**Table S2.** Chickpea mini core accessions with desirable seed traits and as promising sources for morphoagronomic, and for biotic and abiotic stresses

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ICC# | Seed type | Seed traits | Other promising traits | Reference |
|  |  |  |  |  |
| 637 | Desi | High true density | Drought tolerant, salinity tolerant, heat tolerant and agronomically superior | Kashiwagi *et al.*, 2005; Vadez *et al*., 2007; Upadhyaya *et al*., 2013 |
| 708 | Desi | High bulk density and true density | Drought tolerant, salinity tolerant and heat tolerant | Kashiwagi *et al*., 2005; Vadez *et al.,* 2007 |
| 1915 | Desi | High true density | Fusarium wilt resistant and Ascochyta blight resistant | Pande *et al.*, 2006 |
| 3218 | Desi | High true density | High seed protein and micro-nutrient dense (Fe and Zn) | Upadhyaya *et al.,* 2013 |
| 4463 | Desi | High bulk density | High seed micro-nutrient dense (Fe) | Upadhyaya *et al.,* 2013 |
| 6263 | Kabuli | High sphericity and seed shape aspect | Multiple seed nutritional traits (Fe, Zn an protein) | Upadhyaya *et al.,* 2013 |
| 7272 | Kabuli | Low seed coat content | Drought tolerant and salinity tolerant | Kashiwagi *et al.*, 2005; Vadez *et al*., 2007 |
| 7308 | Kabuli | High sphericity; low seed coat content | Seed nutrient dense (Fe and Zn) | Upadhyaya *et al.,* 2013 |
| 7323 | Intermediate | High sphericity and seed shape aspect | Drought tolerant | Kashiwagi *et al.*, 2005 |
| 7441 | Desi | High seed coat content | Drought tolerant, salinity tolerant and heat tolerant | Kashiwagi *et al.,* 2005; Vadez et al., 2007 Upadhyaya *et al.,* 2013 |
| 8151 | Kabuli | High seed weight and high hydration capacity | Agronomically superior | Upadhyaya *et al.*, 2010 |
| 8261 | Kabuli | Low seed coat content, seed shape aspect, high porosity, high swelling capacity and high swelling index | Drought tolerant, salinity tolerant and agronomically superior | Kashiwagi *et al.*, 2005; Vadez *et al*., 2007; Upadhyaya *et al*., 2013 |
| 9137 | Kabuli | High seed weight, large seed surface area, large seed volume, high sphericity, seed shape aspect, high porosity, high hydration capacity, high hydration index, high swelling capacity and high swelling index | High yielding under high temperature conditions, high sucrose and high ciceritol | Upadhyaya *et al.*, 2010 |
| 9402 | Kabuli | High seed porosity | High seed protein and micro-nutrient dense (Fe and Zn) | Upadhyaya *et al.,* 2013 |
| 11764 | Kabuli | Low seed coat content | Dry root-rot resistant, Botrytis grey mold resistant, multiple seed nutrient dense and stress tolerant and high seed nutrient dense (Fe, Zn and protein) | Pande *et al.*, 2006 |
| 11879 | Kabuli | High porosity, high bulk density and low seed coat content | High yielding, Ascochyta blight tolerant, Semi-erect kabuli type; Released as cultivar in eight countries | Genebank database |
| 11944 | Desi | High porosity | Drought tolerant, salinity tolerant and heat tolerant | Kashiwagi *et al.,* 2005; Vadez *et al.*, 2007 |
| 12328 | Kabuli | Low seed coat content; Large seed surface area, large seed volume, high porosity, high hydration capacity and high swelling capacity | Dry root-rot resistant, Botrytis grey mold resistant, high sucrose and agronomically superior | Pande *et al.,* 2006;  Meena *et al.*, 2010 |
| 13077 | Kabuli | High hydration index | Seed nutrient dense (Zn) | Upadhyaya *et al.,* 2013 |
| 13219 | Desi | High seed coat content | Fusarium wilt resistant, Botrytis grey mold resistant, and legume pod borer resistant | Upadhyaya *et al.,* 2013 |
| 13816 | Kabuli | High hydration index | Fusarium wilt resistant, Botrytis grey mold resistant, high seed protein and micro-nutrient dense (Fe and Zn) and released as cultivar in six countries | Upadhyaya *et al.,* 2013 |
| 14199 | Kabuli | High seed weight and low seed coat content | Fusarium wilt resistant and Botrytis grey mold resistant | Pande *et al.*, 2006 |
| 15406 | Kabuli | High hydration capacity and high swelling capacity | Botrytis grey mold resistant and herbicide resistant | Upadhyaya *et al.*, 2013 |
| 15518 | Kabuli | High seed weight, large seed surface area, large seed volume, high sphericity, seed shape aspect, high hydration capacity and high swelling capacity | Agronomically superior | Upadhyaya *et al*., 2010 |
| 15606 | Desi | High true density | Fusarium wilt resistant, Botrytis grey mold resistant and legume pod borer resistant | Pande *et al.*, 2006;  ICRISAT 2009 |
| 15868 | Desi | High seed coat content | Drought tolerant; Salinity tolerant; Heat tolerant | Kashiwagi *et al.,* 2005; Vadez *et al.,* 2007 |
| 16796 | Kabuli | High seed weight, large seed surface area, large seed volume, high hydration capacity and high swelling capacity | Drought tolerant and salinity tolerant | Kashiwagi *et al.*, 2005; Vadez *et al*., 2007 |