



**SAVE this form to your desktop or computer.
Enter required information and upon completion, return to nvrb@aosca.org
by clicking on this link and attaching the application.**

*** if unable to submit in Word format, please contact the AOSCA office for assistance.**

**ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES
GRASS VARIETY REVIEW BOARD
APPLICATION – PART B – 2021**

This application – Part B – must be submitted along with Part A
(please remember, you may submit ONE Part A application for multiple Part B applications)

Please email the completed application to: nvrb@aosca.org

Please note – changes to the application appearing in red text will become a requirement, effective 2023 review cycle. Until the effective date, information related to requirements in red are not required, but may be submitted if available. The purpose for including red text at this time is to give applicants ample notice to prepare for future requirements.

All information provided on this application shall be maintained in complete confidence by the Association of Official Seed Certifying Agencies (AOSCA), its staff, and individual members of the AOSCA Variety Review Board. Each member of the Review Board will be required to sign a statement to this effect prior to receiving any applications for review. Upon completion of the review process, reviewers will be required to destroy or delete all applications in their possession. One copy of each application will be maintained on file in the AOSCA office.

Applicant _____ Date _____

Kind (Common) _____ Genus _____

Variety Name: _____ Experimental _____

Primary use: Forage _____ Turf _____ Other (specify) _____

Ploidy Level for Ryegrass _____

Type of Breeder’s Seed Maintenance
Synthetic _____ Continued Population _____ Apomictic _____

Please see definitions below on page 2, in General Instructions, Item C.

IT IS THE APPLICANT’S RESPONSIBILITY TO SUBMIT AN AMENDMENT APPLICATION FOR NAME CHANGE WHEN THE PERMANENT VARIETY NAME HAS BEEN SELECTED.

Common Application Mistakes & Suggestions to Prevent Them

Over the years, we've seen some common mistakes on review board applications that add time to the application process or prevent our reviewers from completing their tasks without asking for clarification or amendments from the applicant. Please take note of the following mistakes and suggestions to prevent them:

- Watch decimal places. If your data requires them, make sure that decimal numbers are correct.
- Copy and paste errors in data tables are common, especially when multiple varieties are submitted.
- Make sure that data tables have the correct units.
- LSD and CV are sometimes reversed.
- Make sure you have listed the ending parentage percentages in the breeding summary.
- The committee prefers to see dates expressed as Calendar Date or in Day of Year (Ex: February 2 or 33), and not as a Julian date.

APPLICATION INSTRUCTIONS

This application contains several sections presented in the order listed below. Please read each section carefully before proceeding with preparation of the application.

1. General instructions concerning the kinds of information to be presented about the variety in question: the type of the documentation required; the presentation of experimental and supporting data; the rigor of support for claims made; and so on.
2. Requirements for describing the origin and breeding history of the variety (Part I).
3. Requirements for providing plant descriptive information about the variety (Part II).
4. Requirements for providing evidence supporting the primary use performance and adaptation of the variety (Part III).
5. Requirements for describing varietal seedstock maintenance and any limitations specified by the breeder or owner, including licensing or royalty restrictions (Part IV).
6. A description or "Summary Statement" for publication by AOSCA to be used for field inspection purposes. Instructions for preparing the document precede a template that must be used. Elements of the Summary Statement are referenced in the instructions for Parts I, II, III, and IV.

NOTE: Before submitting the application to AOSCA, please delete the instructions contained in items 1-6 above (pages 2-4 of this blank application). Submit only your responses to the required elements.

DOCUMENTATION INSTRUCTIONS:

General Information:

- A. The applicant must describe and document in this application the origin, breeding history, morphological and other descriptive characteristics, and performance and adaptation claims of the variety by supplying the information requested in Parts I-IV below. Action will be deferred unless the application is properly documented.
- B. Data (presented in well-constructed tables) for all morphological and performance characteristics are to be compiled from properly designed and conducted replicated trials from which statistically sound inferences for measured characters can be reasonably drawn.
- C. Required data must come from the variety as described and the descriptive and performance data must come from breeder or later generation seed.
 - Synthetic population is defined by a restricted number of parents for which breeder's seed is maintained by the parental lines or clones. No additional selection or roguing should be made once the breeder seed of a synthetic is designated and as seed stocks are maintained. This designation also alerts AOSCA that the new open-pollinated cultivar is more likely to be uniform and stable (**Wricke and Weber, 1986, Quantitative Genetics and Selection in Plant Breeding**).
 - Continued population is characterized by a larger number of parent plants, which are maintained directly by the population itself. This designation also alerts AOSCA that the new open-pollinated cultivar is less likely to be distinct from the original parents as well as less uniform. (**Wricke and Weber, 1986, Quantitative Genetics and Selection in Plant Breeding**).
 - Apomictic (Kentucky bluegrass) is maintained either way depending on how the nascent cultivar was developed, because of its apomictic breeding system.

