.6 | 37.5 | - | - | - | - | + | + | + | - |
| 102 | Lutescens 4 | Karabalyk AES | 283 | 43.0 | 36.4 | - | + | + | - | - | + | + | - |
| 106 | Silach | Chelyabinsk ARI | 280 | 43.9 | 39.5 | + | + | - | + | + | + | + | + |
| 129 | Erythrospermum 85-08 | Omsk SAU | 279 | 43.6 | 36.2 | + | + | - | + | + | n.a. | + | + |
| 57 | Astana 2 | Kaz. Grain Inst. | 278 | 40.5 | 39.0 | - | + | - | + | + | + | + | - |
| 125 | Lutescens 290/99-7 | Kurganseeds | 278 | 43.9 | 38.9 | + | + | - | - | + | + | + | + |
| 58 | Lutescens 230/00 | Kaz. Grain Inst. | 278 | 42.9 | 39.4 | - | + | - | + | + | + | + | + |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 47 | Sary Arka 28 (Лют.1599) | Karagandy ARI | 278 | 43.1 | 36.3 | - | + | + | - | + | + | + | + |
| 113 | Lutescens 120/2003 | Kurgan ARI | 276 | 40.3 | 37.0 | - | + | - | + | + | + | + | + |
| 48 | Lutescens 1519 | Karagandy ARI | 276 | 42.7 | 40.4 | - | + | + | + | + | + | + | + |
| 77 | Erythrospermum 727 | Kaz. Farming Inst. | 275 | 43.9 | 38.7 | - | + | + | - | - | + | + | + |
| 140 | Lutescens 7/04-26 | Siberian ARI | 275 | 43.5 | 36.7 | + | + | - | - | + | - | + | + |
| 138 | Lutescens 27-12 | Omsk SAU | 274 | 42.8 | 39.1 | - | + | - | + | + | + | - | - |
| 14 | Lutescens 665/1 | Altay ARI | 274 | 41.8 | 36.5 | - | + | n.a. | + | + | - | - | + |
| 109 | Lutescens 22-17 | Kurgan ARI | 273 | 43.3 | 39.3 | + | - | - | - | + | + | + | + |
| 43 | Karagandinskaya-93 | Karagandy ARI | 273 | 40.8 | 36.1 | - | + | - | + | + | + | + | + |
| 65 | 53-88-94-12 | Pavlodar ARI | 272 | 41.0 | 36.1 | - | - | - | + | + | + | + | + |
| 61 | Tselina 50 | Kaz. Grain Inst. | 271 | 40.2 | 36.7 | - | + | - | + | + | + | + | - |
| 64 | 27-90-98-3 | Pavlodar ARI | 269 | 40.3 | 37.8 | - | n.a. | - | - | + | - | + | - |
| 85 | Fiton C 36 ЧС | Fiton | 269 | 42.0 | 40.4 | - | - | - | + | + | + | - | - |
| 66 | 53-94-98-2 | Pavlodar ARI | 269 | 40.9 | 37.9 | - | + | - | + | + | + | + | + |
| 114 | SAD-101 | Kurgan ARI | 269 | 41.9 | 37.3 | - | - | - | + | + | + | + | + |
| 88 | Ekada 148 | Fiton | 266 | 42.4 | 38.0 | - | n.a. | - | + | + | - | + | - |
| 35 | Stepnaya 62 | Aktobe AES | 265 | 40.3 | 37.3 | - | n.a. | - | - | + | - | + | - |
| 124 | Lutescens KS 140/08-3 | Kurganseeds | 265 | 42.6 | 36.4 | + | + | - | + | + | - | + | + |
| 19 | GVK 1860-12 | East-Kaz. ARI | 264 | 43.5 | 36.2 | - | + | + | + | - | + | - | + |
| 59 | Shortandinskaya 95 uluchshennaya | Kaz. Grain Inst. | 263 | 43.0 | 39.2 | - | + | - | + | + | + | + | + |
| 101 | Lutescens 48-204-03 | Karabalyk AES | 263 | 41.4 | 38.8 | - | - | - | + | + | + | - | + |
