



## **Pre-breeding strategies for obtaining new resilient and added value berries**

*Evaluation template*



## Evaluation stages

In the **first stage** of the evaluation process, the **formal eligibility criteria** and the **call-specific requirements** are checked. Only proposals which fulfil these criteria and requirements are admitted for the second stage of the evaluation process. Proposals which do not fulfil all of the formal requirements will be rejected at this evaluation stage.

In the **second stage** of the evaluation process, the **scientific criteria** of the proposals are evaluated. The scientific evaluation is done by assigned Evaluation Board members from the BreedingValue consortium. The Evaluation Board members were selected based on their expertise in the scientific area of the respective Open Call. Each criterion to be evaluated is defined by the score (0-5).

All applications that successfully passed the first and second evaluation stages are discussed in a **consensus group (third stage)**. The consensus group meets virtually or via phone to discuss the applications, to find consensus and agree on the final comments and scores of the proposal. In case questions arise from the application, the consensus group will reach out to the respective applicant for clarification. The consensus group also ensures that all applications are evaluated in line with established criteria (excellence, transparency, fairness and impartiality, confidentiality, efficiency and speed). The discussion of the consensus group discussion will result in a clearly-written Evaluation Summary Report including justifications of scores of each application. The consensus group will also prepare a short list with ranked proposals, indicating proposals which will be retained for funding in the respective topic.

### Feedback to the applicant

After the evaluation of the applications, the applicants will be contacted by a partner from the BreedingValue consortium and will be informed about the evaluation results. Each applicant will receive a summary of the evaluation result of their application addressing the respective award criteria.

Additionally, shortly after the evaluation, a public summary report of the evaluation results will be made available on the project website, including the following information: number of proposals received, number of eligible proposals, number of proposals above threshold, number of selected proposals, list of selected proposals including organization, country and funding award.

## Eligibility Criteria

### Formal requirements

Criterion	Evaluation	Checklist
<b>Language</b>	Proposal is written in English language in all required parts	<input type="checkbox"/>
<b>Timely submission</b>	Proposal submitted before deadline	<input type="checkbox"/>
<b>Legal Status</b>	Applicant qualifies as an SME	<input type="checkbox"/>
<b>Country</b>	Applicant is legally registered in an Horizon2020 eligible country	<input type="checkbox"/>
<b>Number of Proposals</b>	Correct submission of up to one proposal per call per applicant	<input type="checkbox"/>
<b>Conflict of Interest</b>	Absence of conflict of interest	<input type="checkbox"/>

<b>Declaration of Honour</b>	Provision of signed Declaration of Honour	<input type="checkbox"/>
<b>Complete application</b>	Application contains all documents which are part of the Open Call in the correct format and are duly signed	<input type="checkbox"/>

## Call-specific requirements

### Open Call#1 on Marker-Assisted Selection (MAS) in strawberry

Criterion	Evaluation	Checklist
<b>Strawberry breeding program</b>	The applicant has a breeding selection programme for cultivated strawberry ( <i>F. xananassa</i> ).	<input type="checkbox"/>
<b>MAS training</b>	The applicant is willing to undertake training for MAS, including sending one person to be trained in a lab of a BreedingValue partner (in France or Spain).	<input type="checkbox"/>
<b>Genotypes</b>	The applicant has included into the proposal a list of at least 300 genotypes from a pre-breeding programme, GenRes and breeding programmes chosen for the MAS approach. The exact number of lines will depend on the number of traits recorded by the breeder. Criteria of genotype selection are explicit.	<input type="checkbox"/>
<b>Experience in collecting phenotyping data</b>	The applicant has experience in collecting phenotyping data linked to specific traits such as the traits listed in the annex, as well as environmental data (temperature, humidity etc.)	<input type="checkbox"/>
<b>Traits</b>	The applicant included into the proposal a list of the traits they will score (from the list of traits in the annex). For these traits, the applicant will follow the phenotyping protocols provided by the BreedingValue project.	<input type="checkbox"/>
<b>Phenotyping data</b>	The applicant is able to provide phenotyping data on two seasons of production: 2022 and 2023. As the project will begin at April 2022, participants from Southern Europe should be able to start the phenotyping at the beginning of 2022 before official project start.	<input type="checkbox"/>
<b>Correspondence between the genotyping number and the phenotyping data.</b>	The applicant will produce appropriate excel files of this phenotyping data (including environmental data) and give the correspondence between the genotyping number and the phenotyping data.	<input type="checkbox"/>
<b>High quality DNA</b>	The applicant is able to extract high quality DNA from leaves of at least 300 samples (number depending on the number of traits recorded). The DNA extracted will be sent to the external facility that will perform the genotyping for all breeders selected in this Open Call.	<input type="checkbox"/>

