**Supplementary material**

# Field Inoculation of Bread Wheat with *Rhizophagus Irregularis* under Organic Farming: Variability in Growth Response and Nutritional Uptake of Eleven Old Genotypes and A Modern Variety

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**Table S1.** List of arbuscular mycorrhizal fungal (AMF) sequences retrieved in the roots of Autonomia B, Frassineto and Bologna, the corresponding virtual taxon (VT) (MaarjAM database; https://maarjam.botany.ut.ee), code based on the clustering of the sequences in the Neighbor-Joining tree (see **Figures 6**, **S1** and **S2**), accession number of the most similar VT and AMF taxon description.

| Representative sequence | Other sequences | Virtual Taxon | Code | Accession nmber | Description |
|---|---|---|---|---|---|
| F10 66 22 alb M15R | F09 66 21 alb M15R, F08 66 20 alb M15R, F07 66 19 alb M15R, F06 66 18 alb M15R, F05 66 17 alb M15R, F04 66 16 alb M15R, F03 66 15 alb M15R, F02 66 14 alb M15R, F01 66 13 alb, M15R, G12 66 12 alb M15R, G11 66 11 alb M15R, G10 66 10 alb M15R, G09 66 9 alb M15R, G08 66 8 alb M15R, G07 66 7 alb M15R, G06 66 6 alb M15R, G05 66 5 alb M15R, G04 66 4 alb M15R, G03 66 3 alb M15R, G02 66 2 alb M15R, G01 66 1 alb M15R, E11 59 26 albM13R, E10 59 25 albM15R, E09 59 24 albM15R, E07 59 23 albM15R, E06 59 22 albM15R, E05 59 21 albM15R, D01 59 06 albM15R, D02 59 07 albM15R, D03 59 08 albM15R, D04 59 09 albM15R, D05 59 10 albM15R, E08 59 20 albM13R, E04 59 20 albM15R, E03 59 19 albM15R, E02 59 18 albM15R, E01 59 17 albM15R, D12 59 16 albM15R, D10 59 15 albM15R, D09 59 14 albM15R, D08 59 13 albM15R, D07 59 12 albM15R, D06 59 11 albM15R, G06 43 25 albM15R, G05 43 24 albM15R, G04 43 23 albM15R, G03 43 22 albM15R, G02 43 21 albM15R, G01 43 20 albM15R, F12 43 19 albM15R, F11 43 18 albM15R, F09 43 17 albM15R, F08 43 16 albM15R, F07 43 15 albM15R, E06 43 2 albM15R, F06 43 14 albM15R, F05 43 13 albM15R, F04 43 12 albM15R, F03 43 11 albM15R, F02 43 10 albM15R, F01 43 9 albM15R, E12 43 8 albM15R, E11 43 7 albM15R, E09 43 5 albM15R, E08 43 4 albM15R, E07 43 3 albM15R, E05 43 1 albM15R, C08 34 48 albM15R, B06 11 31 albM14R, B05 11 30 albM14R, B07 11 32 albM14R, B08 11 33 albM14R, B09 11 34 albM14R, B10 11 35 albM14R, B11 11 36 albM14R, B12 11 37 albM14R, C01 11 38 albM14R, C02 11 39 albM14R, C06 11 43 albM14R, C07 11 44 albM14R, C08 11 45 albM14R, C12 11 49 albM14R, D01 11 50 albM14R, D02 11 51 albM14R, D03 11 52 albM14R, D04 11 53 albM14R, D05 11 54 albM14R, D06 11 55 albM14R, D07 11 56 albM14R, D08 11 57 albM14R, F03 11 26 albM13R, E12 16 18 albM14R, F01 16 19 albM14R, F02 16 20 albM14R, F03 16 21 albM14R, F04 16 22 albM14, F05 16 23 albM14R, F06 16 24 albM14R, F07 16 25 albM14R, F08 16 26 albM14R, F09 16 27 albM14R, F10 16 28 albM14R, F11 16 29 albM14R, F12 16 30 albM14R, G01 16 31 albM14R, G02 16 32 albM14R, G03 16 33 albM14R, G04 16 34 albM14R, G05 16 35 albM14R, G05 16 36 albM14R, G07 16 37 albM14R, G08 16 38 albM14R, A06 34 22 albM15R, A07 34 23 albM15R, A08 34 24 albM15R, A09 34 25 albM15R, A10 34 26 albM15R, A11 34 27 albM15R, A12 34 28 albM15R, B01 34 29 albM15R, B02 34 30 albM15R, B03 34 31 albM15R, B04 34 32 albM15R, B05 34 33 albM15R, B06 34 34 albM15R, B07 34 35 albM15R, B08 34 36 albM15R, B09 34 37 albM15R, B10 34 38 albM15R, B11 34 39 albM15R, B12 34 40 albM15R, C01 34 41 albM15R, C02 34 42 albM15R, C03 34 43 albM15R, C04 34 44 albM15R, C05 34 45 albM15R, C07 34 47 albM15R, C06 34 46 albM15R | VTX00065 | Fun | KJ952229 | Glomeraceae *Glomus sp.*[1] |