| 24 | Sibirskaya 21 | Novosibirsk ARI | 262 | 40.9 | 36.3 | - | - | - | + | + | + | - | - |
| 147 | Lutescens 6/04-4 | Siberian ARI | 261 | 43.9 | 38.4 | + | + | - | + | + | + | - | + |
| 37 | Ekada 85 | Ekada | 261 | 40.6 | 31.3 | - | + | + | + | + | + | - | + |
| 90 | Fiton 25 | Fiton | 260 | 42.8 | 38.3 | + | - | - | + | + | + | - | - |
| 45 | Lutescens - 1226 | Karagandy ARI | 259 | 41.0 | 38.7 | - | - | + | + | + | + | + | + |
| 30 | Omskaya 37 | Novosibirsk ARI | 259 | 42.0 | 36.2 | + | + | - | + | + | - | + | + |
| 15 | Lutescens 424 | Altay ARI | 258 | 40.6 | 37.9 | - | - | + | + | - | + | + | + |
| 5 | Stepnaya volna | Altay ARI | 258 | 40.9 | 39.3 | - | - | - | - | + | + | - | - |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 98 | Avgustina | Karabalyk AES | 257 | 43.3 | 41.0 | - | + | + | + | - | - | + | + |
| 84 | Fiton 109 | Fiton | 257 | 40.0 | 38.1 | - | - | - | + | + | + | + | - |
| 128 | Lutescens 128-05 | Omsk SAU | 257 | 41.6 | 33.8 | - | - | - | - | + | - | + | + |
| 143 | Lutescens 529/00-10C | Siberian ARI | 257 | 41.5 | 35.1 | + | + | - | + | + | + | + | - |
| 97 | Lutescens 36 | Karabalyk AES | 257 | 43.7 | 36.1 | - | - | - | + | + | + | + | - |
| 121 | Lutescens 205/03-1 | Kurganseeds | 255 | 41.7 | 37.6 | + | + | - | - | + | + | + | + |
| 46 | Lutescens - 1235 | Karagandy ARI | 255 | 43.3 | 36.4 | - | - | + | + | + | + | + | + |
| 145 | Sigma | Siberian ARI | 254 | 43.2 | 40.5 | + | + | - | + | + | + | + | - |
| 34 | Stepnaya 1509/06 | Aktobe AES | 254 | 40.0 | 39.3 | - | - | - | + | - | - | - | + |
| 67 | Lutescens 53/95-98-1 | Pavlodar ARI | 253 | 40.3 | 35.2 | - | + | + | + | + | + | + | + |
| 12 | Lutescens 574 | Altay ARI | 252 | 40.8 | 36.9 | - | + | - | + | + | + | + | + |
| 3 | Sibirskiy Aljans | Altay ARI | 252 | 40.7 | 38.2 | - | + | - | + | + | + | - | + |
| 76 | Lutescens 715-04 | Kaz. Farming Inst. | 251 | 42.5 | 40.9 | - | + | - | + | + | - | + | - |
| 22 | Novosibirskaya 31 | Novosibirsk ARI | 251 | 40.8 | 31.2 | - | - | - | - | - | + | - | - |
| 104 | Chelyaba yubileinaya | Chelyabinsk ARI | 251 | 40.1 | 33.0 | - | - | - | - | + | + | - | + |
| 103 | Ayna | Karabalyk AES | 248 | 43.8 | 40.9 | - | - | - | + | - | - | - | - |
| 89 | Fiton C-54 | Fiton | 245 | 42.5 | 41.5 | - | - | - | + | - | + | - | - |
| 99 | Liniya-22 ЧС | Karabalyk AES | 244 | 41.5 | 39.7 | - | - | + | + | + | + | - | - |
| 9 | Lutescens 509 | Altay ARI | 244 | 40.0 | 40.6 | - | - | - | + | + | + | + | - |