**Open Call#2 on Genomic selection for strawberry (F. xananassa)**

Criterion	Evaluation	Checklist
<b>Strawberry breeding program</b>	The applicant has an advanced, running strawberry breeding program	<input type="checkbox"/>
<b>DNA extraction</b>	The applicant (or a sub-contractor) is able to extract high-quality DNA from 768 lines of F. ananassa. This implies: 1) Sampling and immediate flash-freezing of juvenile leaves in 96-well plates (DNeasy 96 Plant Kit, QIAGEN). 2) Storage of leaf samples (at least -20 °C) until DNA extraction in-house or shipment to extraction sub-contractor in frozen condition. 3) Extract/provide DNA of a quality grade required by the genotyping assay. 4) Shipment of DNA in frozen condition to genotyping facility.	<input type="checkbox"/>
<b>Phenotype data</b>	The applicant is able to provide phenotype data on the 768 lines: The phenotyping to be performed shall include the susceptibility to powdery mildew. The phenotype retrieval should ideally be taken from a replicated field trial. If, however, an un-replicated trial is used, a set of control lines should be planted in every 10th plot. Spatial information (row and column numbers) must be presented in order to correct for spatial variability through the field. The pesticide treatment must be relaxed after field establishment to allow for powdery mildew to establish. The scoring of powdery mildew susceptibility must be done using Simpson's 1 to 5 ordinal scale. This scoring must be done at least five times between planting and first harvest in order to calculate area under the disease progress curve (AUDPC). Additional phenotype data can be supplied and is regarded positively.	<input type="checkbox"/>
<b>Consistency of phenotypic data</b>	The applicant can ensure consistency of the phenotypic data provided. This implies that the phenotypic scores are taken by the same person over time and that this person is trained.	<input type="checkbox"/>
<b>Computer literacy</b>	The applicant has competence in the R programming language	<input type="checkbox"/>

**Open Call#3 on Marker-Assisted Selection (MAS) and Genome wide association studies (GWAS) in Raspberry**

Criterion	Evaluation	Checklist
<b>Raspberry breeding program</b>	The applicant has an established raspberry breeding program with selections of five years or older.	<input type="checkbox"/>
<b>DNA extraction</b>	The applicant can collect suitable leaf samples from 450 lines and store at -20°C prior to sending to a genotyping platform that can extract high quality DNA. (Advice will be given to selection of appropriate leaf material and where to send samples for extraction if required). This is likely to involve: 1) Collection, accurate labelling, and immediate flash-freezing in liquid nitrogen of juvenile leaves as instructed by genotyping facility. 2)	<input type="checkbox"/>

	Storage of leaf samples (at least -20°C following flash freezing) until DNA extraction in-house or shipment to extraction sub-contractor in frozen condition as close to collection as possible. 3) Extract/provide DNA of a high-quality grade required by the genotyping assay. 4) Shipment of DNA in frozen condition to genotyping facility.	
<b>Phenotype data</b>	The applicant is able to perform phenotyping on the 450 genotypes selected; the phenotyping to be performed will include the date of flowering, the quality of the fruit (visual aspect e.g., size, softening, total soluble solids), the susceptibility to diseases of interest such as yellow rust and any available environmental data (temperature, humidity etc.), subject to agreed priorities. The phenotype retrieval should ideally be taken from a replicated field trial. If, however, an un-replicated trial is used, a set of control lines should be planted in every 10 <sup>th</sup> plot. Spatial information (row and column numbers) must be presented to correct for spatial variability through the field.	<input type="checkbox"/>
<b>Completion of phenotypic data collection</b>	The applicant can produce appropriate excel files for selected raspberry lines complete with the phenotypic data collected.	<input type="checkbox"/>