- D. Present some measure of variance and statistical separation of means at the 95% or higher level of confidence for each data set.
- E. Data tables should include the total number of entries; the trial mean; the trial maximum and minimum values for the given trait; and statistics (e.g. LSD and CV) supporting the analysis for each trait.
- F. Where descriptive or performance character claims (e.g. greater, lesser, or similar) in relation to a check variety(s) or apomictic parents (e.g., Kentucky Bluegrass – See J) are made in the summary statement or elsewhere in the application, the character claim must be statistically significant (95% confidence level) for at least two of the locations (or two years at one location) where tested or for a statistically compatible combined data set (of at least two locations and/or years).
- G. Locations intended for comparative measurements of either morphological or performance characters must be differentiated by natural aspects (soil types, elevation, year of establishment, precipitation patterns, slope inclinations, etc.) rather than agronomic treatments (fertilizer, irrigation, plant spacing, herbicides, insecticides, growth regulators, etc.). Locations must be separated by at least 10 miles.
- H. Provide a short synopsis of each test location (as directed in Parts II and III) including: test design; when established; the number of replications; number of plants per replication; the natural aspects and any agronomic treatments.
- I. Do not attach photocopied computer printouts of nationally coordinated multiple location trials such as NTEP or Rutgers. Please extract data according to the following options:
- 1) Include all locations and utilize statistics for the overall table but condense the number of entries to no more than 10 entries, **unless comparing cultivars from the same final cross. If 2+ cultivars are derived from the same final cross, then all these cultivars must be present together in one table. Cultivars derived from the same final cross, and submitted for review, must be compared against each other and show a statistical difference.** For each location provide the items addressed in E above. **An example of cultivars derived from the final cross is: A x B that directly results in cultivars 1, 2 and 3, etc. without any further breeding. For example, two bluegrass plants are crossed. All cultivars selected from this cross are considered derived from a final cross, and all that are submitted for review must be compared against one another in each submission.**
 - 2) Pick individual locations (number optional as long as requirements for location-years are met) from the overall table. Condense the entries and provide complete statistical information for each location as addressed in E above. These locations stand alone and adaptation claims must be limited to stating that the variety was tested at these locations.
 - 3) If regional adaptation claims are made, all of the locations in a described region of the nationally coordinated trial must be included. Condense the entries and provide complete statistical information for each location as addressed in E above. Calculate new overall statistics for the region if desired (and if data across locations are compatible).
- J. Cultivars of Apomictic Species (e.g. Kentucky Bluegrass): **60 plants must be evaluated to state Apomixis (See F)**
- 1) Apomictic parents. The maternal and paternal parents must be compared directly with cultivar for all morphological measurements. A character/performance claim must be made between cultivar and all parents (See G). Percent apomixis data must be included for all parents and the cultivar.
 - 2) Sexual maternal parents. Only the apomictic paternal parent(s) must be compared directly with cultivar for morphological measurements. The sexual maternal parent does not need to be compared directly with cultivar for morphological measurements. A character/performance claim must be made between cultivar and the paternal parent(s) (See F). Percent apomixis data must be included for all parents and the cultivar.
 - 3) Sexual Cultivars. Percent apomixis data must be included for the cultivar. Treat as any other open pollinated grass cultivar.

SPECIFIC DOCUMENTATION REQUIREMENTS

Part I. Breeding History: (Documentation for Summary Statement #2) Provide on a separate page(s) a detailed and complete version of the origin and chronological breeding history (use of a flow chart to document breeding history is strongly recommended).

1. Use terminology as defined in: *Glossary of Crop Science Terms*, published by the Crop Science Society of America, July, 1992.
2. List and identify all sources and origins of germplasm used in the development of the variety. These would include named varieties, public germplasm releases, germplasm received from cooperators, and dates and locations where germplasm was collected.

3. If at least 70% of the germplasm source for the variety originates directly from a pre-existing variety, then the pre-existing variety must be included as a check variety and at least one descriptive or performance factor must be claimed to be distinct from the pre-existing variety. Apomictic cultivars, derived from apomictic parents, must be compared directly to their maternal and paternal parents and data for the percent apomixis for both parents and cultivar must be included. (See F and J in General Information.)
4. State population sizes and the percentages rogued in each breeding cycle.
5. State the propagule type (seed, sprig, *etc.*) and pollination method (*e.g.*, open, polycross, *etc.*) used in each breeding cycle.
6. State the year breeder seed was produced and declared. (~~Breeder Seed can be declared after the final breeding cycle has less than 5% roging performed for removal of off types~~).
7. For Ryegrass cultivars, provide the ploidy level on the Application and Summary Page.