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|---|---|---|---|---|---|
| C01 70 25 albM16R | C02 70 26 albM16R, B12 70 24 albM16R, B11 70 23 albM16R, B10 70 22 albM16R, B09 70 21 albM16R, B08 70 20 albM16R, B07 70 19 albM16R, B06 70 18 albM16R, B05 70 17 albM16R, B04 70 16 albM16R, B03 70 15 albM16R, B02 70 14 albM16R, B01 70 13 albM16R, A12 70 12 albM16R, A11 70 11 albM16R, A10 70 10 albM16R, C02 50 26 albM15R, C01 50 25 albM15R, B12 50 24 albM15R, B11 50 23 albM15R, B10 50 22 albM15, B09 50 21 albM15R, B08 50 20 albM15R, B07 50 19 albM15R, B06 50 18 albM15R, B05 50 17 albM15R, B04 50 16 albM15R, B03 50 15 albM15R, B02 50 14 albM15R, B01 50 13 albM15R, E04 38 8 albM13R, A07 38 36 albM14R, C08 70 32 albM16R, C07 70 31 albM16R, C06 70 30 albM16R, C05 70 29 albM16R, C04 70 28 albM16R, C03 70 27 albM16R, C12 50 36 albM15R, C11 50 35 albM15R, C10 50 34 albM15R, C09 50 33 albM15R, C08 50 32 albM15R, C07 50 31 albM15R, C06 50 30 , albM15R, C05 50 29 albM15R, C04 50 28 albM15R, C03 50 27 albM15R, F05 38 29 albM13R, C08 38 57 albM14R, C07 38 56 albM14R, C06 38 55 albM14R, C05 38 54 albM14R, C04 38 57 albM14R, C03 38 56 albM14R, C02 38 55 albM14R, C01 38 54 albM14R, B12 38 53 albM14R, B11 38 52 albM14R, B10 38 51 albM14R, B09 38 50 albM14R, B08 38 49 albM14R, B07 38 48 albM14R, B06 38 47 albM14R, B05 38 46 albM14R, B04 38 45 albM14R, B03 38 44 albM14R B01 38 42 albM14R, A12 38 41 albM14R, A11 38 40 albM14R, A10 38 39 albM14R, A09 38 38 albM14R, A08 38 37 albM14R, A06 38 35 albM14R, A05 38 34 albM14R,A04 38 33 albM14R, A03 38 32 albM14R, A02 38 31 albM14R, A01 38 30 albM14R | VTX00143 | Glo | JN009334 | Glomeraceae *Glomus* |
| D12 24 24 albM16R | E10 24 17 albM16R, D07 24 19 albM16R, D06 24 18 albM16R, H11 6 12 albM13R, H12 6 13 albM13R, G12 30 32 alb M16R, G11 30 31 alb M16R, G10 30 30 alb M16R, G09 30 29 alb M16R, G08 30 28 alb M16R, G05 30 25 alb M16R, G07 30 27 alb M16R, G06 30 26 alb M16R, E11 24 18 albM16R, D11 24 23 albM16R, D10 24 22 albM16R, D09 24 21 albM16R, D08 24 20 albM16R, E12 24 19 albM16R, D05 24 17 albM16R, D04 24 16 albM16R, D03 24 15 albM16R, D02 24 14 albM16R, D02 6 14 albM16R, D03 6 15 albM13R, C06 6 55 albM16R, C05 6 54 albM16R, C04 6 53 albM16R, B08 6 45 albM16R, B07 6 44 albM16R, B06 6 43 albM16R, B05 6 42 albM16R, D01 6 13 albM16R, D01 6 20 albM13R, C03 6 52 albM16R, C02 6 51 albM16R, C01 6 50 albM16R, B12 6 49 albM16R, B11 6 48 albM16R, B10 6 47 albM16R, B09 6 46 albM16R, A02 6 29 albM13R, A03 6 30 albM13R | VTX00105 | Rhizo 1 | FN869718/FN869723 | Glomeraceae *Glomus* |

