

## How to attain Johne's classification levels

This document has been prepared as a field guide to the testing strategies for the Johne's classification program described in the Uniform Program Standards for the Voluntary Bovine Johne's Disease Control Program issued by USDA APHIS in September 2010. The Uniform Program Standards and other resources are available on the UVM Extension Johne's webpage, <http://go.uvm.edu/1xuiw>

### There are no "Johne's-free" herds in this program!!!

Herds, even those assessed as low risk, may contain a Johne's-positive animal. Identification of such an animal may hamper marketing plans of registered breeders and is required to be disclosed if selling cattle across state lines. Disclosing the status of an animal is the ethical thing to do when selling within state lines. The herd owner must be aware of and accept this risk prior to conducting diagnostics.

All cattle must have individual official identification as approved by the state animal health official prior to enrollment. Herds enrolling in the testing and classification program must have a Risk Assessment and Management Plan (RAMP) completed by a Johne's certified veterinarian and approved by the Designated Johne's Coordinator (DJC). Vermont management program herd RAMPs should be updated at least once every 3 years, but testing and reporting of test results is not required. Management herd RAMPs are not required to be submitted to the DJC, but may be submitted for review if desired.

### What are the official classification levels?

Classification levels are assigned to herds that have completed testing of an appropriate number of animals by appropriate tests and meet the cut offs for levels 1 through 6. **Unknown status** applies both to herds that have not tested and to herds that do not desire (or qualify for) classification.

**Classification level 1** is assigned to herds in their first year of testing that either followed the minimum sampling testing strategy (Table 2) or met the criteria for level 1, but not level 2 or 3, following a whole-herd test of test-eligible animals or subset testing of large herds (according to Table 3).

**Classification levels 2 and 3** apply to herds that conducted whole-herd testing of test-eligible animals in the first year of testing and met the applicable criteria for those levels OR herds that are in at least their second year of testing and met the criteria for those levels.

**Classification levels 4 to 6** identify herds with at least 2 years of test negative results. Restrictions on herd additions (purchases, embryo recipients, and heifers raised off site) apply to herds at levels 4 and higher. (See page 5 for more details.)

### **Initial year testing**

Consider economics and the herd's risk assessment when determining your initial testing strategy.

- 1) Use any testing strategy from Table 1 (on page 3). Herd will be placed in level 1 to 3 based on results.

OR

- 2) Use a minimum testing strategy from Table 2 (on page 3). Herd will be placed in level 1 if test results allow.

### **Which tests are for which herds? (Year 1 testing strategies)**

- ELISA only, ELISA plus MAPDT, individual MAPDT, pooled MAPDT, and environment MAPDT are applicable for all dairy herds. (Herds with fewer than 99 test-eligible animals can use the ELISA plus MAPDT strategy only in year 1.)
- Beef cattle herds cannot use the environment MAPDT strategy.

### **Which animals are test-eligible, how many animals must be tested, and when can minimum testing options be used?**

Test-eligible animals are those dairy cows 36 months of age and older and male bovines 24 months of age and older. Eligibility applies to all classification levels.

- If using ELISA in herds with 531 or fewer test-eligible animals, all animals must be tested.
- If using an individual MAPDT in herds with 313 or fewer test-eligible animals, all animals must be tested.
- In herds with greater than the minimum numbers of animals referenced in the preceding 2 bullets, statistical subsampling may be used according to Table 3 (below). If using ELISA, select up to a maximum of 580 test-eligible animals or, if using individual MAPDT, select up to a maximum of 360 test-eligible animals. The Uniform Program Standards provide guidance for obtaining a randomly selected sample.
- In herds with fewer than 30 animals that are at least 36 months of age, all cattle 24 months of age and older shall be tested.
- Split herd testing and rolling testing are allowable as long as the required number of animals is sampled within the 14-month time frame.

### **How long is a classification level status in effect?**

Herds at levels 1 to 4 remain at any level for up to 14 months. Herds at levels 5 or 6 remain at that level for up to 26 months. Test results are required within that time frame to renew or advance the level of classification. An updated RAMP must be submitted (at least) every 3 years for all herds.

Table 1. Herd testing strategies to achieve JD herd classification levels (Appendix 2, Table 1, Uniform Program Standards)

Herd Size <sup>•</sup>	Testing Strategy	Herd Classification Level					
		1	2	3	4	5	6
		Maximum proportion positive to achieve level (no rounding)					
1 - 99	ELISA	≤1.5%	0%				
	ELISA/Ind MAPDT*		0%				
	Individual MAPDT	≤6%	≤2%	0%	0%	0%	0%
	Pooled MAPDT	≤15%	0%	0%		0%	0%
	Environment MAPDT <sup>▲</sup>	0%					
100 - 199	ELISA	≤2.5%	≤1.5%	≤0.5%	0%	0%	0%
	ELISA/Ind MAPDT	≤1.0%	0%				
	Individual MAPDT	≤6.5%	≤3.5%	≤1.5%	0%	0%	0%
	Pooled MAPDT	≤15%	≤10%	0%		0%	0%
	Environment MAPDT	0%					
200 - 299	ELISA	≤3.5%	≤2%	≤1%	0%	0%	0%
	ELISA/Ind MAPDT	≤1.5%	≤0.5%	0%			
	Individual MAPDT	≤7%	≤4%	≤1.5%	0%	0%	0%
	Pooled MAPDT	≤13%	≤10%	≤6%	0%	0%	0%
	Environment MAPDT	0%					
≥ 300	ELISA	≤4.0%	≤2.5%	≤1%	0%	0%	0%
	ELISA/Ind MAPDT	≤2.0%	≤1%	≤0.5%	0%	0%	0%
	Individual MAPDT	≤7.5%	≤5.0%	≤2%	0%	0%	0%
	Pooled MAPDT	≤11%	≤7%	≤5%	0%	0%	0%
	Environment MAPDT	0%					

