

TWC/23/17 ORIGINAL: English DATE: June 15, 2005 F

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS GENEVA

TECHNICAL WORKING PARTY ON AUTOMATION AND COMPUTER PROGRAMS

Twenty-Third Session Ottawa, June 13 to 16, 2005

DESCRIPTION OF VARIETIES IN DIFFERENT UPOV COUNTRIES

Document prepared by experts from France

Description of varieties in different UPOV countries

Prepared by experts from France with data provided on barley via

J Guiard and

G Deneken

- A set of varieties has been described by 13 countries in the year 2003
- Notes have been summarised in one Word file per variety

| F F | : DINARAC | | | | | | | | | | | | | | | | | | |
|-------------|-----------------|------------------|--|-----------------|-------------|--------|----------|------|---------|---------|---------|---------|----|----|----------------|----|---------|----|---|
| No. | Chara | cteristic | s | | | | | | | | | | | | | | | | |
| UPOV | (TG/19/1 | 0,94-11- | -04) | BU | DE | HU | CI | R | DK | AT | E | ST | HR | YU | R | 0 | FR | PL | Γ |
| (*)1. P | lant:grow habit | | - | | 4 | | 3 | 4 | ŀ | 3 | - | | | | 4 | | | 3 | t |
| (*) 0 T | .1 1 | · · · · · · | 1 0 | | 1 | | 1 | 1 | | 1 | 1 | | | | 1 | | | 1 | t |
| ALFA.doc | | VARIET | Y: DINARAC | | | Collec | ction of | Data | on Spri | ng Bar | ley Va | rieties | | | | | | | |
| ANABEL.doc | | No. | | cteristics | | | | | | | | _ | _ | | | | | | |
| ARTIST.doc | | UPOV | · · · · · · · · · · · · · · · · · · · | 0, 94-11-04) | | BU | DE | HU | CR | DK | AT | EST | HR | YU | RO | FR | PL | CZ | |
| BARKE.doc | | (*) 1. (*) 2. | Plant:grow habit Lowest leaves: ha | irinass of loof | | | 4 | | 3 | 4 | 3 | - 1 | | | 4 | | 3 | - | |
| | | (1)2. | sheaths | in mess or lear | | | 1 | | 1 | 1 | 1 | 1 | | | 1 | | 1 | | |
| BINAL.doc | | (*) 3. | Flag leaf: anthocy | anin coloratio | n of | | - | | 1 | 9 | - | 9 | | | - | | 9 | | |
| CAMERA.do | c | (*) 4. | auricules Flag leaf: intensit | u of anthors | nin | | | | | 8 | 6* | | | | | | 6 | | |
| CICERO.doc | | (*)4. | coloration of auri | | | | - | | - | ° | 0. | - | | | - | | 0 | | |
| | | 5. | Plant: frequency of | of plants with | | | 4 | | 2 | 6 | 8 | 7 | | | 4 | | 7 | | |
| CRISTAL.do | | 6. | recurved flag leav Flag leaf: glaucos | | | | 7 | | 6 | - | 6 | 9 | | | 9 | | 7 | | |
| DINARAC.do | DC | | Time of ear emer | | ikelet | | 5 | | 8 | 4 | 3 | 3 | | | 6 | | 5 | | |
| ESTEREL.do | c i | | visible on 50% of | ears) | | | | | | | | | | | | | | | |
| - | - | (*) 8. | Awns: anthocyan | | | | - | | 1 | 9 | - 7 | - | | | - | | 9 | | |
| FRAN.doc | | (*) 9. | Awns: intensity o coloration of tips | t anthocyanın | | | - | | - | 9 | 7 | 8 | | | - | | 7 | | |
| GIL.doc | | (*) 10. | Ear: glaucosity | | | | 6 | | 7 | 8 | 3 | 5 | | | 5 | | 5 | | |
| HERIS.doc | | | Ear: attitude | | | | 5 | | 5 | 5 | 4 | - | | | 4 | | 4 | | |
| JESSICA.do | - | | Plant: length (ster Ear: number of re | - | 15 <i>)</i> | | 6 1 | | 2 | 6 | 8 1* | 9 | | | 1 | | 6 1 | | |
| - | | ~ ~ ~ | Ear:shape | | | | 5 | | 3 | 5 | 3 | - | | | 5 | | 5 | | |
|)KH AGRIA.d | | (*) 15. | Ear:density | | | | 4 | | 3 | 4 | 4 | - | | | 3 | | 4 | | |
| KOMPAKT.d | DC . | 16. (*) 17. | Ear:length (exclue Awn: length (con | | | | 4 5 | | 5 | 7 | 7 5 | - 6 | | | 7 | | 7 | | |
| KORCA.doc | | | Rachis: length of | | | | 5 | | 5 | 3 | 3 | - | | | 3 | | 5 | | |
| MANRICA.d | | · · · · · · | 0 | <u> </u> | | | | | | | | | | | | | | | |
| | | No. | | racteristics | | | | | | | | | | | | | | | |
| MARIA.doc | | UPOV 19. | (TG/19 Rachis: curvatu | /10, 94-11-04 | 2 | BU | DE 6 | HU | CR 5 | DK 5 | AT 5 | EST | HR | YU | RO 7 | FR | PL 5 | CZ | |
| MESSINA.do | C | 20. | Median spikele | | | | 2 | | 3 | 3 | - | 3 | | | - | | 2 | - | |
| | T doc | | its awn relative | to grain | | | | | | | | | | | | | | | |
| | | 21. | Median spikele its awn relative | | ime and | | 2 | | 2 | 2 | 2 | 2 | | | 3 | | 3 | | |
| OBZOR.doc | | 22. | | W | | + | 2 | | 2 | 2 | 2 | 2 | | | 3 | | 2 | | |
| ORIZONT.do | | (*) 23. | Grain: husk | | | | 9 | | 9 | 9 | 9 | 9 | | | 2 | | 9 | | |
| PRISMA.doc | | 24. | Grain: anthocya nerves of lemm | | n of | | 7 | | - | 3 | 1 | 7 | | | 9 | | 3 | | |
| REKS.doc | | 25. | Grain:spiculatio | | eral | + | 1 | | 1 | 2 | 1 | 7 | | | 6 | | 3 | | |
| - | | / m = - | nerves of dorsa | | | | | | | | | | | | | | | | |
| TEROVA.do | | (*) 26. 27. | | | | | 1 2 | | 1 2 | 1 2 | 1 2 | 1 2 | | | 1 | | 1 2 | | |
| TIMOCANIN | .doc | 27. | | | | - | 1 | | 1 | 1 | 1 | 1 | | | 2 | | 1 | | |
| ZLATKO.doc | | (*) 29. | | | | | 3 | | 3 | 3 | 3 | 3 | 1 | | 3 | | 3 | | |

