

## Czech Journal of Genetics and Plant Breeding

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## GENERAL INFORMATION

The journal publishes original scientific papers, short communications, up-to-date review articles, and selective book reviews from the disciplines concerned. The authors alone are responsible for the manuscript content and writing. Its subject must be both original and formally correct. Papers are published in English (British spelling). Manuscripts must be grammatically and linguistically correct to avoid acceptance problems.

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- (ii) **Manuscript file** including title, abstract, keywords, content/text of the manuscript, tables and figures (see Manuscript file layout), **blinded** (follow the instructions below) ([templates](#)).
- (iii) **Figures** – graphs preferably in MS Excel (editable .xls or .xlsx); and images (photographs, schemas, diagrams, maps) in .jpg/.tiff format in high resolution.
- (iv) **Cover letter** – explaining the significance and novelty of the work, the problem that is being addressed, and why the manuscript belongs in this journal.
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**Manuscript extent.** **Original paper** should not exceed 20 000 characters including spaces, tables, references, and figure captions. **Short communication** format is intended for presentation of important observations that can be clearly described in an abbreviated format. A short communication must have an abstract and must not exceed 10 800 characters with spaces. There are no subheadings and a description of materials and methods must be integrated in the text. **Review articles'** extent is not limited.

**MS Word editor** should be used for creating the text (Times New Roman, 12, lines 1.5; 2.5 cm margins on each edge of the page. The document must not be formatted in columns, heading styles etc. Pages and lines of the manuscript must be numbered in the left-hand margin. If any abbreviations or acronyms are used in the main text, they must be explained appropriately when used for the first time.

**Language.** The manuscript must be grammatically and linguistically correct (British English). The authors who are not native English speakers are strongly advised to get their manuscript checked by a native English-speaking colleague or by an English Editing Service prior to the submission to avoid acceptance problems.

**Tables** must be formatted in MS Word (will not be accepted as an image file). Each item must be placed into a separate cell. Tables are to be numbered with Arabic numerals in the order in which they are included in the text, and have a brief, but a self-explanatory title. Explanatory footnotes to tables should be indicated by superscript letters (or asterisks for significance values). Abbreviations or symbols used in the tables must be explained either in the table title or as a footnote. For an explanation of abbreviations or symbols used in tables, it is not possible to refer to the main text.

**Figures** should be restricted to material essential for documentation and understanding of the text and accompanied by a concise, descriptive legend. **Graphs** should be provided in MS Excel and supplied with original data. Centred captions, parallel to axes, are used to indicate the measured attributes and their dimensions (in brackets). All **illustrative material** must be of publication quality. High-contrast photographs and autotypes must be submitted in .jpg/.tiff format in high resolution (min. 300 dpi). All photos, graphs, illustrations and diagrams must be referred to as a figure and numbered (Figure 1), continually according to the order in which they are included in the text, using Arabic numerals. Abbreviations or symbols used in the figures must be explained either in the figure title or as a footnote.

Duplicated documentation of data in both Tables and Figures is not acceptable.

**Equations** – Equations should be numbered using Arabic numerals (1). Each equation should be followed by a legend (where:  $y$  – refers to;  $x$  – indicates ...), explaining all variables and acronyms used, which were not explained previously. The equations should be further editable (use MathType, MS Word equations editor).

**Nomenclature, abbreviations and units.** The Latin binomial or trinomial (in italics) and authority must be shown for all plants, insects, animals, and pathogens when first used in either the abstract, the main text, or in a table. **SI units should be used**, e.g.: mg, g, km, m, cm, mm, ppm, cpm, Ci (Curie), L (litre), mL, s (seconds), min (minute), h (hour), mol, etc. Use mg/L instead of  $\text{mg}\cdot\text{L}^{-1}$ . The definitive SI website is that of the Bureau International des Poids et Mésures at <http://www.bipm.org/>. Units must be indicated on each occurrence of numerical information and at the axes of all graphs. To express a unit of measurement, use a space between the number and the unit (5 g; 20 ha, 3 °C)