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|---|---|---|---|---|---|
| A12 46 24 alb M17R | B01 46 25 alb M17R, A11 46 23 alb M17R, A10 46 22 alb M17R, A09 46 21 alb M17R, A02 46 14 alb M17R, A01 46 13 alb M17R, A08 46 20 alb M17R, A07 46 19 alb M17R, A06 46 18 alb M17R, A05 46 17 alb M17R, A04 46 16 alb M17R, A03 46 15 alb M17R, D12 70 48 albM16R, D11 70 47 albM16R, D10 70 46 albM16R, D09 70 45 albM16R, D08 70 44 albM16R, D07 70 43 albM16R, D06 70 42 albM16R, D05 70 41 albM16R, D04 70 40 albM16R, D03 70 39 albM16R, D02 70 38 albM16R, D01 70 37 albM16R, C12 70 36 albM16R, C11 70 35 albM16R, C10 70 34 albM16R, C09 70 33 albM16R, E03 50 51 albM15R, E02 50 50 albM15R, E01 50 49 albM15R, D12 50 48 albM15R, D11 50 47 albM15R, D10 50 46 albM15R, D09 50 45 albM15R, D08 50 44 albM15R, D07 50 43 albM15R, D06 50 42 albM15R, D05 50 41 albM15R, D04 50 40 albM15R, D03 50 39 albM15R, D02 50 38 albM15R, D01 50 37 albM15R, B05 38 20 albM13R, H12 34 16 albM14R, H11 34 15 albM14R, H10 34 14 albM14R, A05 34 21 albM15R, A04 34 20 albM15R, A03 34 19 albM15R, A02 34 18 albM15R, A01 34 17 albM15R, E11 16 17 albM14R, E09 16 15 albM14R, E08 16 14 albM14R, E02 11 9 albM14R, B02 46 26 alb M17R, B03 46 27 alb M17R, B04 46 28 alb M17R, B05 46 29 alb M17, B06 46 30 alb M17R, C02 54 18 alb M17R, C03 54 19 alb M17R, C04 54 20 alb M17R, C05 54 21 alb M17R, C06 54 22 alb M17R, C01 54 17 alb M17R, C07 54 23 alb M17R, C08 54 24 alb M17R, C09 54 25 alb M17R, C10 54 26 alb M17R, C11 54 27 alb M17R, C12 54 27 alb M17R, D01 54 28 alb M17R, D02 54 29 alb M17R, D03 54 30 alb M17R, D07 71 13 alb M17R, D08 71 14 alb M17R, D09 71 15 alb M17R, D10 71 16 alb M17R, D11 71 17 alb M17R, D12 71 18 alb M17R, E01 71 19 alb M17R, E02 71 20 alb M17R, D06 71 12 alb M17R, D05 71 11 alb M17R, D04 71 10 alb M17R, D03 71 09 alb M17R, D02 71 08 alb M17R, D01 71 07 alb M17R, E03 71 21 alb M17R, E04 71 22 alb M17R, E05 71 23 alb M17R, E06 71 24 alb M17R, E07 71 25 alb M17R, E08 71 26 alb M17R, E09 71 27 alb M17R, E10 71 28 alb M17R, E11 71 29 alb M17R, E12 71 30 alb M17R, F10 4 20 alb M17R, G03 4 25 alb M17R, A02 23 24 alb M18R, A07 23 28 alb M18R, D01 35 31 alb M18R, D11 35 41 alb M18R, C11 35 29 alb M18R, D10 35 40 alb M18R, A04 23 26 alb M18R, A01 23 23 alb M18R, F11 4 21 alb M17R, F09 4 19 alb M17R, C09 11 46 albM14R, C10 11 47 albM14R, C11 11 48 albM14R, E03 11 23 albM13R, D08 16 1 albM14R, D09 16 2 albM14R, D01 16 3 albM14R, D11 16 4 albM14R, D12 16 5 albM14R, E01 16 6 albM14R, E02 16 7 albM14R, G09 34 1 albM14R, G10 34 2 albM14R, G11 34 3 albM14R, G12 34 4 albM14R, H01 34 5 albM14R | VTX00113 | Rhizo 2 | JN791161 | Glomeraceae Glomus sp. |
| E03 35 45 alb M18R | E04 35 46 alb M18R, E02 35 44 alb M18R, E01 35 43 alb M18R, D12 35 42 alb M18R, B01 35 7 alb M18R, D05 35 35 alb M18R, D04 35 34 alb M18R, D03 35 33 alb M18R, D02 35 32 alb M18R, G07 23 5 alb M17R, A08 23 29 alb M18R, A06 23 28 alb M18R, A05 23 27 alb M18R, G06 4 28 alb M17R, G05 4 27 alb M17R, G04 4 26 alb M17R, G02 4 24 alb M17R, G01 4 23 alb M17R, F12 4 22 alb M17R | VTX00057 | Claro1 | FN869804 | *Claroideoglomus* |

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|---|---|---|---|---|---|
| D07 35 37 alb M18R | D08 35 38 alb M18R, C12 35 30 alb M18R, C09 35 27 alb M18R, C07 35 25 alb M18R, C03 35 21 alb M18R, B07 35 13 alb M18R, B03 35 09 alb M18R, C06 35 24 alb M18R, C05 35 23 alb M18R, C02 35 20 alb M18R, C01 35 19 alb M18R, B10 35 16 alb M18R, B09 35 15 alb M18R, B06 35 12 alb M18R, B05 35 11 alb M18R, B02 35 8 alb M18R, G04 23 4 alb M17R, H12 23 22 alb M17R, H09 23 19 alb M17R, H05 23 15 alb M17R, G05 23 5 alb M17R, G06 23 4 alb M17R, H10 23 20 alb M17R, H07 23 17 alb M17R, H06 23 16 alb M17R, H03 23 13 alb M17R, H02 23 12 alb M17R, G11 23 9 alb M17R, G10 23 8 alb M17R, F08 4 18 alb M17R, F07 4 17 alb M17R, F03 4 13 alb M17R, E10 4 8 alb M17R, E07 4 5 alb M17R, E05 4 3 alb M17R, F05 4 15 alb M17R, F04 4 14 alb M17R, F01 4 11 alb M17R, E12 4 10 alb M17R, E09 4 7 alb M17R, E08 4 6 alb M17R, E09 30 10 alb M16R, E10 30 11 alb M16R, E08 30 09 alb M16R, E11 30 12 alb M16R, D05 24 5 alb M16R, D04 24 4 albM16R, D03 24 3 alb M16R, D02 24 2 albM16R, E11 6 7 albM13R, A07 6 34 alb M16R, E12 6 8 albM13R, A06 6 33 alb M16R, F09 30 22 alb M16R, F08 30 21 alb M16R,<br>F07 30 20 alb M16R, F06 30 19 alb M16R, F05 30 18 alb M16R, F04 30 17 alb M16R, F03 30 16 alb M16R, F02 30 15 alb M16R, D09 24 9 alb M16R, D08 24 8 albM16R, D07 24 7 alb M16R, D06 24 6 albM16R, G02 6 27 albM13R, A09 6 36 alb M16R, G01 6 26 albM13R, A08 6 35 alb M16R, D09 35 39 alb M18R, D06 35 36 alb M18R, C08 35 26 alb M18R, B11 35 17 alb M18R, C10 35 28 alb M18R, C04 35 22 alb M18R, B12 35 18 alb M18R, B08 35 14 alb M18R, B04 35 10 alb M18R, G03 23 3 alb M17R, H11 23 21 alb M17R, H01 23 11 alb M17R, G09 23 7 alb M17R, A03 23 25 alb M18R, H08 23 18 alb M17R, H04 23 14 alb M17R, G12 23 10 alb M17R, G08 23 6 alb M17R, F06 4 16 alb M17R, E04 4 2 alb M17R | VTX00057 | Claro2 | FN869808 | *Claroideoglomus* |