All data have been entered in an Access database

Microsoft Access

| | | . da dana árra | (format de fichier Access 2000) | | | |
|-----|------------------|----------------|---|---------|------|-----|
| III | notes per countr | | (format de fichier Access 2000) | | | |
| | name | Upov nn | character | country | note | car |
| | ALFA | 25. | Grain:spiculation of inner lateral nerves of dors | YU | 3 | |
| | ALFA | 25. | Grain:spiculation of inner lateral nerves of dors | RO | 4 | |
| | ALFA | 25. | Grain:spiculation of inner lateral nerves of dors | DK | 3 | |
| | ALFA | 25. | Grain:spiculation of inner lateral nerves of dors | AT | 1 | |
| | ALFA | 25. | Grain:spiculation of inner lateral nerves of dors | BU | 1 | |
| | ALFA | 25. | Grain:spiculation of inner lateral nerves of dors | CR | 1 | |
| | ALFA | 11. | Ear: attitude | RO | 3 | |
| | ALFA | 11. | Ear: attitude | CR | 4 | |
| | ALFA | 11. | Ear: attitude | AT | 4 | |
| ► | ALFA | 11. | Ear: attitude | BU | 8 | |
| | ALFA | 11. | Ear: attitude | DK | 6 | |
| | ALFA | 14. | Ear:shape | DK | 5 | |
| | ALFA | 14. | Ear:shape | AT | 3 | |
| | ALFA | 14. | Eartshape | BU | 5 | |
| | ALFA | 14. | Eartshape | CR | 5 | |
| | ALFA | 14. | Ear:shape | RO | 5 | |
| | ALFA | 14. | Ear:shape | YU | 5 | |
| | ALFA | 16. | Ear:length (excluding awns) | RO | 6 | |
| | ALFA | 16. | Ear:length (excluding awns) | DK | 7 | |
| | ALFA | 16. | Ear:length (excluding awns) | CR | 3 | |
| | ALFA | 16. | Ear:length (excluding awns) | YU | 7 | |
| | ALFA | 16. | Ear:length (excluding awns) | BU | 7 | |
| | ALFA | 16. | Ear:length (excluding awns) | AT | 8 | |
| | ALFA | 18. | Rachis: length of first segment | CR | 5 | |
| | ALFA | 18. | Rachis: length of first segment | RO | 7 | |