except for percentages (37%). In a series of measurements, indicate the unit at the end (3, 6, and 8 mm). Abbreviate units only after a numeric value (24 h; several hours later, 12 days). **In chemical formulae** the valence of ions must be given as, for example,  $\text{Ca}^{2+}$  and  $\text{CO}_3^{2-}$  rather than as  $\text{Ca}^{++}$  and  $\text{CO}_3^{-}$ . Isotope numbers should precede the symbols (e.g.,  $^{18}\text{O}$ ). **The decimal marker** is a point (e.g., 0.1 m), while the thousand's separator is a space on either side of the decimal period (e.g., 25 562.987 05). The decimal point in all numbers between 1 and  $-1$ , except 0, must be preceded by 0 (e.g., 0.26). In general, use words for numbers one through nine, and use digits for 10 and over. For a series of numbers, any of which are over 10, use all digits. Don't use the MathType or MS Word Equations editor for symbols or variables written in the running manuscript text (use the Symbol letters). For more details see the **List of abbreviations** at the end of this file.

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**Statistics.** Describe statistical methods with enough detail to enable a knowledgeable reader to verify the reported results. Give details of randomisation and blocking, as well as the number of replications, blocks, or observations. Clearly distinguish between true replications and subsamples within a replication/treatment combination. Always specify the experimental design and indicate whether the design was balanced. When means (or medians) are followed by  $\pm x$ , indicate whether  $x$  refers to the standard deviation, standard error, or half the confidence interval; error bars should similarly be defined. Except for simple procedures (e.g.,  $t$ -tests, one-way analysis of variance, simple linear regression), cite an appropriate and accessible statistical text and indicate the version of the SW used (Name, Version). In general, statistical techniques should be described in the Materials and Methods. The level of significance should be normally indicated by using the following conventional standard abbreviations for significance ( $P < 0.05$ ,  $P < 0.01$ , and  $P < 0.001$ ). In tables, levels of significance should be indicated by \*, \*\*, and \*\*\*, respectively.

## MANUSCRIPT PARTS (Original paper)

- i. **Title** should be short and informative (preferably not exceeding 100 characters, no subtitles and commonly unknown abbreviations or acronyms). No subtitles or numbering of serial articles should be used.
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- iii. **Keywords** are words most aptly describing the studied problem. A maximum of six keywords without overlapping with the manuscript title are recommended. Write them in lower case letters and separate them using semicolons.
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- v. **Material and Methods** describe in detail all preliminary material, experiments conducted, their extent, conditions and course. Specify the mentioned products used for the experiments by giving their exact name/type, name of the producer, and country of the producer's headquarters in parentheses. All original procedures that were used for the processing of experimental material and all analytical methods used for evaluation should also be detailed. The whole methodology is only to be described if it is an original one, in other cases, it is sufficient to cite the author of the method and to mention any particular differences. Data verifying the quality of acquired data should be indicated for the used methods. Methods of statistical processing including the software used should also be listed in this section. The methods and models of statistical analysis must be indicated and sufficient statistical details given to allow replication of the experiment.
- vi. **Results and Discussion** (in two parts or under one heading). Results obtained from the experiments, including their statistical evaluation and commentary, should be presented graphically or in table-form, and the author should comment on the results and confront them with data published elsewhere.
- vii. **Conclusion** summarises the paper's main points and outlines its contribution to the present state of research in the field concerned.
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Dufresne S.D., Belloni D.R., Wells W.A., Tsongalis G.J. (2006): BRCA1 and BRCA2 mutation screening using SmartCycler II high-resolution melt curve analysis. *Archives of Pathology and Laboratory Medicine*, 130: 185–187.

Chen X., Yang D., Su M., Cheng H., Xing H., Chai S., Li W. (2014): Genetical characteristic of stay-green of flag leaf after flowering in Recombinant Inbred Lines (RILs) of wheat and its correlation analysis with grain weight under drought stress. *Agricultural Research in the Arid Areas*, 32: 57. (in Chinese)

In press article: Author(s) (Year): Article title. Full journal title, Volume number (in press).

