Genotype description of accessions gathered in the Polish *Pisum* Gene Bank

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Genotype observations of *Pisum* accessions gathered at Wiatrowo consider about fifty monohybrid plant characters (stem, leaf, flower, pod and seed, flower and plant morphology). They are important characterds/genes but also relatively easy to observe. They were selected from about 500 *Pisum* genes described in references (Monographie der Gattung *Pisum* – Lamprecht 1974, Mutations genetics in *Pisum* – Blixt 1972, *Pisum* Newsletter/*Pisum* Genetics 1969-2015, The Catalogue of *Pisum* Genes – Święcicki 2019). When, based on a phenotype it is not possible to name the gene (more than one gene control the character, eg. chlorophyll mutant genes) the symbol *chi* represents a group of genes with similar expression. For a computer data base the 0-1 coding is used, when 0 means a dominant allele and 1 – recessive allele. When more than two alleles for a given locus are known following digits are used according to a row of dominance. For genes which are not frequent (present in exceptional accessions) full gene symbols are given. The digit 2 means that a given gene expression is impossible to observe. The shortened phenotypic description of individual genes is given below. The full description can be found in the Catalogue of *Pisum* Genes.

The data base of accessions genotype in *Pisum* collection gives a possibility to select lines according to a desired genotype. For example, when we look for lines having short, fasciated stem with antocyanin, pink flowers, acacia leaf, yellow pods and green seed cotyledons the following genotype should be given for selection: *Le*-1, *Fa*-1, *A*-0, *B*-1, *Tl*-1, *Gp*-1, *I*-1.

SEED CHARACTERS

***A*:** 0 – anthocyanin on a plant present, 1 – absent,

***U*:** 0 – anthocyanin in a seed coat present, 1 – absent,

F and ***Fs*:** 0 – anthocyanin dots on a seed coat present, 1 – absent,

***Obs*:** 0 – differentiated size of anthocyanin dots on a seed coat present, 1 – absent,

***M*:** 0 – marmoreus drawing on a seed coat present, 1 – absent,

Dem and ***Z*:** 0 – seed coat color normal, 1 – decoloured fork and moon,

***I*:** 0 – cotyledons yellow, 1 – green,

***Pl*:** 0 – hilum black, 1 – light,

***R*:** 0 – cotyledons smooth, 1 – wrinkled,

***S*:** 0 – seeds in pod loose, 1 – glued together,

***Mifo*:** 0 – smooth seeds, 1 – small and shallow impresions on testa,

***Tra*:** 0 – tragacanth on insite testa (oily spots), 1 – tragacanth absent.

PLANT CHARACTERS

***Chi*:** 0 – plants normally green, 1 – chlorophyll reduced,

***Af*:** 0 – normal leaf, 1 – *afila* type,

***Fl*:** 0 – flecking on leaflets and stipules present, 1 – absent,

***St*:** 0 – stipules normal, 1 – reduced,

***Tl*:** 0 – normal leaf, 1 – accacia type,

Pa and ***Vim*:** 0 – plants normally green, 1 – light green,

***Ser*:** 0 – serratus dentation of leaflets, 1 – no dentation,

***Td*:** 0 – scalaris dentation of leaflets, 1 – no dentation,

***Wb*:** 0 – normal wax on stipules, 1 – waxless stipules,

***Wlo*:** 0 – normal wax on leaflets, 1 – waxless leaflets on both sides,

***Wel*:** 0 – normal wax on a whole plant, 1 – plants waxless,

***Fas*:** 0 – normal stem, 1 – stem fasciated,

***Le*:** 0 – internodes long, 1 – shortened,

***D*:** 0 – anthocyanin in leaf axil present, 1 – absent.

FLOWER CHARACTERS

***B*:** 0 – flowers of anthocyanin color, 1 – pink flowers,

***Cr*:** 0 – flowers of anthocyanin color, 1 – crimson flowers,

***K*:** 0 – wings normal, 1 – reduced, adpressed to keel,

Fn and ***Fna*:** 0 0 – one flower per peduncle, 0 1 or 1 0 – two flowers. 1 1 – three or more folwers

POD CHARACTERS

***Pr*:** 0 – long inflorescence, 1 – shortened,

***Bt*:** 0 – pod blunt, 1 – sharp,

***Gp*:** 0 – pod green, 1 – yellow,

***N*:** 0 – pod wall tin, 1 – thick and fleshy,

P and ***V*:** 0 0 – sclerenchymatic tissue in pod present, 0 1 or 1 0 – reduced, 1 1 – absent,

***Pur*:** 0 – pods purple, 1 – green,

***Rup*:** 0 – lack of anthocyanin on pods, 1 – anthocyanin spots on pods,

***Sru*:** 0 – lack of anthocyanin on pods, 1 – anthocyanin stripes along upper suture of pod,

***Te*:** 0 – pods large, 1 – small,

***Cp*:** 0 – pods straight, 1 – concavely curved.