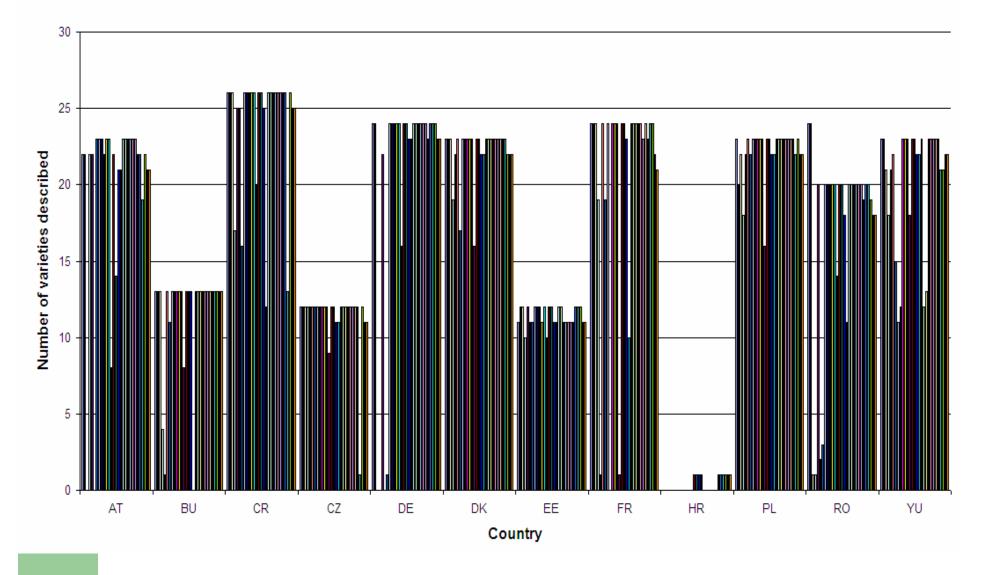
Summary of dataset available

| 1 | | | | | _ | | G | | | u | 1.8 | L | IVI | IN | 0 | P | |
|----|---------------------------------------|----------|---------|--------|------|--------|--------|-------|---------|----------|-------|-------|-------|-------|-----|----------|-----------|
| | Number of variety | / descri | iptions | s by c | ount | rv and | d by c | harad | cterist | tic (m | aximu | um 28 | varie | ties) | | | |
| 2 | | | | , - | | , | , . | | | (| | | | , | | | |
| 3 | character | * | Upov nn | AT | BU | CR | CZ | DE | DK | EE | FR | HR | PL | RO | YU | | |
| 4 | Plant:grow habit | Y | 1 | 22 | 13 | 26 | 12 | 24 | 23 | 11 | 24 | | 23 | 24 | 23 | (202) | - |
| | Lowest leaves: hairiness of leaf | | | | | | | | | | | | | | | \smile | the |
| | sheaths | Y | 2 | 22 | 13 | 26 | 12 | 24 | 23 | 12 | 24 | | 20 | 24 | 23 | 200 | |
| (| Flag leaf: anthocyanin coloration of | | | | | | | | | | | | | | | | |
| | auricules | Y | 3 | | 13 | 26 | 12 | | 23 | 12 | 24 | | 22 | 1 | 21 | 133 | |
| | Flag leaf: intensity of anthocyanin | | | | | | | | | | | | | | | | |
| 7 | coloration of | Y | 4 | 22 | 4 | 17 | 12 | | 19 | 10 | 19 | | 18 | 1 | 18 | 122 | number |
| | Time of ear emergence (first spikelet | | | | | | | | | | | | | | | | number |
| 8 | visible on 5 | Y | 7 | 22 | 1 | 25 | 12 | 22 | 22 | 12 | 1 | | 22 | 20 | 21 | 159 | |
| 9 | Awns: anthocyanin coloration of tips | Y | 8 | | 13 | 25 | 12 | | 23 | 11 | 24 | | 23 | 2 | 22 | 133 | of |
| | Awns: intensity of anthocyanin | | | | | | | | | | | | | | | | UI |
| 10 | coloration of tips | Y | 9 | 23 | 11 | 16 | 12 | 1 | 17 | 11 | 19 | | 22 | 3 | 15 | 135 | |
| 11 | Ear: glaucosity | Y | 10 | 23 | 13 | 26 | 12 | 24 | 23 | 12 | 24 | | 23 | 20 | 11 | 200 | data |
| 12 | Plant: length (stem, ear and awns) | Y | 12 | 23 | 13 | 26 | 12 | 24 | 23 | 12 | | | 23 | 20 | 12 | 176 | |
| 13 | Ear: number of rows | Y | 13 | 22 | 13 | 26 | 12 | 24 | 23 | 12 | 24 | | 23 | 20 | 23 | 199 | |
| 14 | Ear:density | Y | 15 | 23 | 13 | 26 | 12 | 24 | 23 | 11 | 24 | | 23 | 20 | 23 | 199 | points |
| 15 | Awn: length (compared to ear) | Y | 17 | 23 | 13 | 26 | 12 | 24 | 23 | 12 | 24 | | 23 | 20 | 23 | 200 | |
| | Median spikelet: length of glume and | | | | | | | | | | | | | | | \frown | nor |
| | its awn relat | Y | 20 | 8 | 8 | 20 | 9 | 16 | 16 | 10 | 1 | | 16 | 14 | 18 | (118) | per |
| | Grain: rachilla hair type | Y | 22 | 22 | 13 | 26 | 12 | 24 | 23 | 12 | 24 | 1 | 23 | 20 | 23 | 200 | |
| | Grain: husk | Y | 23 | 14 | 13 | 26 | 12 | 24 | 23 | 12 | 24 | 1 | 23 | 20 | 23 | 192 | character |
| | Grain: hairiness of ventral furrow | Y | 26 | 21 | 13 | 25 | 11 | 23 | 22 | 11 | 23 | 1 | 22 | 18 | 22 | 190 | Character |
| | Seasonal type | Y | 29 | 21 | | 12 | 11 | 23 | 22 | 11 | 10 | 1 | 22 | 11 | 22 | 144 | |
| | Plant: frequency of plants with | | | | | | | | | | | | | | | | |
| | recurved flag leav | N | 5 | 23 | 13 | 26 | 12 | 24 | 23 | 12 | 24 | | 23 | 20 | 23 | 200 | |
| | Flag leaf: glaucosity of sheath | N | 6 | 23 | 13 | 26 | 12 | 24 | 23 | 12 | 24 | | 23 | 20 | 12 | 200 | |
| | Ear: attitude | N | 11 | 23 | 13 | 26 | 12 | 24 | 23 | 11 | 24 | | 23 | 20 | 13 | 199 | is |
| | Ear:shape | N | 14 | 23 | 13 | 26 | 12 | 24 | 23 | 11 | 24 | | 23 | 20 | 23 | 199 | |
| | Ear:length (excluding awns) | N | 16 | 23 | 13 | 26 | 12 | 24 | 23 | 11 | 24 | | 23 | 20 | 23 | 199 | |
| | Rachis: length of first segment | N | 18 | 23 | 13 | 26 | 12 | 24 | 23 | 11 | 23 | | 23 | 20 | 23 | 198 | less |
| | Rachis: curvature of first segment | N | 19 | 22 | 13 | 26 | 12 | 23 | 23 | 11 | 24 | 1 | 23 | 19 | 23 | 197 | |
| | Median spikelet: length of glume and | | | | | | | | | | | | | | | | Variable |
| | its awn relat | N | 21 | 22 | 13 | 26 | 12 | 24 | 23 | 12 | 23 | 1 | 23 | 20 | 23 | 199 | vanabic |
| | Grain: anthocyanin coloration of | | | | | | | | | | | | | | | | |
| | nerves of lemma | N | 24 | 19 | 13 | 13 | 1 | 24 | 23 | 12 | 24 | 1 | 22 | 20 | 21 | 172 | 118-202 |
| | Grain:spiculation of inner lateral | | | | | | | | | | | | | | | | |
| | nerves of dorsa | N | 25 | 22 | 13 | 26 | 12 | 24 | 22 | 12 | 24 | 1 | 23 | 19 | 21 | 198 | |
| | Grain: disposition of lodicules | N | 27 | 21 | 13 | 25 | 11 | 23 | 22 | 11 | 22 | 1 | 22 | 18 | 22 | 189 | _ |
| | Kernel: colour of aleurone layer | N | 28 | 21 | 13 | 25 | 11 | 23 | 22 | 11 | 21 | 1 | 22 | 18 | 22 | 188 | _ |
| 33 | | | | 576 | 336 | (697) | 330 | 586 | 644 | 331 | 594 | (10) | 644 | 492 | 592 | | |