**Electronic journal article:** Author(s) (Year): Title of article. Name of the electronic journal, Volume number: page–page. (accessed ...)

Hartmann T.E., Wollmann I., You Y.W., Müller T. (2019): Sensitivity of three phosphate extraction methods to the application of phosphate species differing in immediate plant availability. *Agronomy*, 9: 29. (accessed 2. 1. 2020)

**Book:** Author(s) (Year): Title. Edition volume (if relevant). Place of publisher, Publisher name: page–page.

Ahuja M.R., Jain S.M. (2015): *Genetic Diversity and Erosion in Plants: Indicators and Prevention*. Cham, Springer International Publishing: 45–63.

**Chapter in book:** Author(s) of the chapter (Year): Title of the chapter. In: editor(s): Title of the book. Edition or volume, if relevant. Place of publisher, Publisher name: page–page.

Farrar J.S., Wittwer C.T. (2017): High-resolution melting curve analysis for molecular diagnostics. Chapter 6. In: Patrinos G.P. (ed.): *Molecular Diagnostics*. 3<sup>rd</sup> Ed. Amsterdam, Academic Press: 79–102.

**Conference proceedings:** Author(s) (Year): Title of publication. In: editor(s): Proceedings Name of Conference, place, date (a month from-to), year: page–page.

Bovolenta R., Passalacqua R., Federici B., Sguerso D. (2016): LAMP – Landslide Monitoring and Predicting for the analysis of landslide susceptibility triggered by rainfall events. In: *Proc. 12<sup>th</sup> Int. Symp. Landslides and Engineered Slopes. Experience, Theory and Practice*, Napoli, June 12–19, 2016: 517–522.

**Patent:** Inventor(s) (Year): Name of patent. Labelled patent No., Issue date.

Norman L.O. (1998): Lightning rods. US Patent, 4, 379, 752, 9 September 1998.

**Dissertation:** Author(s) (Year): Title. [PhD. Thesis.] Town, Name of the university.

Cadle M.M. (1997): Identification and genetic characterization of resistance to *Pseudocercospora herpotrichoides* in diploid wheat relatives *Triticum monococcum* and *T. tauschii*. [PhD. Thesis.] Pullman, Washington State University.

- ix. **Supplementary Material.** Authors can include original, so far unpublished supplementary material (SM) which may comprise additional tables, data sets, figures, and other non-essential files. SM will appear only in the electronic version. SM will be published as submitted and will not be corrected or checked for scientific content, typographical errors or functionality. SM must be relevant to the parent manuscript, but the manuscript must stand alone without SM for those readers who will be reading the hard copy only. It should be submitted along with the main manuscript in a separate file and identified as “Supplementary file – for online publication only”. SM should be identified and mentioned in the main text as Table S1, Table S2, etc. for tables or Figure S1, Figure S2, etc. for figures or Supplementary Material S1, Supplementary Material S2, etc. for other material. SM should be submitted with the captions and source. Individual file sizes should be restricted to 10 MB maximum (zipped or unzipped).

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## TABLES AND FIGURES EXAMPLES

Table 1. Pairwise fixation index between different types of resistance calculated from the SSR data set

Type <sup>a</sup>	HR	R	S	HS
HR (11)	–	–	–	–
R (34)	0.04*	–	–	–
S (9)	0.07*	0.05**	–	–
HS (5)	0.07* *	0.06**	0.08**	–

<sup>a</sup>The number of hybrids in each group is indicated in parentheses; HR – highly resistant hybrids; R – resistant hybrids; S – susceptible hybrids; HS – highly susceptible hybrids; \*, \*\* values significantly differ at  $P < 0.05$  and  $P < 0.01$

Table 2. Effect of the cotyledon age and the length of pre-culture and co-culture on shoot regeneration during tomato transformation

Parameters	Days	Putative transformed shoots
Age	12	$0.16 \pm 0.077^b$
	15	$0.58 \pm 0.140^a$
Pre-culture	0	$0.37 \pm 0.150^{ab}$
	1	$0.68 \pm 0.170^a$
	2	$0.06 \pm 0.060^b$
Co-culture	1	$0.16 \pm 0.077^b$
	2	$0.58 \pm 0.14^a$