Part II. Descriptive information: (Documentation for Summary Statements #4) Attach tabular data for required maturity ratings and morphological measurements and other optional traits that will be used by certifying agencies to monitor the reproduction of your variety. These measurements must come from field-grown spaced plants or replicated seed yield trials and must include at least 30 plants or 30 data points for each characteristic. Morphological measurements are to be taken at or near maturity. Data must include the results from at least two years at one location or one year at two or more locations. Comparisons must include three or more standard check cultivars taken from the PVP list of standard check cultivars (when established) for the species. Otherwise, varieties most genetically similar to the applicant variety shall be used. **Note: At least two check varieties must be common to all years or all locations associated with presentation of comparative varietal data. Cultivars derived from the same final cross, and submitted for review, must be compared against each other and show a statistical difference (See I).**

Include data for the following descriptors in tables on attached pages and include a short synopsis of each test location (design, natural aspects, and agronomic treatments):

1. Heading date (when 50% of the plants in the variety have at least three heads emerged from the boot). **Required**
Note: Other measurements of relative maturity may be substituted if properly described and justified.
2. Mature plant height in cm. **Required**
3. Flag leaf height in cm. **Required**
4. Flag leaf blade length in cm. **Required**
5. Flag leaf width in mm. **Required**
Note: All three measurements (3, 4, and 5 above) may be reported from the first subtending leaf (leaf below the flag leaf) instead of the flag leaf, but it must be clearly labeled which leaf the data are from.
6. Inflorescence length in cm. **Required**
7. Weight per 1,000 seeds in grams. **Optional**
8. Other significant seed characteristics (color, shape, length, width, and awn length, if present). **Optional**

Describe expected variants and their expected frequency of occurrence. **Required**

NOTE: The U.S. Federal Seed and most state seed laws do not allow the marketing of a variety with variants in excess of 5%. AOSCA suggests that applicants discuss this issue with the USDA Agriculture Marketing Service – Seed Regulatory and Testing Division, located in Gastonia, North Carolina.

Describe other growth characteristics. **Optional**

- Cool season vs. Warm season
- Bunch, rhizomatous, or stoloniferous growth habit
- Annual vs. perennial

State other descriptive characteristics. **Optional**

- Physiological (DNA or electrophoresis analysis)
- Biotic or abiotic environmental reactions

Part III. Primary use and evidence of performance and adaptation: (Documentation for Summary Statements #3 and #5) Attach tabular data for required elements of primary use such as forage yield, turf quality, insect or disease resistance, environmental tolerances, and other factors supporting the performance and/or adaptive characteristics of the variety. These performance tests may be conducted by private seed firms and/or university or other public agencies. Tests shall include three or more check varieties taken from the PVP list of standard check varieties if available, or if not available, varieties that are used extensively in areas of

intended usage may be substituted. **Note: At least two check varieties must be common to all years or all locations associated with presentation of comparative varietal data.**

A. Forage Performance

1. Comparative forage yields (minimum of two years at two locations). ***Required***
2. Comparative performance data for at least one other trait (minimum of two locations/one year or one location/two years). ***Required***

B. Turf Performance (minimum of two locations/one year or one location/two years)

1. Comparative performance data on turf quality. ***Required***
2. Comparative performance data on at least 3 other traits. ***Required***

C. Other Primary Non-turf Use Performance - restoration/revegetation, erosion control, ornamental, etc. (minimum of two locations/one year or one location/two years)

1. Comparative performance data supporting one primary use trait. ***Required***
2. Comparative performance data for at least one other trait. ***Required***

NOTE for Category C: Availability of check varieties may be limited for some non-agronomic or newly cultivated species for both performance and descriptive character comparisons. A reasonable attempt to comply with stated check variety requirements must be made, but at least one variety (or germplasm selection) check must be included.

Part IV. Stock Seed Maintenance and Limitations of Generations: (Documentation for Summary Statement #6)

Describe how breeder seed supply is to be maintained and the procedure for producing subsequent stock seed classes, a statement as to the limitation and sequence of generations that may be certified, length of stand (if applicable) and any other requirements or limitations necessary to maintain varietal characteristics.* Note if licensing or royalty agreements exist that would affect activities undertaken by official seed certifying agencies.*

* Applicants are expected to conserve an original one-pound sample of the generation of seed used to characterize this variety for use as a control sample for future reference if such reference is requested by an official seed certifying agency.

Part V. Please prepare a description or Summary Statement of your variety as it will be published by AOSCA for use by field inspectors. This description must stand on its own and the statements are to be documented by the supporting data required in this application. Include concise responses to the elements required in sections 2, 3, 6, and 7, using complete sentences where appropriate.