The number of descriptions is different from country to country **10-697**

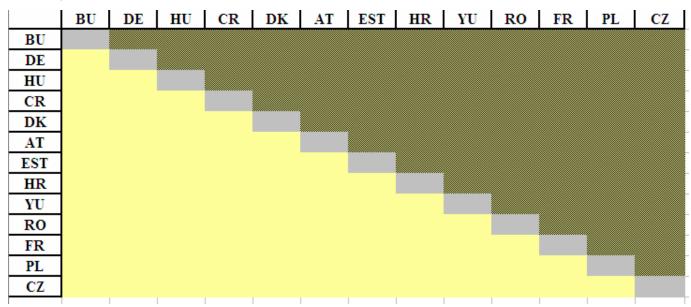
Coloured bars in a country are the different characters

Number of varieties described in each country

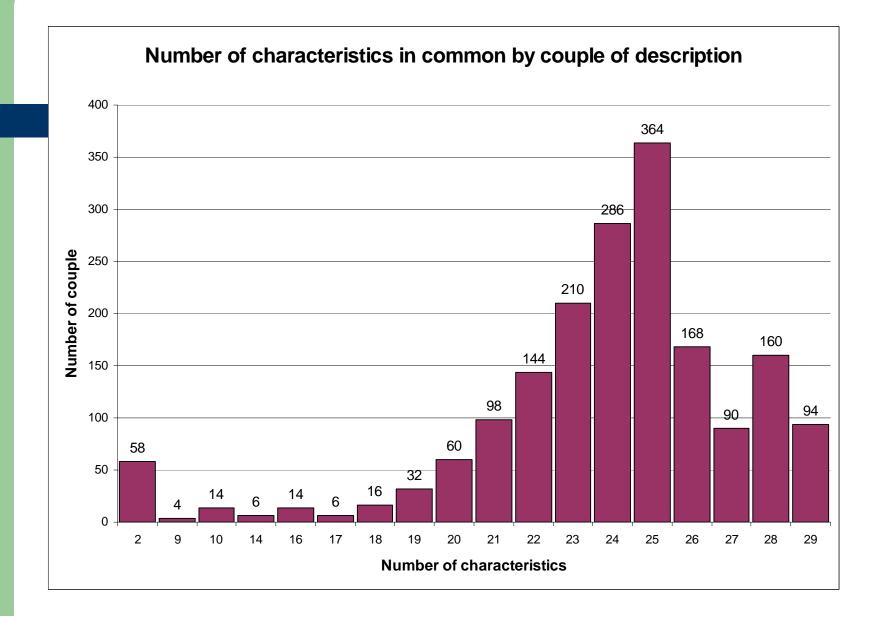


Aim: Compare the description of the same variety in the different countries

- The 28 varieties are not compared, they are distinct
- Only the descriptions of the same variety coming from different countries are compared
- A couple (comparison) = comparing 2 descriptions on a given variety

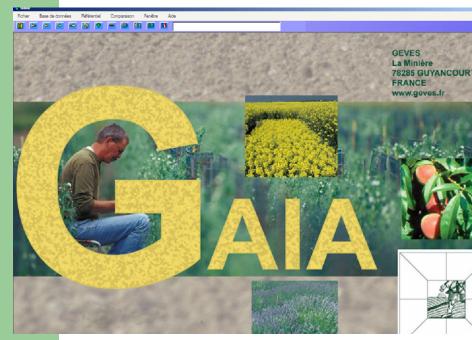


From 2 to 29 common characters (from 29 in the list)



No description is identical in any couple of countries for any variety

 Data have been entered in GAIA software and the descriptions from different countries compared



A difference on a characteristic is weighted 1

- all countries all characters
- all countries (*) characters
- DE DK FR (*) characters

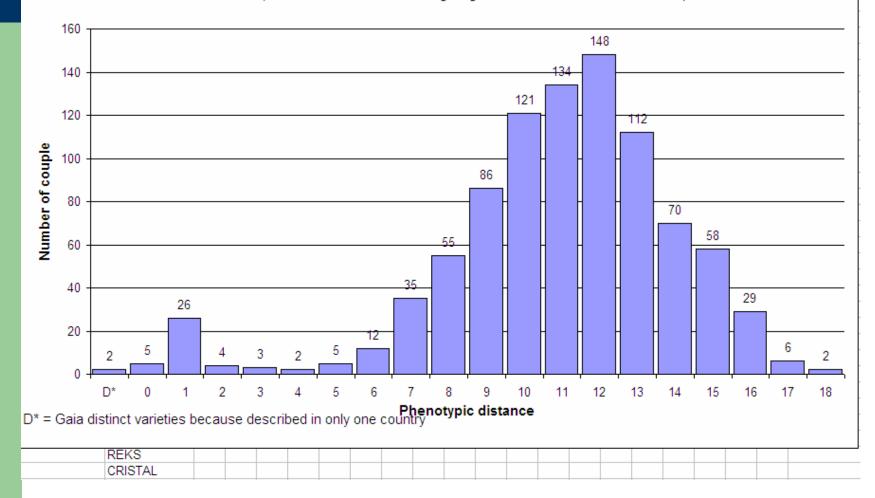
A difference on a characteristic is weighted 1 if the notes differ from 2 (unless 2 notes 1-9 or 1-2)

• all countries all characters

A difference on a characteristic is weighted 1 all countries all characters

Phenotypic distances obtained for all couples of descriptions of barley after analysis by GAIA on all characteristics

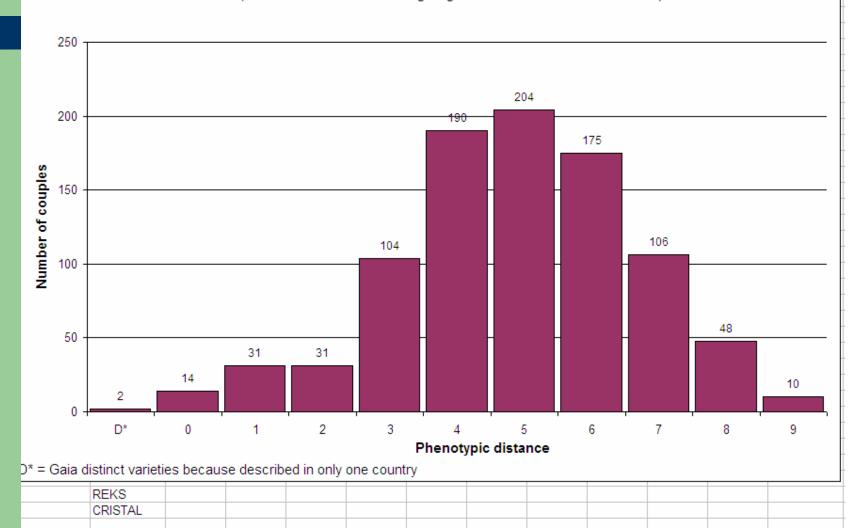
(29 characteristics with a weighting of 1 for each difference observed)