Data are mean  $\pm$  SE; significant differences at  $P \leq 0.01$  for the cotyledon age and at  $P \leq 0.05$  for the duration of pre-culture and co-culture; values followed by the same letter are not statistically different;  $n = 4$  with 9 explants each

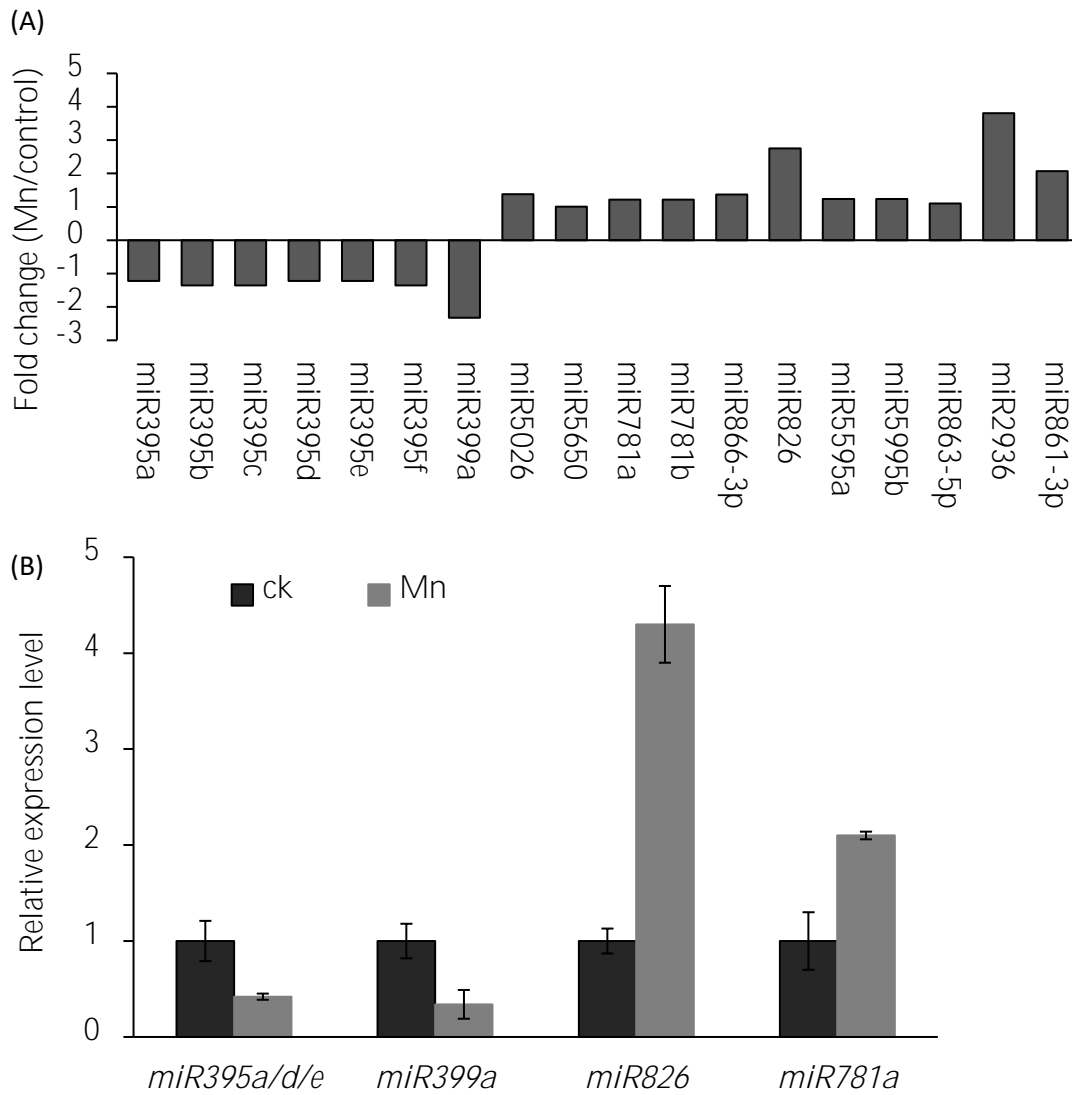


Figure 1. Characteristics of miRNAs in manganese (Mn)-treated and untreated (ck) five-day-old *Arabidopsis thaliana* Col-0 seedlings: differentially expressed miRNAs by high throughput sequencing (A); qRT-PCR analysis of four miRNA (B)