| 72 | Iljinskaya | Kaz. Farming Inst. | 243 | 41.0 | 35.4 | - | - | - | + | + | + | + | + |
| 108 | Pamyati Ryuba | Chelyabinsk ARI | 243 | 42.3 | 39.1 | - | - | - | - | + | + | + | - |
| 149 | Omskaya 35-2 | Siberian ARI | 242 | 40.6 | 38.6 | - | - | - | - | + | - | + | - |
| 13 | Lutescens 697 | Altay ARI | 241 | 40.8 | 35.1 | - | - | - | - | + | + | + | + |
| 2 | Altayskaya 530 | Altay ARI | 240 | 40.3 | 37.2 | - | - | - | + | + | + | - | + |
| 8 | Lut.509 | Altay ARI | 238 | 40.0 | 39.2 | - | - | - | + | - | + | + | - |
| 105 | Lutescens 23490 | Chelyabinsk ARI | 238 | 42.0 | 35.9 | - | - | - | n.a. | + | + | - | + |
| 56 | Tselinnaya niva | Kaz. Grain Inst. | 237 | 43.0 | 36.7 | - | + | - | + | + | + | + | + |
| 75 | Lutescens 24 | Kaz. Farming Inst. | 236 | 40.0 | 39.7 | - | + | - | + | + | + | + | - |
| 100 | Liniya-4-10-16 | Karabalyk AES | 235 | 43.3 | 33.3 | - | - | - | + | - | + | - | + |
| 53 | Lutescens 1350 | Karagandy ARI | 230 | 40.3 | 37.3 | - | + | - | + | + | + | + | + |
| 83 | Nadezhnda | Kaz. Farming Inst. | 229 | 40.3 | 40.2 | - | - | - | - | - | + | + | - |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 136 | Chernyava 13 | Omsk SAU | 228 | 41.2 | 40.6 | - | - | - | - | + | - | - | + |
| 81 | Kayir G-5454-91 | Kaz. Farming Inst. | 220 | 40.3 | 37.2 | - | - | - | - | + | + | - | + |
| 139 | Tertsiya-1 | Omsk SAU | 199 | 42.0 | 33.0 | - | - | - | - | + | + | - | - |
| 4 | Lutescens 844 | Altay ARI | 190 | 42.4 | 35.9 | - | + | - | - | + | + | - | + |
| 82 | Kaz.stanskaya-3 | Kaz. Farming Inst. | 180 | 40.0 | 35.7 | - | - | - | - | - | + | - | + |
| 137 | Sibakovskaya Yubilienaya | Omsk SAU | 177 | 41.9 | 32.0 | - | - | - | - | + | + | n.a. | - |
| Late heading group (44-48 days) | | | | | | | | | | | | | |
| 21 | Zauljbinka | East-Kaz. ARI | 327 | 44.5 | 35.7 | + | - | + | + | - | + | - | + |
| 6 | Toboljskaya-1 | Altay ARI | 302 | 44.8 | 38.4 | - | + | - | + | + | + | + | + |
| 7 | Lutescens 1012 | Altay ARI | 301 | 44.5 | 37.9 | - | + | - | + | + | + | - | + |
| 69 | Pavlodarskaya 11 | Pavlodar ARI | 298 | 44.3 | 34.6 | - | - | - | - | + | + | + | - |
| 40 | LD-25 | Saratov ARI | 293 | 45.5 | 37.8 | - | + | + | + | + | + | + | + |
| 142 | Lut. 3/04-21-11 | Siberian ARI | 291 | 44.5 | 39.7 | + | + | - | - | + | + | + | + |
| 141 | Lutescens 141/03-2 | Siberian ARI | 291 | 45.1 | 40.5 | + | - | - | + | - | + | + | + |
| 120 | Lutescens 360/96-6 | Kurganseeds | 290 | 44.4 | 37.2 | + | + | - | + | + | + | - | + |
| 134 | OmGAU-100 | Omsk SAU | 285 | 44.5 | 36.8 | + | + | - | - | + | + | + | + |