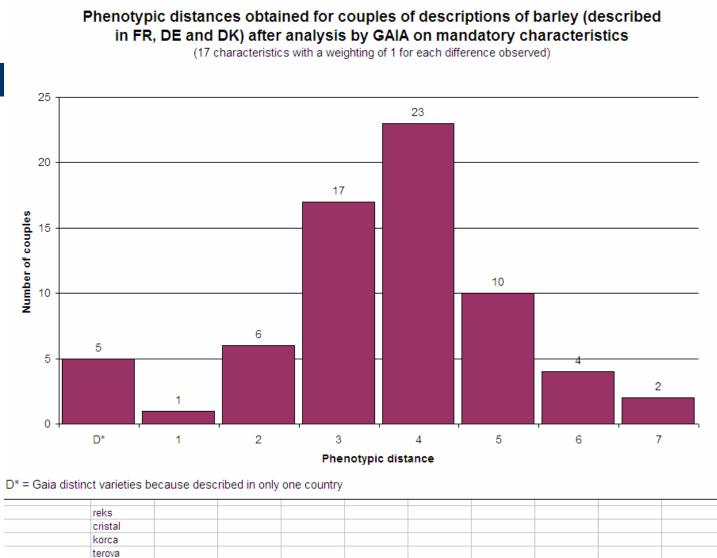
A difference on a characteristic is weighted 1 all countries (*) characters

Phenotypic distances obtained for all couples of descriptions of barley after analysis by GAIA on mandatory characteristics

(17 characteristics with a weighting of 1 for each difference observed)



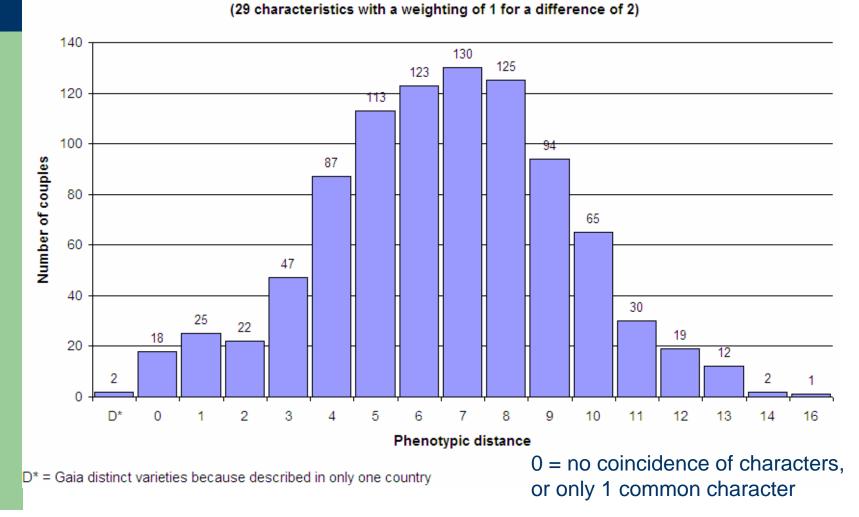
A difference on a characteristic is weighted 1 **DE DK FR** (*) characters



alfa

A difference on a characteristic is weighted 1 if the notes differ from 2 (unless 2 ie notes 1-9 or 1-2)

Phenotypic distances obtained for all the couples of descriptions of barley after analysis by GAIA