Figure 2. Microspore-derived oilseed rape embryos on cultivation media; largest embryos (4–5 mm long) on liquid NLN-13 medium with well-developed cotyledons suitable for cutting of cotyledons (A); smaller embryos after 10 days on a solid DM medium ready for sampling (B); the method of trimming an embryo for the cotyledon removal (C–D); bar = 5 mm (A, B) or 1 mm (C, D)

### SELF ASSESSMENT

Self-assessment questions to be answered by the authors before submission of the manuscript:

1. Is the information to be published new, and thus worthy of publication?
2. Is novelty expressed in title and discussed properly in discussion?
3. Is the hypothesis sound and original?
4. Were the experiments well-designed and appropriate methods used?
5. Is the paper written with the essential clarity?
6. Has the English been validated by a native-speaker knowledgeable about the field?
7. Is the list of references comprehensive, and are all the references relevant?
8. Where appropriate, are the results statistically significant?
9. Are the titles and legends for tables and figures complete and self-explanatory?
10. Were the Instructions to Authors thoroughly followed?

**Please do not submit the manuscript if any of the above questions have been answered in the negative. While something can be learned from most review processes, the reviewers cannot be expected to provide extensive help with corrections, or to educate the authors.**

## LIST OF ABBREVIATIONS

The metric system is adopted as standard. You should use the international system of units. If non-standard abbreviations must be used they should be defined in the text.

### Use the fundamental quantity with appropriate prefix:

kilo	k
mega	M
giga	G
tera	T
milli	m
micro	$\mu$
nano	n
pico	p

### Units of length:

meter	m
kilometer	km
centimeter	cm
millimeter	mm
micrometer	$\mu\text{m}$
nanometer	nm

### Units of area:

square meter	$\text{m}^2$
kilometer	$\text{km}^2$
hectare (10 000 $\text{m}^2$ )	ha
square centimeter	$\text{cm}^2$
square millimeter	$\text{mm}^2$

### Units of volume:

cubic meter	$\text{m}^3$
cubic centimeter	$\text{cm}^3$
liter	L
milliliter	mL
microliter	$\mu\text{L}$

### Units of mass:

gram	g
kilogram	kg
tonne	t

milligram	mg
microgram	$\mu\text{g}$

### Units of density:

$\text{g}/\text{cm}^3$ ,  $\text{kg}/\text{m}^3$ ,  $\text{t}/\text{m}^3$ ,  $\text{g}/\text{L}$ ,  $\text{kg}/\text{L}$

### Units of pressure:

pascal	Pa
megapascal	MPa

### Units of time:

second	s
minute	min
hour	h
day, week, month, year	– not abbreviated

### Units of temperature:

Celsius	$^{\circ}\text{C}$
Kelvin	K

### Additional physical units:

dalton	Da
hertz	Hz
joule	J
volt	V
watt	W

### Relative units:

parts/million parts	ppm
parts/billion parts	ppb
parts/trillion parts	ppt
percentage	%
weight	w
volume	V

### Units of electrical conductivity:

siemens per meter	S/m
millisiemens per meter ( $\text{mS}/\text{cm}$ ; $\mu\text{S}/\text{cm}$ )	$\text{mS}/\text{m}$
ohm	$\Omega$

### Units of concentration:

mole per kilogram (liter)	
	mol/kg (mol/L)

millimole (micromole)	mmol/kg
per kilogram	( $\mu\text{mol/kg}$ )
gram per kilogram	g/kg
milligram per kilogram	mg/kg
microgram per kilogram	$\mu\text{g/kg}$