•Herd size: Number of test-eligible animals in the herd

\*ELISA/Ind MAPDT: ELISA with follow-up individual MAP diagnostic test

▲Environment MAPDT: Strategy available for dairy herds only (not beef herds)

Table 2\*. Minimum herd testing options for entry into program at classification level 1 or maintenance of classification levels 4 through 6, if no positive test results are obtained

Test	Minimum number of cattle to test*
<b>ELISA</b>	60
<b>ELISA/Ind MAPDT</b>	60
<b>Individual MAPDT</b>	30
<b>Pooled MAPDT</b>	6 pools (30 cattle)
<b>Environment MAPDT</b>	6 environmental fecal composites

\*From Appendix 2, Table 2, Uniform Program Standards.

**Table 3. Sample sizes for statistical subset testing\***

Number of cattle in herd (36 months and older)	Minimum number of cattle to sample (36 months and older) by test	
	<u>ELISA</u>	<u>MAPDT</u>
≤ 300	Test all	Test all
301 – 400	Test all	Test all (up to 313)
401 – 500	Test all	324
501 – 600	Test all (up to 531)	332
601 – 700	540	338
701 – 800	547	342
801 – 900	552	345
≥ 901	580 (max)	360 (max)

\*From Appendix 1, Table 1, Uniform Program Standards

### Subsequent year testing

Herds at levels 1 through 3 must be tested annually to establish or re-establish their classification level for the year. Level 4 certification also expires after a year, so herds at that level must test within 10 to 14 months to establish their classification level. Herds at levels 5 and 6 are required to test every 2 years to maintain their classification level. Herds at levels 4 through 6 can maintain their classification by following any MAPDT strategy in Table 2. Herds at levels 4 through 6 that have a positive test during maintenance testing will be reclassified accordingly. Herds at levels 4 or 5 that wish to advance to the next level must follow the requirements. (Refer to Appendix 2 of the Uniform Program Standards.)

**Classification level 4** can be reached by any of the following pathways based on herd size. Table 2 does not apply when testing to achieve classification level 4.

- Herds with 1 – 99 test-eligible animals must have had no positives on tests of all eligible animals by ELISA or MAPDT in year 1 followed by no positives on tests of all eligible animals by individual MAPDT in year 2.
- Herds with 100 – 199 test-eligible animals must have had no positives on tests of all eligible animals by ELISA or MAPDT in year 1 followed by no positives by individual ELISA **or** individual MAPDT of all test-eligible animals.
- Herds with 200 – 299 test-eligible animals must have had no positives on tests of all eligible animals by ELISA or MAPDT in year 1 followed by no positives in year 2 by individual ELISA **or** individual MAPDT **or** pooled MAPDT.
- Herds with 300 or more test-eligible animals must have had no positives on tests of statistical subset in year 1 followed by no positives in year 2 by individual ELISA **or** ELISA followed by MAPDT **or** individual MAPDT **or** pooled MAPDT.

**Classification levels 4 to 6** can be maintained by following any MAPDT strategy in Table 2.

Maintenance of level 4 requires annual testing. Advancement to level 5 or 6 requires testing of all animals or a statistical subset using the testing strategies based on herd size shown in Table 1.

Information in this document is based on the Uniform Program Standards for the Voluntary Bovine Johne's Disease Control Program issued by USDA APHIS in September 2010.

If any positive tests occur when using a test strategy with a statistical subset of animals, additional testing may be performed to place the herd in the appropriate level (1-3).

- Level 5 can be maintained for 2 years. If all subsequent tests are negative, the herd will advance to level 6.
- Maintenance of level 6 requires testing every 2 years and all negative tests.
- If a positive test is found in any herd at levels 4 to 6, that herd will be reclassified as level 1 if the herd was sampled according to Table 2 and not all eligible cattle were tested. Additional testing can be performed to classify the herd accordingly.

**What do classification herds need to know before purchasing animals or embryos or raising heifers off site?**

- Herds at classification levels 1 to 3 have no restrictions on sources of purchases but are encouraged to purchase from sources with classification levels that are the same or higher than the existing herd.
- Herds at classification levels 4 to 6 can retain that classification without additional testing by purchasing only from herds with the same or higher classification level. If animals are purchased from a herd with a lower classification level, the whole herd will be reclassified at the level of the source herd with the lowest classification level UNLESS the animals purchased from the lower classification herd are tested 3 times with an individual MAPDT at 6-month intervals starting at no less than 12 months of age and all tests are negative.
- Embryo transfer recipient cows must meet the same requirements as herd additions. Embryos from other cattle herds may be used in classified herds as long as the embryos are processed according to International Embryo Transfer Society protocols.
- Heifers raised off site must be raised with proper biosecurity measures in place and with animals at an equal or greater classification level.