Example of useful comparison

11 characters in common, 8 <>, 3 =

| des comparaisons | | | | | | | | |
|--|----------|---------------------------------|--|---------|-----|----------------|--------------------|---------|
| Comparaison Type Compar | aison | | Libellé de la comparaison | | 0 | Espèce | | Session |
| Qualitative | 💌 Alfa | | | | | BARLEY ALFA | Alfa seuil 50 | |
| Qualitative | Annabel | | | | | BARLEY ANNABEL | Annabel seuil 50 |) |
| Qualitative | Artist | | | | | BARLEY ARTIST | Artiste seuil 50 | |
| Qualitative | Barke | | | | | BARLEY BARKE | Barke seuil 50 | |
| Qualitative | Binal | | | | | BARLEY BINAL | Binal seuil 50 | |
| icher l'arbre de visualisation omparaison avec un seuil de 50 Comparaison Qualitative G- Variétés NON distinguées [(G- M AT ALFA [1][5] | [Rapide | s de la comparaison qualitative | entre les 2 variétés courantes [21] | | | | | |
| Dist = 8] BU ALFA | [1] | N° Cara | a Libellé long a | Poids Q | | | Note Etd/Cycle 2 Q | |
| Dist = 8] DK ALFA | | 1 | Plant:grow habit | 0,00 | 0 | 2 | 0 | 0 |
| | [1] | 2 | Lowest leaves: hairiness of leaf sheaths | 0,00 | 0 | 1 | 0 | 0 |
| | | 3 | Flag leaf: anthocyanin coloration of auricule | 0,00 | 0 | 1 | 0 | 0 |
| [Dist = 9] CR ALFA | | 4 | Flag leaf: intensity of anthocyanin coloration | 0,00 | 1 | 0 | 0 | 0 |
| BU ALFA [1][5] Gy [Dist = 6] YU ALFA | r11 | 5 | Plant: frequency of plants with recurved flag | 1,00 | 3 | 7 | 0 | 0 |
| [Dist = 8] AT ALFA | | 6 | Flag leaf: glaucosity of sheath | 1,00 | 7 | 3 | 0 | 0 |
| [Dist = 8] RO ALFA | | 7 | Time of ear emergence (first spikelet visible | 0,00 | 3 | 0 | 0 | 0 |
| (Dist = 10) DK ALF | | 8 | Awns: anthocyanin coloration of tips | 0,00 | | 9 | 0 | 0 |
| (Dist = 11) CR ALF/ | | 9 | Awns: intensity of anthocyanin coloration of | 1,00 | - 1 | 5 | 0 | 0 |
| 🖨 🌍 CR ALFA [1][5] | | 11 | Ear: attitude | 1,00 | 4 | 8 | 0 | 0 |
| | | 12 | Plant: length (stem, ear and awns) | 0.00 | | 5 | | 0 |
| | | 14 | Eartshape | 1,00 | _ | 5 | 0 | 0 |
| | | 15 | Eartdensity | 0.00 | | 5 | 0 | 0 |
| [Dist = 11] BU ALF/ | | 16 | | 0.00 | | 7 | 0 | 0 |
| 🖻 🍘 DK ALFA [1][5] | · · · · | 17 | Earlength (excluding awns) | 1,00 | 5 | 7 | 0 | 0 |
| Dist = 3] YU ALFA | [1] | 19 | Awn: length (compared to ear) | | 3 | 7 | | |
| | [1] | | Rachis: curvature of first segment | 1,00 | 3 | | 0 | 0 |
| | | 22 | Grain: rachilla hair type | 0,00 | | 2 | 0 | 0 |
| | | 23 | Grain: husk | 0,00 | 0 | 9 | 0 | 0 |
| Dist = 10] RO ALF/ | (I) | 26 | Grain: hairiness of ventral furrow | 0,00 | 0 | 1 | 0 | 0 |
| RO ALFA [1][5] RO ALFA [1][5] | [1] | 27 | Grain: disposition of lodicules | 1,00 | 1 | 2 | 0 | 0 |
| | | 29 | Seasonal type | 0,00 | 2 | 0 | 0 | 0 |
| [Dist = 8] BU ALFA | | | | | | | | |
| [Dist = 10] CR ALFA | | | | | | | | |
| [Dist = 10] DK ALF/ | | | | | | | | |
| | | | | | | | | |
| 🖻 🛞 YU ALFA [1][5] | | | | | | | | |
| [Dist = 3] DK ALFA | | | | | | | | |