| 39 | L-654 | Saratov ARI | 284 | 46.2 | 33.7 | - | n.a. | + | + | + | + | - | - |
| 10 | Lutescens 1003 | Altay ARI | 284 | 45.9 | 38.2 | - | + | + | + | + | + | + | + |
| 17 | Velyutinum 15 | East-Kaz. ARI | 276 | 45.5 | 32.9 | + | n.a. | + | + | + | + | + | + |
| 44 | Lutescens - 1212 | Karagandy ARI | 271 | 44.5 | 39.2 | - | + | - | + | + | + | + | + |
| 16 | Lutescens 716 | Altay ARI | 270 | 44.7 | 34.0 | - | + | - | + | + | + | + | + |
| 150 | Omskaya 41 | Siberian ARI | 269 | 46.0 | 35.6 | + | n.a. | - | + | - | - | + | + |
| 55 | Lutescens - 1135 | Karagandy ARI | 267 | 45.6 | 34.2 | + | n.a. | + | + | + | + | - | + |
| 11 | Erythrospermum 1119 | Altay ARI | 263 | 45.1 | 37.3 | - | + | + | + | - | + | + | - |
| 133 | Lutescens 96-12 | Omsk SAU | 256 | 45.2 | 36.8 | + | - | - | - | - | + | + | + |
| 93 | Fiton C 41 ЧС | Fiton | 252 | 45.8 | 40.0 | - | - | + | + | - | + | - | + |
| 86 | Fiton 43 | Fiton | 249 | 47.0 | 42.7 | + | + | + | + | + | + | + | + |
| 96 | Lutescens C 19 ЧС | Karabalyk AES | 239 | 47.4 | 31.1 | + | n.a. | + | - | - | + | + | - |
| 87 | Fiton C 50 ЧС | Fiton | 222 | 47.8 | 39.0 | + | n.a. | + | - | - | + | + | - |
| | | LSD 0.05 | 40 | 1.7 | 2.1 | | | | | | | | |

**Table S4.** The list of material used in the study.

| Entry # | Germplasm name | Origin |
|---|---|---|
| 1 | Altayskaya zhnitsa | Altay ARI, RU |
| 2 | Altayskaya 530 | Altay ARI, RU |
| 3 | Sibirskiy Aljans | Altay ARI, RU |
| 4 | Lutescens 844 | Altay ARI, RU |
| 5 | Stepnaya volna | Altay ARI, RU |
| 6 | Toboljskaya-1 | Altay ARI, RU |
| 7 | Lutescens 1012 | Altay ARI, RU |
| 8 | Lut.509 | Altay ARI, RU |
| 9 | Lutescens 509 | Altay ARI, RU |
| 10 | Lutescens 1003 | Altay ARI, RU |
| 11 | Erythrospermum 1119 | Altay ARI, RU |
| 12 | Lutescens 574 | Altay ARI, RU |
| 13 | Lutescens 697 | Altay ARI, RU |
| 14 | Lutescens 665/1 | Altay ARI, RU |
| 15 | Lutescens 424 | Altay ARI, RU |
| 16 | Lutescens 716 | Altay ARI, RU |
| 17 | Velyutinum 15 | East-Kaz.stan ARI, KZ |
| 18 | GVK 1857/9 | East-Kaz.stan ARI, KZ |
| 19 | GVK 1860-12 | East-Kaz.stan ARI, KZ |
| 20 | Lyazzat | East-Kaz.stan ARI, KZ |
| 21 | Zauljbinka | East-Kaz.stan ARI, KZ |
| 22 | Novosibirskaya 31 | Siberian ARI, RU |
| 23 | Novosibirskaya 16 | Siberian ARI, RU |
| 24 | Sibirskaya 21 | Siberian ARI, RU |
| 25 | Novosibirskaya 15 | Siberian ARI, RU |
| 26 | Novosibirskaya 29 | Siberian ARI, RU |
| 27 | Novosibirskaya 18 | Siberian ARI, RU |
| 28 | Lutescens 307/97-23 | Siberian ARI, RU |
| 29 | L. 196/94-6 | Siberian ARI, RU |
| 30 | Omskaya 37 | Siberian ARI, RU |