**Table S2.** Effect of arbuscular mycorrhizal fungal inoculation (AMF inoc) and bread wheat genotype (Genotype) on richness, Shannon index (*H'*) and Simpson index (λ) of the AMF community in wheat roots.

| | Richness | *H'* | λ |
|---|---|---|---|
| Autonomia B -M | 2.0 ± 0.0 | 0.58 ± 0.05 b | 0.39 ± 0.05 b |
| Autonomi B +M | 2.0 ± 0.0 | 0.49 ±0.18 b | 0.34 ± 0.01 b |
| Frassineto -M | 3.0 ± 0.0 | 0.82 ± 0.05 b | 0.48 ± 0.04 b |
| Frassineto +M | 1.0 ± 0.0 | 0.00 ± 0.00 a | 0.00 ± 0.00 a |
| Bologna -M | 2.0 ± 0.0 | 0.64 ± 0.03 b | 0.45 ± 0.03 b |
| Bologna +M | 1.0 ± 0.0 | 0.00 ± 0.00 a | 0.00 ± 0.00 a |

[a]Values are means ± SE of three replicate plots for each treatment. Values in the same column followed by different letters are statistically different, according to Tukey's-b test ($P \leq 0.05$). The values that did not show any statistical difference were reported only with SE.

**Supplementary Table 3.** PERMANOVA on the effect of arbuscular mycorrhizal fungal inoculation (AMF inoc) and bread wheat genotype (Genotype) on the AMF community structure in wheat roots.

| Treatment | Total df | Pseudo-F | *P* (perm) |
|---|---|---|---|
| AMF inoc† | 1 | 149.12 | **0.001**‡ |
| Genotype | 2 | 172.73 | **0.001** |
| AMF inoc x Genotype | 2 | 177.89 | **0.001** |
| | | | |
| *PERMDISP* | | | |
| AMF inoc† | - | - | 0.542 |
| Genotype | - | - | **0.002** |

†PERMANOVA was performed following a split-plot design with AMF inoc as main-plot factor and genotype as subplot factor and with three replicate plots per treatment: AMF inoc (inoculated and mock inoculated) and genotype (Autonomia B, Frassineto and Bologna).

‡In bold statistically significant values in the PERMANOVAs ($P \leq 0.05$).