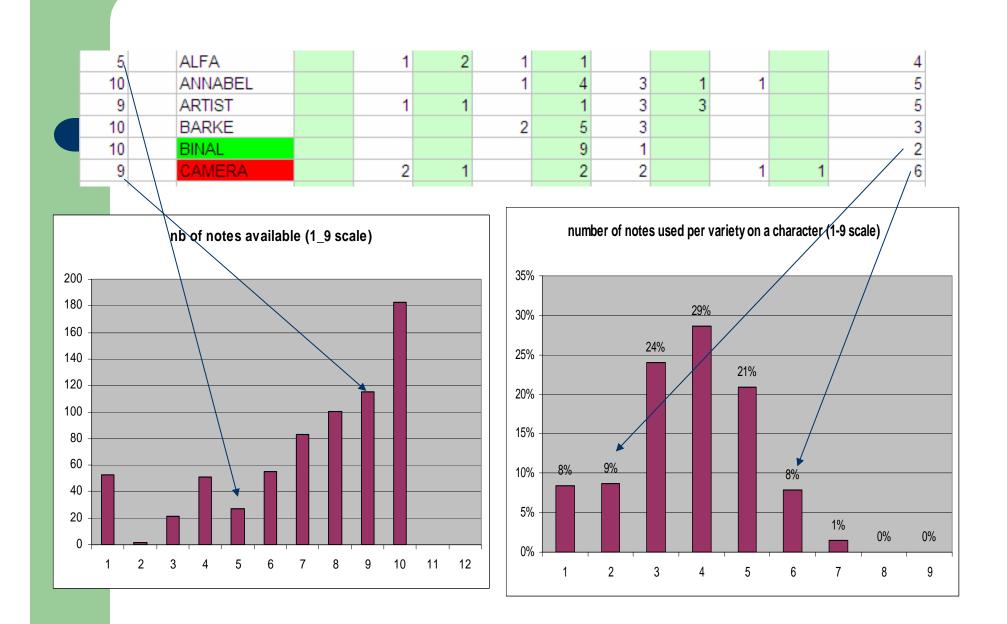
Example where no comparison is possible

| 🕶 🍳 🍳 🖻 🏷 👎 | - 🖻 🖻 🛍 🚺 | | | | | | |
|---|-----------|--|----------------------|--------------------|--------------------|--------------------|-------------|
| es comparaisons | | | | | | | |
| omparaison Type Comparaison | | Libellé de la comparaison | | ٩ | Espèce | S | lession |
| Qualitative | Alfa | | | | BARLEY ALFA | Alfa seuil 50 | |
| Qualitative | Annabel | | | | BARLEY ANNABEL | Annabel seuil 50 | |
| Qualitative | Atist | | | | BARLEY ARTIST | Artiste seuil 50 | |
| Qualitative | Barke | | | | BARLEY BARKE | 🔽 Barke seuil 50 | |
| Qualitative | Bnal | | | | BARLEY BINAL | Binal seuil 50 | |
| mparaison avec un seuil de 50 Comparaison Qualitative 🍈 Variétés NON distinguées [11] | Rapide | n qualitative entre les 2 variétés courantes [26]— | | | | | |
| AT BARKE [1][10] [Dist = 0] HR BARKE [1] | N° Cara | 🔍 Libellé long | a Poids a | Note Etd/Cycle 1 Q | Note Ref/Cycle 1 🔍 | Note Etd/Cycle 2 🔍 | Note Ref/Cy |
| [Dist = 3] DE BARKE [1] | 88 | Plant:grow habit | 0,00 | 4 | 0 | 0 | 0 |
| | 89 | Lowest leaves: hairiness of lea | f sheaths 0,00 | 1 | 0 | 0 | 0 |
| | 91 | Flag leaf: intensity of anthocya | anin coloration 0,00 | 7 | 0 | 0 | 0 |
| | 92 | Plant: frequency of plants with | recurved flag 0,00 | 8 | 0 | 0 | 0 |
| [Dist = 5] DK BARKE [1] [0] | 93 | Flag leaf: glaucosity of sheath | 0,00 | 7 | 0 | 0 | 0 |
| [Dist = 6] CR BARKE [1] | 94 | Time of ear emergence (first sp | oikelet visible 0,00 | 6 | 0 | 0 | 0 |
| | 96 | Awns: intensity of anthocyanin | coloration of 0,00 | 7 | 0 | 0 | 0 |
| | 97 | Ear: glaucosity | 0,00 | 7 | 0 | 0 | 0 |
| □ (CR BARKE [1][10] | 98 | Ear: attitude | 0,00 | 4 | 0 | 0 | 0 |
| [Dist = 2] HR BARKE [1] [Dist = 4] YU BARKE [1] | 99 | Plant: length (stem, ear and av | vns) 0,00 | 7 | 0 | 0 | 0 |
| [Dist = 5] DK BARKE [1] | 100 | Ear: number of rows | 0,00 | 1 | 0 | 0 | 0 |
| [Dist = 5] RO BARKE [1] | 101 | Ear:shape | 0,00 | 5 | 0 | 0 | 0 |
| | 102 | Ear:density | 0,00 | 6 | 0 | 0 | 0 |
| | 103 | Ear:length (excluding awns) | 0,00 | 5 | 0 | 0 | 0 |
| | 104 | Awn: length (compared to ear) | 0,00 | 7 | 0 | 0 | 0 |
| [Dist = 9] DE BARKE [1] | 105 | Rachis: length of first segment | 0,00 | 3 | 0 | 0 | 0 |
| [Dist = 10] CZ BARKE [1] | 106 | Rachis: curvature of first segm | ent 0,00 | 0 | 4 | 0 | 0 |
| 🗄 🌍 CZ BARKE [1][10] | 108 | Median spikelet: length of glun | ne and its awr 0,00 | 0 | 2 | 0 | 0 |
| | 109 | Grain: rachilla hair type | 0,00 | 0 | 2 | 0 | 0 |
| [Dist = 2] PL BARKE [1] | 110 | Grain: husk | 0,00 | 0 | 9 | 0 | 0 |
| | 111 | Grain: anthocyanin coloration (| | 0 | 1 | 0 | 0 |
| [Dist = 6] YU BARKE [1] | 112 | Grain:spiculation of inner latera | | 0 | 7 | 0 | 0 |
| | 113 | Grain: hairiness of ventral furro | w 0,00 | 0 | 1 | 0 | 0 |
| | 114 | Grain: disposition of lodicules | 0,00 | 0 | 2 | 0 | 0 |
| [Dist = 7] EE BARKE [1] | 115 | Kemel: colour of aleurone laye | r 0,00 | 0 | 1 | 0 | 0 |
| [Dist = 7] RO BARKE [1] [Dist = 10] CR BARKE [1] | 116 | Seasonal type | 0,00 | 0 | 3 | 0 | 0 |
| | | | | | | | |
| | | | | | | | |
| ⊕ | | | | | | | |
| 🕀 👩 FR BARKE [1][10] | | | | | | | |
| 🕀 🧑 HR BARKE [1][10] | | | | | | | |

Variability is different on different varieties, and also differs from character to character

| 1 | cara | name | de country | name | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|----|------|--------------------|------------|------------|---|---|---|---|---|---|---|---|---|
| 2 | 1 | plant growth habit | 5 | ALFA | | 1 | 2 | 1 | 1 | | | | |
| 3 | 1 | plant growth habit | 10 | ANNABEL | | | | 1 | 4 | 3 | 1 | 1 | |
| 4 | 1 | plant growth habit | 9 | ARTIST | | 1 | 1 | | 1 | 3 | 3 | | |
| 5 | 1 | plant growth habit | 10 | BARKE | | | | 2 | 5 | 3 | | | |
| 6 | 1 | plant growth habit | 10 | BINAL | | | | | 9 | 1 | | | |
| 7 | 1 | plant growth habit | 9 | CAMERA | | 2 | 1 | | 2 | 2 | | 1 | 1 |
| 8 | 1 | plant growth habit | 10 | CICERO | | | 3 | 1 | 6 | | | | |
| 9 | 1 | plant growth habit | 1 | CRISTAL | | | | 1 | | | | | |
| 10 | 1 | plant growth habit | 6 | DINARAC | | | 3 | 3 | | | | | |
| 11 | 1 | plant growth habit | 9 | ESTEREL | | | 2 | 1 | 5 | 1 | | | |
| 12 | 1 | plant growth habit | 10 | FRAN | | 2 | 8 | | | | | | |
| 13 | 1 | plant growth habit | 9 | GIL | | | 2 | 1 | 4 | 1 | 1 | | |
| 14 | 1 | plant growth habit | 10 | HERIS | | | 1 | | 5 | 3 | 1 | | |
| 15 | 1 | plant growth habit | 7 | JESSICA | | | | | 2 | 1 | 4 | | |
| 16 | 1 | plant growth habit | 9 | KH AGRIA | | | 2 | 1 | 5 | 1 | | | |
| 17 | 1 | plant growth habit | 10 | KOMPAKT | | | 2 | 1 | 5 | 2 | | | |
| 18 | 1 | plant growth habit | 4 | KORCA | | | 2 | | 2 | | | | |
| 19 | 1 | plant growth habit | 9 | MANRICA | | 1 | | | 4 | 3 | 1 | | |
| 20 | 1 | plant growth habit | 10 | MARIA | | 2 | 6 | 2 | | | | | |
| 21 | 1 | plant growth habit | 10 | MESSINA | | | | 1 | 7 | 2 | | | |
| 22 | 1 | plant growth habit | 9 | NOVOSADSKI | | | 3 | 1 | 1 | 2 | 2 | | |
| 23 | 1 | plant growth habit | 9 | OBZOR | | | 1 | 1 | 1 | 2 | 4 | | |
| 24 | 1 | plant growth habit | 9 | ORIZONT | | | 1 | 2 | 2 | 1 | 3 | | |
| 25 | 1 | plant growth habit | 10 | PRISMA | | | 1 | 1 | 5 | 2 | 1 | | |
| 26 | 1 | plant growth habit | 1 | REKS | | | | | 1 | | | | |
| 27 | 1 | plant growth habit | 4 | TEROVA | | | 2 | | 2 | | | | |
| 28 | 1 | plant growth habit | 10 | TIMOCANIN | | 6 | 3 | 1 | | | | | |
| 29 | 1 | plant growth habit | 6 | ZLATKO | | | 1 | 4 | 1 | | | | |