**Open Call#4 on the Development of methodological tool kits for sensorial quality assessment of berry genetic resources**

Criterion	Evaluation	Checklist
<b>Breeding program/ interest in berry quality evaluation methods</b>	The applicant has a running breeding program or specific interests for strawberries, raspberries or blueberries quality evaluation methods.	<input type="checkbox"/>
<b>Participation in training sessions</b>	The applicant is willing to undertake training for sensorial quality assessment of berry genetic resources, breeding material and commercial cultivars.	<input type="checkbox"/>
<b>Appointment of Panel Leader responsible for training and panel testing</b>	The applicant is able to name at least one to-be panel leader (PL). The PL will participate in the training activities and be responsible for setting up a panel of 6-12 persons to be trained on basic sensory methodologies	<input type="checkbox"/>
<b>Provision of genotypes and fruits for sensorial quality assessment</b>	The applicant is able to provide a minimum of 8 genotypes, with 25 homogeneous fruits of each genotype per sensory session, for sensorial quality assessment. Additional genotypes can be supplied, which is regarded positively. The most interesting genotypes for the tests would be local varieties, providing peculiar features for taste, texture and/or flavours.	<input type="checkbox"/>
<b>Organisation of sensory sessions and small-scale consumer test</b>	The applicant is able and willing to organize sensory sessions and a small-scale consumer test to put into practice the testing methodologies learned.	<input type="checkbox"/>

## Technical/scientific evaluation

In the second stage of the evaluation process, the scientific criteria of the proposals are evaluated. Each criterion is defined by the score (0-5) which is shown in the table below. The maximum score that can be achieved is 16 (5 points per section plus 1 extra point if the quota of women in the project team is higher than 50%). The threshold for the individual criteria is 3, i.e., the overall threshold, applying to the sum of the three individual scores, is 9.

*Please note: In case proposals obtain the same score, the selection will be based on the geographical distribution of the projects in order to cover different countries/ climatic zones.*

Criterion	Evaluation	Score (0-5)	Explanation of evaluation score
<b>Material and Genetic Resources to be used and their role in the project</b>	<p>Adherence of material/GenRes proposed by the applicant to the specific objectives of BreedingValue</p> <p><i>(for instance, Pedigree-connection of the breeder's materials to European GenRes collections or other relevant pre-breeding materials).</i></p>		
<b>Expected impact and implementation activities</b>	<p>Expected impact related to the scope and strategic objectives of the Open Calls and of the BreedingValue project</p> <p><i>Are the project goals and planned achievements in line with the overall objectives of BreedingValue?</i></p> <p><i>Is it likely that the project will deliver added value to BreedingValue?</i></p> <p><i>Quality and effectiveness to implement the project and reach the defined objectives and milestones.</i></p>		
<b>Excellence of the organization and of the team</b>	<p>Expertise and resources to carry out the work</p> <p><i>Is the organization and the applicant's team capable of executing the project and delivering its outputs (in required time, quality and with estimated budget)?</i></p>		
<b>Gender balance</b>	<p>If the quota of women in the project team is higher than 50%, you receive one extra point.</p>		

## Scoring

Scores must be in the range 0-5. Half marks may be given. Evaluators will be asked to score proposals as they were submitted, rather than on their potential if certain changes were to be made. When an evaluator identifies significant shortcomings, he or she must reflect this by awarding a lower score for the criterion concerned.

Points	Rating	Explanation
<b>0</b>	Failure	The proposal fails to address the criterion or cannot be assessed due to missing or incomplete information.
<b>1</b>	Poor	The criterion is inadequately addressed, or there are serious inherent weaknesses.
<b>2</b>	Fair	The proposal broadly addresses the criterion, but there are significant weaknesses.
<b>3</b>	Good	The proposal addresses the criterion well, but a number of shortcomings are present.
<b>4</b>	Very Good	The proposal addresses the criterion very well, but a small number of shortcomings are present.
<b>5</b>	Excellent	The proposal successfully addresses all relevant aspects of the criterion. Any shortcomings are minor.