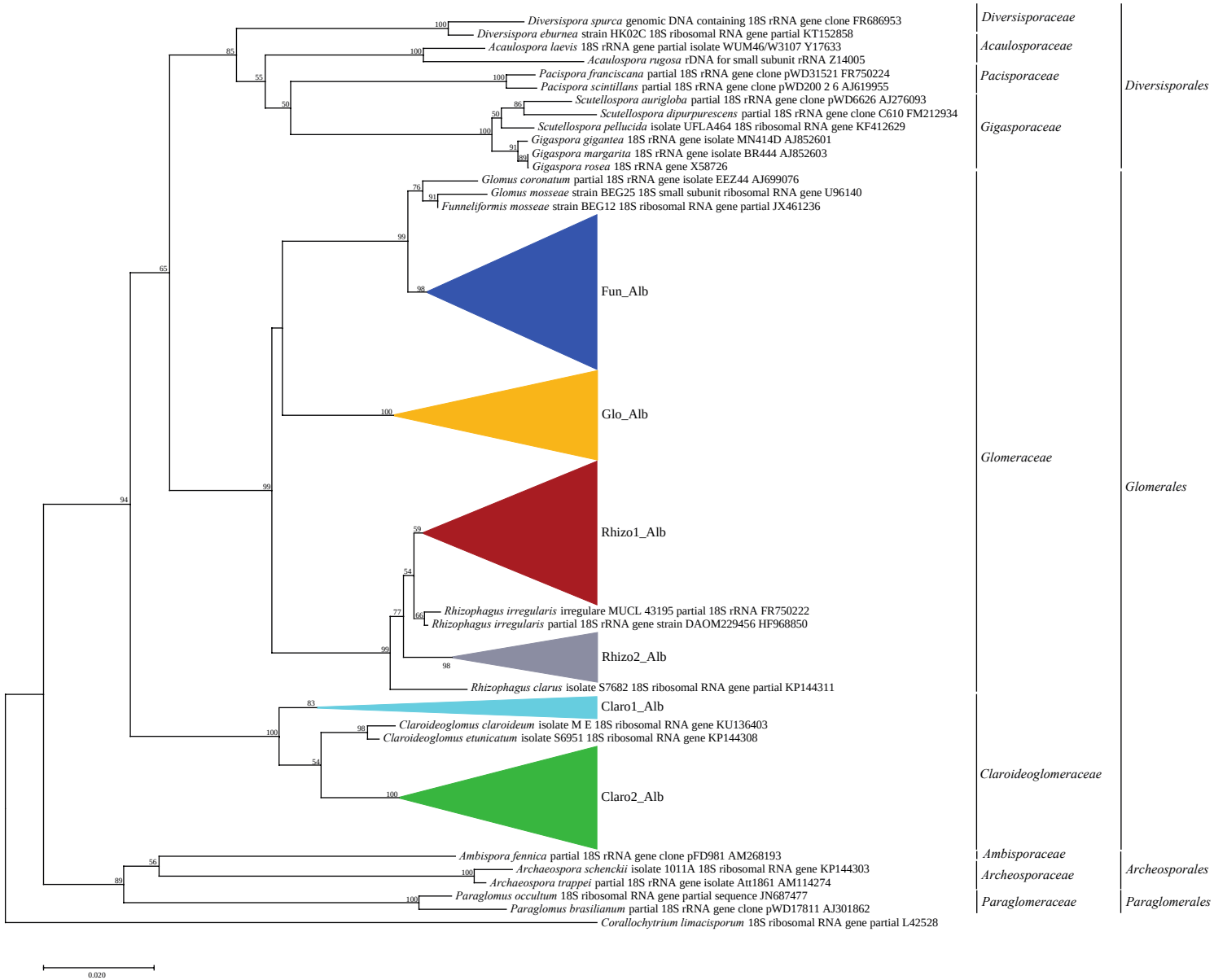
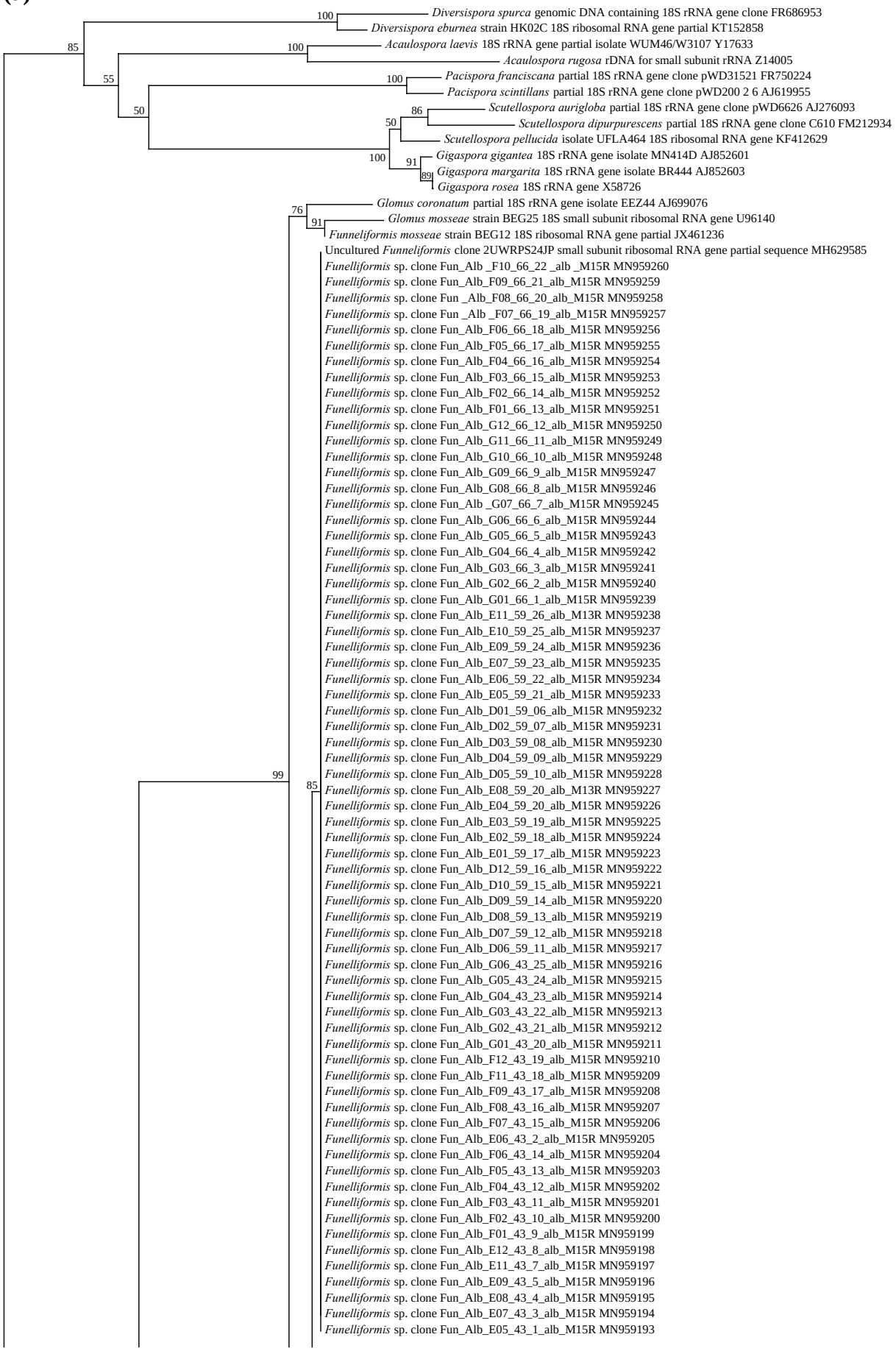