Use the next page as a template and insert the information requested in each of the seven sections. The template is formatted in Microsoft Word tables for you to enter data or information in appropriate table cells. The table cell grid structure will allow you to position the cursor for inserting data, particularly in sections 4 and 5. If the gridlines are not visible on the form, open the "Table" dropdown in the menu bar and click on "Show Gridlines." **Delete the instruction statements of items 2, 3, 6, and 7 in the table and replace them with your statements. Delete any unused table before submitting. Enter additional check varieties as necessary.**

You are **requested to delete italicized blue font text** in the table column and row headings of summary items 4 and 5 and to replace it with your specific appropriate content, such as trait, year, location, variety name, etc. Please convert your entries to non-italic black font before submitting applications by e-mail.

Refer to the sample application on the AOSCA web site for guidance.

Grass

1. Variety name: _____ Kind: _____
 Genus: _____ Species: _____
 Experimental designation (s): _____
 Date submitted: _____ **Ploidy Level for Ryegrass:** _____

2. Provide a brief statement describing the nature of the parental material (feral or other collections, nursery selections, etc.) and its sources (where from, location, etc.), the kind of breeding methods employed and selection criteria used. It is not necessary to reveal confidential business information in this summary. State the first year breeder seed was declared and produced. (See Instructions Part I).

3. Prepare a statement giving region of probable adaptation and the purposes (e.g. turf, overseeding, hay, grazing, erosion control, etc.) for which the variety will be used. Include states and areas within states where the breeder of the variety has tested it and anticipates recommending and merchandising it (i.e., don't make claims regarding adaptation and performance for regions in which it has not been tested). (See Instructions Part III).

Use the following table to compare the applicant variety with at least two check varieties during two location-years for any three of the required plant growth or morphological descriptors (See Instructions Part II). **Delete this instruction from the finished summary page.**

4. Growth & Morphology	<i>Required Trait # 1- Units</i>		<i>Required Trait # 2- Units</i>		<i>Required Trait # 3 - Units</i>	
	<i>Year or Location</i>		<i>Year or Location</i>		<i>Year or Location</i>	
Traits	<i>Loc. or Year</i>	<i>Loc. or Year</i>	<i>Loc. or Year</i>	<i>Loc. or Year</i>	<i>Loc. or Year</i>	<i>Loc. or Year</i>
<i>Test Variety</i>						
<i>Check # 1</i>						
<i>Check # 2</i>						
<i>Check # 3</i>						
<i>Check # 4</i>						
LSD (.05)						
<i>Variance</i>						

Data collected from: Spaced single plants _____ Plants in rows/solid seeding _____

Variants to be expected and frequency: _____

Use **one of the following tables** to compare the applicant variety with at least two checks for the required elements of the primary use and one other performance trait for forage or other non-turf use and three other traits for turf use. Report at least two individual years in all instances. **Delete this instruction from the finished summary page. Delete the table not used (Place cursor in the table to be deleted; click "Table" in the menu bar; click "Delete"; click "Table").**

5. Primary Use?	<i>Forage Yields (T/A) or Other First Primary Use Trait - Units</i>						<i>Other Performance Trait - Units</i>					
	<i>Location # 1</i>			<i>Location # 2</i>			<i>Location # 1</i>			<i>Location # 2</i>		
<i>Forage or Other ????????</i>	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>
<i>Test Variety</i>												
<i>Check # 1</i>												
<i>Check # 2</i>												
<i>Check # 3</i>												
<i>Check # 4</i>												
LSD (.05)												
<i>Variance</i>												

- Scale used to report traits (if appropriate): _____
- Insert additional information for use by inspectors (if any): _____

5. Turf Use	<i>Turf Quality</i>		<i>Turf Trait # 1- Units</i>		<i>Turf Trait # 2- Units</i>		<i>Turf Trait # 3-Units</i>	
	<i>Year or Location**</i>		<i>Year or Location**</i>		<i>Year or Location**</i>		<i>Year or Location**</i>	
	<i>Yr/Loc.**</i>	<i>Yr /Loc.**</i>	<i>Yr/Lo.**</i>	<i>Yr/Loc.**</i>	<i>Yr/Loc.**</i>	<i>Yr/Loc.**</i>	<i>Yr/Loc.**</i>	<i>Yr/Loc.**</i>
<i>Test Variety</i>								
<i>Check # 1</i>								
<i>Check # 2</i>								
<i>Check # 3</i>								
<i>Check # 4</i>								
LSD (.05)								
<i>Variance</i>								

●Scale used to report traits (if appropriate):

●Insert additional information for use by inspectors (if any): _____

**If necessary, identify locations in line b) by the following key - A: _____ B: _____

6. State who will maintain seed stocks of the variety. Describe how the variety will be maintained, the certified seed classes to be used and limitations on age of stands for certified class production. State any other requirements or limitations necessary to maintain varietal characteristics (See Instructions Part IV).
7. If this variety is recommended as eligible for certification by official seed certifying agencies, when will certified class seed likely be first offered for sale? Will PVP be sought? If so, will the certification option be chosen?