**Similar units for volume:**

g/L, mg/L, mg/mL,  $\mu\text{g/L}$ ,  $\mu\text{g/mL}$

**Units of irradiation:**

watt per square meter  $\text{W/m}^2$

**Units of photon flux density:**

mol per square meter per second  
 $\text{mol/m}^2/\text{s}$

**Units of yield, sampling and rate:**

kilogram per hectare	kg/ha
tonnes per hectare	t/ha
liter per hectare	L/ha
gram per hectare	g/ha
gram per square meter	$\text{g/m}^2$
gram per kilogram	g/kg
milligram per kilogram	$\text{mg/kg}$

**Units of cation exchange capacity (CEC):**

mmol of chemical equivalent per kilogram of soil or another materials  $\text{mmol}_+/kg$   
 Similar units for volume of cation exchange.

Content of nutrients in plants, soils and another materials is necessary to state always as pure element (C, N, P, K, Ca, S, Fe, etc.), so dose of nutrients or compounds, for example 1 g S in calcium sulphate ( $\text{CaSO}_4$ ). You should state the dose of nutrients as pure element per specified area, or weight soil, container, etc. and you should use the slash, for instance 110 kg N/ha, or write 110 kg N per ha. You should **not** use the indexes as  $110 \text{ kg N} \cdot \text{ha}^{-1}$ .

**Forms of nutrients:**

Nitrite nitrogen	$\text{NO}_2^- \text{-N}$
Nitrate nitrogen	$\text{NO}_3^- \text{-N}$
Ammonia	$\text{NH}_4^+ \text{-N}$
Total nitrogen	$\text{N}_{\text{tot}}$
Sulfur in sulfate	$\text{SO}_4^{2-} \text{-S}$

You should state the content of organic matter in soils (topsoil, soil organic matter, etc.) entirely as C. You should specify the form of determined element, possibly the method of determination, by using subscripts. For example, content of carbon determined by oxidometric methods as  $\text{C}_{\text{ox}}$ , futhermore  $\text{C}_{\text{org}}$ ,  $\text{C}_{\text{tot}}$ ,  $\text{C}_{\text{ox}}$  humic acids and its solubility  $\text{C}_{\text{hwe}}$ , etc.

You should use the FAO guidelines (Food and Agriculture Organization) for characterisation of habitat conditions (soil type description according WRB – World References Base for Soil Resources 2006 version, soil textural class), as well as altitude, average rainfall and temperature, and if possidle so coordinates.

You should assess the weather in different years and months according to recommendatons of the World Meteorological Organization (WMO) – according to deviations from long-term average or normal.

You should state the method of determination nutrients in soil, for example content P (Olsen, Egner, Mehlich, etc.), possibly  $\text{P}_{\text{Olsen}}$ ,  $\text{P}_{\text{Egner}}$  etc.

You should not use the symbol of magnesium (Mg) for 1 000 kg (megagram), but use as the unit tonne (t). Don't use the symbol M for the expression of amount of substance, but use the mol (mmol,  $\mu\text{mol}$ ).

### Statistical symbols and abbreviations

analysis of variance	ANOVA
coefficient of variation	<i>CV</i>
degree of freedom	<i>df</i>
F-distribution	<i>F</i>
least significant difference	<i>LSD</i>
sample size	<i>n</i>
probability	<i>P</i>
simple correlation coefficient	<i>r</i>
simple correlation of determination	<i>r</i> <sup>2</sup>
multiple correlation coefficient	<i>R</i>
multiple correlation of determination	<i>R</i> <sup>2</sup>
variance (sample)	<i>s</i> <sup>2</sup>
standard deviation (sample)	SD
standard error	SE
standard error of the differences of means	SED
standard error of mean	SEM
<i>t</i> -(or Student) test	<i>t</i>
mean	<i>x</i>

### Additional use symbols

dry weight (matter)	DW (DM)
fresh weight	FW (FM)
water use efficiency	WUE

Revised: April 19, 2022