**Supplementary Material Table S1:** Name, source, original location, and number of samples in each analysis of the perennial ryegrass accessions used (Characters in parentheses indicate geographical group for the populations. (I = Irish ecotype, ■= Northern European group,  = Southern Europeangroup, ● = Eastern European group, cv = perennial ryegrass variety; N/A: Not applicable).

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| --- | --- | --- | --- | --- | --- | --- |
| **Accession**  **Number** | **Origin** | **Location** | **Latitude** | **Longitude** | **Seed**  **Source** | **Symbol** |
| IRL-OP-02337 | Ireland | Kellistown Farm, Carlow | N 52.47.60 | W 06.49.73 | Teagasc | I1 |
| IRL-OP-02059 | Ireland | Moyneroe, Scarrif, Clare | N 52.54.35 | W 08.30.32 | Teagasc | I2 |
| IRL-OP-02007 | Ireland | Bromcloc, Bantry, Cork | N 51.39.95 | W 09.31.07 | Teagasc | I3 |
| IRL-OP-02011 | Ireland | Crowleys Pub, The Square, Bantry, Cork | N 51.42.15 | W 09.27.67 | Teagasc | I4 |
| IRL-OP-02015 | Ireland | South Ring, Clonakilty, Cork | N 51.37.10 | W 08.53.71 | Teagasc | I5 |
| IRL-OP-02048 | Ireland | Carrigeen, Conna, Old Kents, Fermoy, Cork | N 52.05.88 | W 08.03.50 | Teagasc | I6 |
| IRL-OP-02192 | Ireland | Horse Island, Roaring Water Bay, West Cork | N 51.30.80 | W 09.29.03 | Teagasc | I7 |
| IRL-OP-02064 | Ireland | Kilreekill, Loughrea, Galway | N 53.13.23 | W 08.28.75 | Teagasc | I10 |
| IRL-OP-02078 | Ireland | Ballycahalan, Peterswell, Galway | N 53.05.64 | W 08.36.72 | Teagasc | I11 |
| IRL-OP-02230 | Ireland | Clough, Cummer, Tuam, Galway | N 53.27.11 | W 08.53.29 | Teagasc | I12 |
| IRL-OP-02128 | Ireland | Mahera Beg, Commonage North, Castlegregory, Kerry | N 52.17.79 | W 10.01.38 | Teagasc | I13 |
| IRL-OP-02538 | Ireland | Colt, Ballyroan, Laois | N 52.58.08 | W 07.20.70 | Teagasc | I14 |
| IRL-OP-02274 | Ireland | Buffanoka, Cappamore, Limerick | N 52.39.29 | W 08.18.62 | Teagasc | I15 |
| IRL-OP-02442 | Ireland | Doughmakean, Roonagh, Westport, Mayo | N 53.44.74 | W 09.53.69 | Teagasc | I17 |
| IRL-OP-02068 | Ireland | Ballycommon, Tullamore, Offaly | N 53.17.50 | W 07.23.11 | Teagasc | I19 |
| IRL-OP-02241 | Ireland | Clonohill, Birr, Offaly | N 53.05.20 | W 07.53.73 | Teagasc | I20 |
| IRL-OP-02419 | Ireland | Johnstown,Cornafulla, Athlone, Roscommon | N 53.38.05 | W 09.30.71 | Teagasc | I21 |
| IRL-OP-02258 | Ireland | The Lawn, Drum, Tipperary | N 52.46.32 | W 07.52.89 | Teagasc | I22 |
| IRL-OP-02272 | Ireland | Ballycrana, Kilross, Tipperary | N 52.25.28 | W 08.15.88 | Teagasc | I23 |
| IRL-OP-02173 | Ireland | Deerpark, Lismore, Waterford | N 52.08.04 | W 07.55.62 | Teagasc | I27 |
| IRL-OP-02483 | Ireland | Edwardstown, Cleriestown, Wexford | N 52.16.20 | W 06.38.25 | Teagasc | I28 |
| IRL-OP-02018 | Ireland | Ballynure Demesne, Grangecon, Wicklow | N 52.59.95 | W 06.44.92 | Teagasc | I30 |
| 16-7-62-2 Nordic | Norway | Sola | N 58.54.00 | W 05.34.99 | Teagasc | ■5 |
| No 10 Spain | Spain | Unknown | Unknown | Unknown | Teagasc | 15 |
| 3408 Italy | Italy | Unknown | Unknown | Unknown | Teagasc | 16 |
| 3013 Romania | Romania | Unknown | Unknown | Unknown | Teagasc | ●18 |
| 3199 Romania Podoloni | Romania | Unknown | Unknown | Unknown | Teagasc | ●19 |
| 920 Bulgaria | Bulgaria | Unknown | Unknown | Unknown | Teagasc | ●20 |
| IV-51-161 Hungary | Hungary | Unknown | Unknown | Unknown | Teagasc | ●32 |
| cv*.* Aurora | N/A | N/Ad | N/A | N/A | IBERS | V1 |
| cv*.* Barlenna | N/A | N/A | N/A | N/A | Barenbrug Holland BV | V2 |
| cv.Cancan | N/A | N/A | N/A | N/A | DLF-  Trifolium | V3 |
| cv*.* Cashel | N/A | N/A | N/A | N/A | Teagasc | V4 |
| cv*.* Fennema | N/A | N/A | N/A | N/A | Norddeutsche Pflanzenzucht | V5 |
| cv.Odenwaelder | N/A | N/A | N/A | N/A | IPK  Gatersleben | V10 |
| cv*.* Portstewart | N/A | N/A | N/A | N/A | DARDNI | V11 |
| cv*.* Premo | N/A | N/A | N/A | N/A | Mommersteeg International BV | V12 |
| cv*.* S24 | N/A | N/A | N/A | N/A | IGER | V13 |
| cv*.* Shandon | N/A | N/A | N/A | N/A | Teagasc | V15 |
| cv.Talbot | N/A | N/A | N/A | N/A | Van der Have Grasses BV | V16 |