Diversispora spurca genomic DNA containing 18S rRNA gene clone FR686953
Diversispora eburnea strain HK02C 18S ribosomal RNA gene partial KT152858
Acaulospora laevis 18S rRNA gene partial isolate WUM46/W3107 Y17633
Acaulospora rugosa rDNA for small subunit rRNA Z14005
Pacispora franciscana partial 18S rRNA gene clone pWD31521 FR750224
Pacispora scintillans partial 18S rRNA gene clone pWD200 2 6 AJ619955
Scutellospora auriglobа partial 18S rRNA gene clone pWD6626 AJ276093
Scutellospora dipurpurescens partial 18S rRNA gene clone C610 FM212934
Scutellospora pellucida isolate UFLA464 18S ribosomal RNA gene KF412629
Gigaspora gigantea 18S rRNA gene isolate MN414D AJ852601
Gigaspora margarita 18S rRNA gene isolate BR444 AJ852603
Gigaspora rosea 18S rRNA gene X58726
Glomus coronatum partial 18S rRNA gene isolate EEZ44 AJ699076
Glomus mosseae strain BEG25 18S small subunit ribosomal RNA gene U96140
Funneliformis mosseae strain BEG12 18S ribosomal RNA gene partial JX461236
Fun_Alb
Glo_Alb
Rhizo1_Alb
Rhizophagus irregularis irregulare MUCL 43195 partial 18S rRNA FR750222
Rhizophagus irregularis partial 18S rRNA gene strain DAOM229456 HF968850
Rhizo2_Alb
Rhizophagus clarus isolate S7682 18S ribosomal RNA gene partial KP144311
Claro1_Alb
Claroideoglomus claroideum isolate M E 18S ribosomal RNA gene KU136403
Claroideoglomus etunicatum isolate S6951 18S ribosomal RNA gene KP144308
Claro2_Alb
Ambispora fennica partial 18S rRNA gene clone pFD981 AM268193
Archaeospora schenckii isolate 1011A 18S ribosomal RNA gene KP144303
Archaeospora trappei partial 18S rRNA gene isolate Att1861 AM114274
Paraglomus occultum 18S ribosomal RNA gene partial sequence JN687477
Paraglomus brasilianum partial 18S rRNA gene clone pWD17811 AJ301862
Corallochytrium limacisporum 18S ribosomal RNA gene partial L42528
Diversisporaceae
Acaulosporaceae
Pacisporaceae
Gigasporaceae
Glomeraceae
Claroideoglomeraceae
Ambisporaceae
Archeosporaceae
Paraglomeraceae
Diversisporales
Glomerales
Archeosporales
Paraglomerales
0.020

**Figure S1.** Collapsed Neighbour-Joining (NJ) tree of 504 arbuscular mycorrhizal fungal (AMF) sequences retrieved in the roots of inoculated and not inoculated the three bread wheat genotypes (Autonomia B, Frassineto and Bologna) and 31 representative AMF sequences. NJ tree is based on the sequences obtained from the amplification of the partial 16 SSU rRNA gene. The AMF taxa were assigned to Molecular Operational Taxonomic Unit (MOTU) by BLAST against the NCBI database and by clustering the sequences ≥ 97% similarity threshold. The name of each MOTU is composed by the name of the AMF genus and the abbreviation of the location where the samples were collected (Alberese, Grosseto, Italy).