Often 3 to 5 notes within the range are found for a given variety (Characters on 1-9 scale)



Some notes are unexpected

| | | | | | | | | |
|-----------------------|----|------------|----|---|---|--|---|------|
| 13 ear number of rows | 6 | ALFA | 6 | | | | | |
| 13 ear number of rows | 10 | ANNABEL | 10 | | | | | |
| 13 ear number of rows | 9 | ARTIST | 9 | | | | | |
| 13 ear number of rows | 10 | BARKE | 10 | | | | | |
| 13 ear number of rows | 10 | BINAL | 10 | | | | | |
| 13 ear number of rows | 8 | CAMERA | 8 | | | | | |
| 13 ear number of rows | 10 | CICERO | 10 | | | | | |
| 13 ear number of rows | 1 | CRISTAL | | 1 | | | | |
| 13 ear number of rows | 7 | DINARAC | 7 | | | | | |
| 13 ear number of rows | 9 | ESTEREL | | 9 | | | | |
| 13 ear number of rows | 10 | FRAN | 10 | | | | | |
| 13 ear number of rows | 9 | GIL | | 9 | | | | |
| 13 ear number of rows | 10 | HERIS | 10 | | | | | |
| 13 ear number of rows | 7 | JESSICA | 6 | | | | | |
| 13 ear number of rows | 8 | KH AGRIA | 8 | | | | | |
| 13 ear number of rows | 10 | KOMPAKT | 9 | | | | | |
| 13 ear number of rows | 4 | KORCA | | 4 | | | | |
| 13 ear number of rows | 8 | MANRICA | 8 | | | | | |
| 13 ear number of rows | 10 | MARIA | 10 | | | | | |
| 13 ear number of rows | 10 | MESSINA | 9 | | | | 1 | |
| 13 ear number of rows | 9 | NOVOSADSKI | | 9 | | | | |
| 13 ear number of rows | 9 | OBZOR | 9 | | | | | |
| 13 ear number of rows | 9 | ORIZONT | | 9 | | | | |
| 13 ear number of rows | 10 | PRISMA | 9 | | | | | |
| 13 ear number of rows | 1 | REKS | | 1 | | | | |
| 13 ear number of rows | 4 | TEROVA | 4 | | | | | |
| 13 ear number of rows | 10 | TIMOCANIN | | 8 | 1 | | | |
| 13 ear number of rows | 5 | ZLATKO | 5 | | | | | |
| | | | | | | | | |

Some notes are unexpected

| <pre>(*) 22. Grain: rachilla hair (+) type</pre> | 80-92 | short | courte | k | urz | Barberousse; A | tem l | |
|--|-------|------------|--------|----|-----|----------------|-------|---|
| (+) cype | VS | long | longue | 1 | ang | Pastoral; Alex | is 2 | |
| Grain: type de pilo- sité de la baguette | | | | | | | | |
| Korn: Behaarung der Basalborste | | | | | | | | |
| 22 ALFA | 6 | ALFA | | 5 | | | | 1 |
| 22 ANNABEL | 10 | ANNABEL | | 10 | | | | |
| 22 ARTIST | 9 | ARTIST | | 9 | | | | |
| 22 BARKE | 10 | BARKE | | 10 | | | | |
| 22 BINAL | 10 | BINAL | 2 | 8 | | | | |
| 22 CAMERA | 8 | CAMERA | 7 | 1 | | | | |
| 22 CICERO | 10 | CICERO | | 10 | | | | |
| 22 CRISTAL | 1 | CRISTAL | | | | | | 1 |
| 22 DINARAC | 7 | DINARAC | | 6 | 1 | | | |
| 22 ESTEREL | 9 | ESTEREL | | 9 | | | | |
| 22 FRAN | 10 | FRAN | | 10 | | | | |
| 22 GIL | 9 | GIL | | 8 | | | | 1 |
| 22 HERIS | 10 | HERIS | | 10 | | | | |
| 22 JESSICA | 7 | JESSICA | 5 | 1 | | | | 1 |
| 22 KH AGRIA | 8 | KH AGRIA | | 7 | | | | 1 |
| 22 KOMPAKT | 10 | KOMPAKT | | 10 | | | | |
| 22 KORCA | 4 | KORCA | | 4 | | | | |
| 22 MANRICA | 8 | MANRICA | | 7 | | | | 1 |
| 22 MARIA | 10 | MARIA | | 10 | | | | |
| 22 MESSINA | 10 | MESSINA | | 10 | | | | |
| 22 NOVOSADSKI | 9 | NOVOSADSKI | | 8 | | | | 1 |
| 22 OBZOR | 9 | OBZOR | | 8 | | | | 1 |
| 22 ORIZONT | 9 | ORIZONT | | 8 | | | | 1 |
| 22 PRISMA | 10 | PRISMA | | 10 | | | | |
| 22 REKS | 1 | REKS | | 1 | | | | |
| 22 TEROVA | 4 | TEROVA | | 4 | | | | |
| 22 TIMOCANIN | 10 | TIMOCANIN | | 10 | | | | |
| 22 ZLATKO | 5 | ZLATKO | | 5 | | | | |

- We are very far from equivalent descriptions in different countries, even when a difference of 2 notes is used
- With a specific exercise, the data set was expected to be good, the study suggest some improvements can be achieved