| 31 | Aktobe 1580 | Aktobe AES, KZ |
| 32 | Asap | Aktobe AES, KZ |
| 33 | Stepnaya 259 | Aktobe AES, KZ |
| 34 | Stepnaya 1509/06 | Aktobe AES, KZ |
| 35 | Stepnaya 62 | Aktobe AES, KZ |
| 36 | Ekada 113 | Ekada, RU |
| 37 | Ekada 85 | Ekada, RU |
| 38 | Lutescens 1193 | Samara ARI, RU |
| 39 | L-654 | South-East ARI, RU |
| 40 | LD-25 | South-East ARI, RU |
| 41 | Saratovskaya 75 | South-East ARI, RU |
| 42 | Saratovskaya 29-2 | South-East ARI, RU |
| 43 | Karagandinskaya-93 | Karagandy AES, KZ |
| 44 | Lutescens - 1212 | Karagandy AES, KZ |

| | | |
|---|---|---|
| 45 | Lutescens - 1226 | Karagandy AES, KZ |
| 46 | Lutescens - 1235 | Karagandy AES, KZ |
| 47 | Sary Arka 28 (*Лют.*1599) | Karagandy AES, KZ |
| 48 | Lutescens 1519 | Karagandy AES, KZ |
| 49 | Lutescens 1764 | Karagandy AES, KZ |
| 50 | Lutescens1082 | Karagandy AES, KZ |
| 52 | Lutescens 2102 | Karagandy AES, KZ |
| 53 | Lutescens 1350 | Karagandy AES, KZ |
| 54 | Lutescens 1501 | Karagandy AES, KZ |
| 55 | Lutescens - 1135 | Karagandy AES, KZ |
| 56 | Tselinnaya niva | Kaz. Grain Center, KZ |
| 57 | Astana 2 | Kaz. Grain Center, KZ |
| 58 | Lutescens 230/00 | Kaz. Grain Center, KZ |
| 59 | Shortandinskaya 95 uluchshennaya | Kaz. Grain Center, KZ |
| 60 | Astana | Kaz. Grain Center, KZ |
| 61 | Tselina 50 | Kaz. Grain Center, KZ |
| 64 | 27-90-98-3 | Pavlodar ARI, KZ |
| 65 | 53-88-94-12 | Pavlodar ARI, KZ |
| 66 | 53-94-98-2 | Pavlodar ARI, KZ |
| 67 | Lutescens 53/95-98-1 | Pavlodar ARI, KZ |
| 68 | Lutescens 9-33 | Pavlodar ARI, KZ |
| 69 | Pavlodarskaya 11 | Pavlodar ARI, KZ |
| 70 | Samgau | Kaz. Farming Inst. |
| 71 | Aray | Kaz. Farming Inst., KZ |
| 72 | Iljinskaya | Kaz. Farming Inst., KZ |
| 73 | Lutescens - 70 | Kaz. Farming Inst., KZ |
| 74 | Yrym | Kaz. Farming Inst., KZ |
| 75 | Lutescens 24 | Kaz. Farming Inst., KZ |
| 76 | Lutescens 715-04 | Kaz. Farming Inst., KZ |
| 77 | Erythrospermum 727 | Kaz. Farming Inst., KZ |
| 78 | Lutescens 166-СП94 | Kaz. Farming Inst., KZ |
| 81 | Kayir G-5454-91 | Kaz. Farming Inst., KZ |
| 82 | Kaz.stanskaya-3 | Kaz. Farming Inst., KZ |
| 83 | Nadezhnda | Kaz. Farming Inst., KZ |
| 84 | Fiton 109 | Fiton KZ |
| 85 | Fiton C 36 ЧС | Fiton KZ |
| 86 | Fiton 43 | Fiton KZ |
| 87 | Fiton C 50 ЧС | Fiton KZ |
| 88 | Ekada 148 | Fiton KZ |
| 89 | Fiton C-54 | Fiton KZ |
| 90 | Fiton 25 | Fiton KZ |
| 91 | Fiton 41 | Fiton KZ |
| 92 | Fiton 156 | Fiton KZ |
| 93 | Fiton C 41 ЧС | Fiton KZ |
| 96 | Lutescens C 19 ЧС | Karabalyk AES, KZ |
| 97 | Lutescens 36 | Karabalyk AES, KZ |