**(a)**


100
Diversispora spurca genomic DNA containing 18S rRNA gene clone FR686953
Diversispora eburnea strain HK02C 18S ribosomal RNA gene partial KT152858
85
100
Acaulospora laevis 18S rRNA gene partial isolate WUM46/W3107 Y17633
Acaulospora rugosa rDNA for small subunit rRNA Z14005
55
100
Pacispora franciscana partial 18S rRNA gene clone pWD31521 FR750224
Pacispora scintillans partial 18S rRNA gene clone pWD200 2 6 AJ619955
50
86
Scutellospora aurigloba partial 18S rRNA gene clone pWD6626 AJ276093
50
Scutellospora dipurpurescens partial 18S rRNA gene clone C610 FM212934
Scutellospora pellucida isolate UFLA464 18S ribosomal RNA gene KF412629
100
91
Gigaspora gigantea 18S rRNA gene isolate MN414D AJ852601
89
Gigaspora margarita 18S rRNA gene isolate BR444 AJ852603
Gigaspora rosea 18S rRNA gene X58726
76
Glomus coronatum partial 18S rRNA gene isolate EEZ44 AJ699076
91
Glomus mosseae strain BEG25 18S small subunit ribosomal RNA gene U96140
Funneliformis mosseae strain BEG12 18S ribosomal RNA gene partial JX461236
Uncultured Funneliformis clone 2UWRPS24JP small subunit ribosomal RNA gene partial sequence MH629585
Funelliformis sp. clone Fun_Alb _F10_66_22 _alb _M15R MN959260
Funelliformis sp. clone Fun_Alb_F09_66_21_alb_M15R MN959259
Funelliformis sp. clone Fun _Alb_F08_66_20_alb_M15R MN959258
Funelliformis sp. clone Fun _Alb _F07_66_19_alb_M15R MN959257
Funelliformis sp. clone Fun_Alb_F06_66_18_alb_M15R MN959256
Funelliformis sp. clone Fun_Alb_F05_66_17_alb_M15R MN959255
Funelliformis sp. clone Fun_Alb_F04_66_16_alb_M15R MN959254
Funelliformis sp. clone Fun_Alb_F03_66_15_alb_M15R MN959253
Funelliformis sp. clone Fun_Alb_F02_66_14_alb_M15R MN959252
Funelliformis sp. clone Fun_Alb_F01_66_13_alb_M15R MN959251
Funelliformis sp. clone Fun_Alb_G12_66_12_alb_M15R MN959250
Funelliformis sp. clone Fun_Alb_G11_66_11_alb_M15R MN959249
Funelliformis sp. clone Fun_Alb_G10_66_10_alb_M15R MN959248
Funelliformis sp. clone Fun_Alb_G09_66_9_alb_M15R MN959247
Funelliformis sp. clone Fun_Alb_G08_66_8_alb_M15R MN959246
Funelliformis sp. clone Fun_Alb _G07_66_7_alb_M15R MN959245
Funelliformis sp. clone Fun_Alb_G06_66_6_alb_M15R MN959244
Funelliformis sp. clone Fun_Alb_G05_66_5_alb_M15R MN959243
Funelliformis sp. clone Fun_Alb_G04_66_4_alb_M15R MN959242
Funelliformis sp. clone Fun_Alb_G03_66_3_alb_M15R MN959241
Funelliformis sp. clone Fun_Alb_G02_66_2_alb_M15R MN959240
Funelliformis sp. clone Fun_Alb_G01_66_1_alb_M15R MN959239
Funelliformis sp. clone Fun_Alb_E11_59_26_alb_M13R MN959238
Funelliformis sp. clone Fun_Alb_E10_59_25_alb_M15R MN959237
Funelliformis sp. clone Fun_Alb_E09_59_24_alb_M15R MN959236
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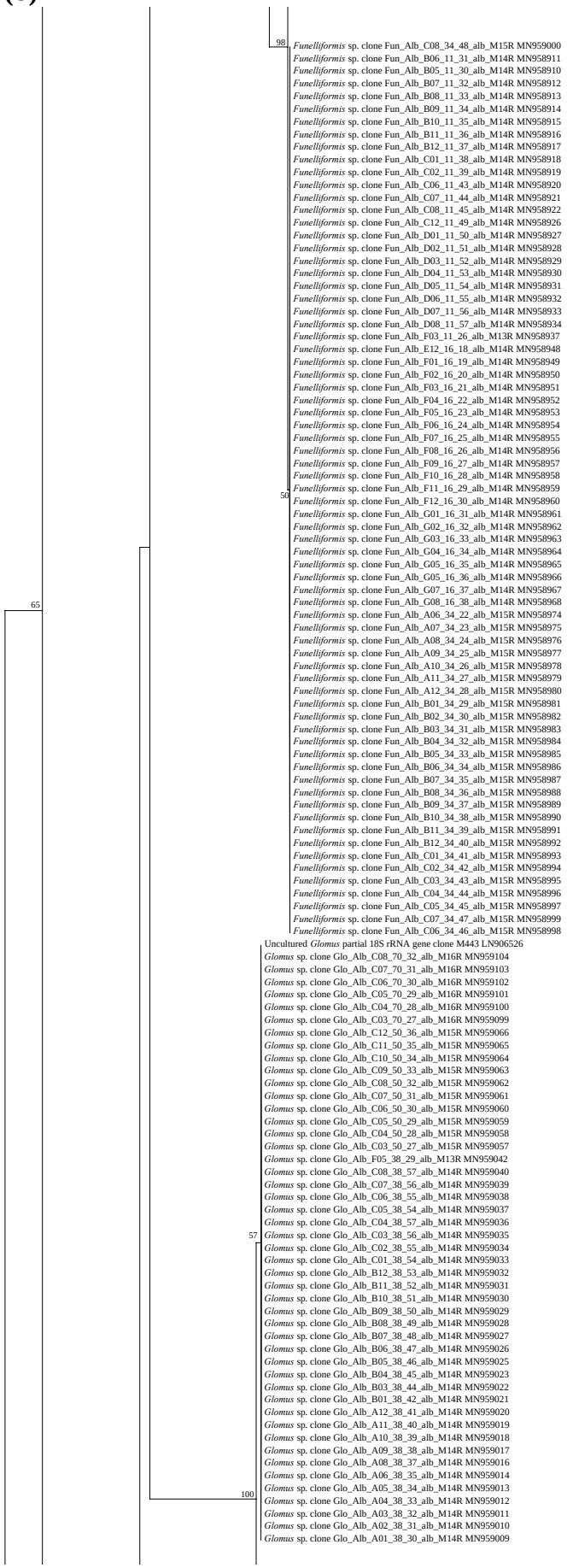
**(b)**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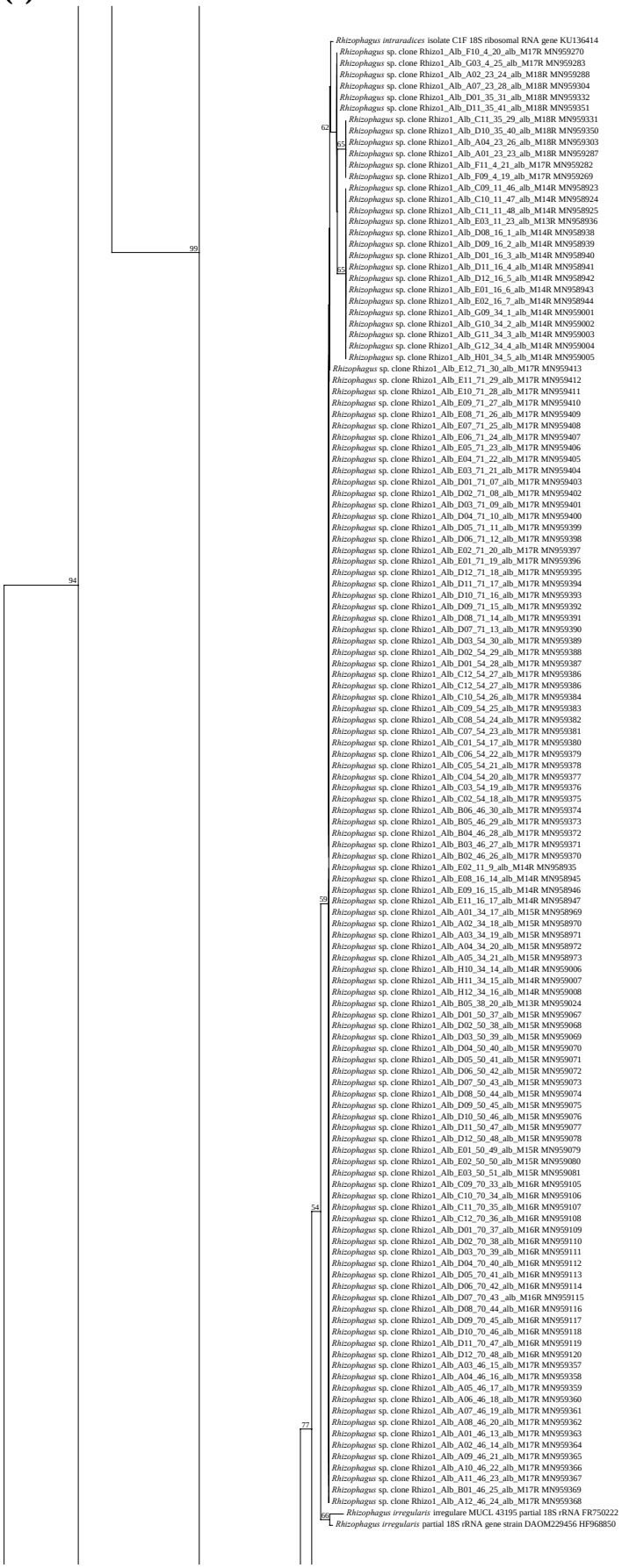
**(c)**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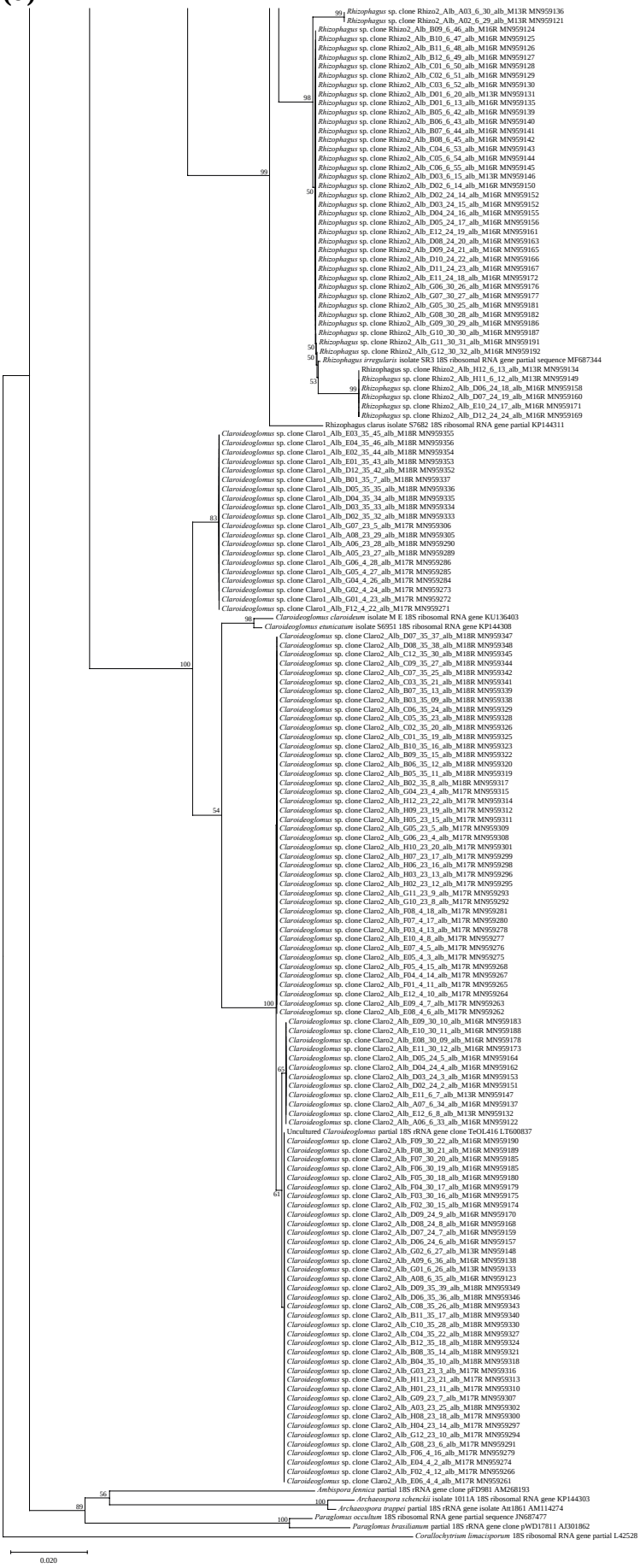
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Corallochytrium limacisporum 18S ribosomal RNA gene partial L42528
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**Figure S2.** Neighbour-Joining (NJ) tree of 504 arbuscular mycorrhizal fungal (AMF) sequences retrieved in the roots of inoculated and not inoculated the three bread wheat genotypes (Autonomia B, Frassineto and Bologna) and 31 representative AMF sequences (a,b,c,d). NJ tree is based on the sequences obtained from the amplification of the partial 16 SSU rRNA gene. The AMF taxa were assigned to Molecular Operational Taxonomic Unit (MOTU) by BLAST against the NCBI database and by clustering the sequences ≥ 97% similarity threshold. The name of each MOTU is composed by the name of the AMF genus and the abbreviation of the location where the samples were collected (Alberese, Grosseto, Italy).