| 98 | Avgustina | Karabalyk AES, KZ |
| 99 | Liniya-22 ЧС | Karabalyk AES, KZ |

| | | |
|---|---|---|
| 100 | Liniya-4-10-16 | Karabalyk AES, KZ |
| 101 | Lutescens 48-204-03 | Karabalyk AES, KZ |
| 102 | Lutescens 4 | Karabalyk AES, KZ |
| 103 | Ayna | Karabalyk AES, KZ |
| 104 | Chelyaba yubileinaya | Chelyabinsk ARI, RU |
| 105 | Lutescens 23490 | Chelyabinsk ARI, RU |
| 106 | Silach | Chelyabinsk ARI, RU |
| 107 | Chebarkuljskaya | Chelyabinsk ARI, RU |
| 108 | Pamyati Ryuba | Chelyabinsk ARI, RU |
| 109 | Lutescens 22-17 | Kurgan ARI, RU |
| 110 | Lutescens 37-17 | Kurgan ARI, RU |
| 111 | P-23-14 | Kurgan ARI, RU |
| 112 | Lutescens 106-0/2003 | Kurgan ARI, RU |
| 113 | Lutescens 120/2003 | Kurgan ARI, RU |
| 114 | SAD-101 | Kurgan ARI, RU |
| 115 | A-125 | Kurgan ARI, RU |
| 116 | OK-1 | Kurgan ARI, RU |
| 117 | Alfa 79 | Kurgan ARI, RU |
| 118 | Lutescens 8-108-1 | Kurgan ARI, RU |
| 119 | Lutescens 363/96-4 | Kurganseeds, RU |
| 120 | Lutescens 360/96-6 | Kurganseeds, RU |
| 121 | Lutescens 205/03-1 | Kurganseeds, RU |
| 123 | Lutescens KS 14/09-2 | Kurganseeds, RU |
| 124 | Lutescens KS 140/08-3 | Kurganseeds, RU |
| 125 | Lutescens 290/99-7 | Kurganseeds, RU |
| 126 | Liniya-241-00-4 | Kurganseeds, RU |
| 127 | Lutescens KS 963 | Kurganseeds, RU |
| 128 | Lutescens 128-05 | Omsk State Agr. Univ., RU |
| 129 | Erythrospermum 85-08 | Omsk State Agr. Univ., RU |
| 130 | Erythrospermum 78 | Omsk State Agr. Univ., RU |
| 131 | Lutescens 89-06 | Omsk State Agr. Univ., RU |
| 132 | Lutescens 126-05 | Omsk State Agr. Univ., RU |
| 133 | Lutescens 96-12 | Omsk State Agr. Univ., RU |
| 134 | OmGAU-100 | Omsk State Agr. Univ., RU |
| 135 | Stolypinskaya 2 | Omsk State Agr. Univ., RU |
| 136 | Chernyava 13 | Omsk State Agr. Univ., RU |
| 137 | Sibakovskaya Yubilienaya | Omsk State Agr. Univ., RU |
| 138 | Lutescens 27-12 | Omsk State Agr. Univ., RU |
| 139 | Tertsiya-1 | Omsk State Agr. Univ., RU |
| 140 | Lutescens 7/04-26 | Omsk Agr. Res. Center, RU |
| 141 | Lutescens 141/03-2 | Omsk Agr. Res. Center, RU |
| 142 | Lut. 3/04-21-11 | Omsk Agr. Res. Center, RU |
| 143 | Lutescens 529/00-10C | Omsk Agr. Res. Center, RU |
| 144 | Pamyati Azieva | Omsk Agr. Res. Center, RU |
| 145 | Sigma | Omsk Agr. Res. Center, RU |
| 146 | Lutescens 186/04-61 | Omsk Agr. Res. Center, RU |
| 147 | Lutescens 6/04-4 | Omsk Agr. Res. Center, RU |
| 148 | SPChS 69 | Omsk Agr. Res. Center, RU |

| | | |
|---|---|---|
| 149 | Omskaya 35-2 | Omsk Agr. Res. Center, RU |
| 150 | Omskaya 41 | Omsk Agr. Res. Center, RU |