



PRAIRIE BREEZE

THE LIVING PRAIRIE MUSEUM NEWSLETTER

WINTER 2018

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50 Years of Conservation

Almost 50 years ago, the International Biological Program (IBP) and the St. James Horticultural Society (SJHS) joined forces to protect the Living Prairie site.

The IBP was formed to investigate, in part, environmental change. A portion of this investigation focused on the conservation of terrestrial communities. Kae Greeniaus, a member of the SJHS in 1968, notified the IBP of the quality of tall grass prairie in St. James. This collaboration would create the beginnings of the field surveys and political pushes that would contribute to the protection of this site.

In 1968, Alderman Peter Moss presented the St. James Council (not part of Winnipeg yet) with a brief on behalf of the IBP and SJHS, requesting preservation of the site. The suggested area was 50 acres (20.2 ha), but council decided on 25 acres instead.

Protection was delayed for two years. Council support was slowly growing, but their efforts were being placed into amalgamation of City Council. The brief had to be resubmitted in 1970 after a major

shuffle in council members.

The decision to actually protect the site was approved, but not easily. Mr. J.P. de Wet, former president of the SJHS, spoke before council in 1971. At 87 years old, he was reported to have given an eloquent, emphatic speech, which included banging his cane on the ground to punctuate his points. The speech must have been convincing enough, as the vote was passed, but only by one. That one invaluable vote is why we have this rare prairie within our city. (cont. p.2)



Young boy at Living Prairie site, 1971. Photo courtesy of Virtual Museums Canada.

Seed Dormancy

Dormancy seems like an enviably sensible solution when temperatures drop and daylight hours wane. Why risk germination on a frozen prairie? Better to delay until environmental conditions are optimal. Recent data shows that seed dormancy is an intricate mechanism that depends on both external and internal checks and balances, and multiple pathways.

1. Seed dormancy is anything but passive.

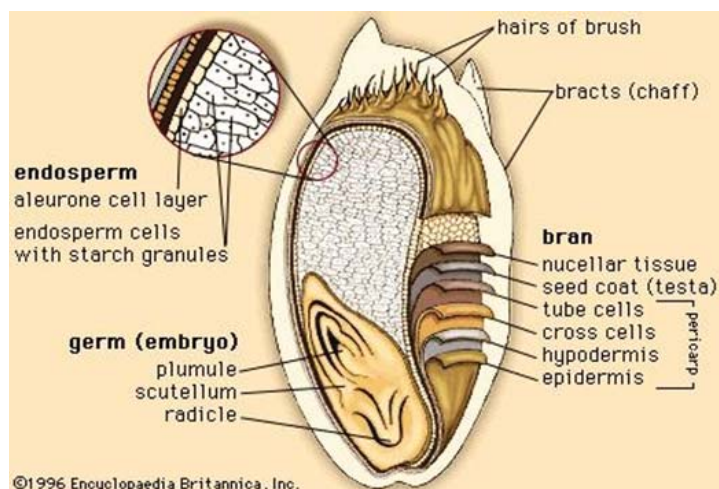
Imagine that the seed is a tiny go-cart of potential. It needs to maintain sufficient pressure on its gas pedal to keep itself alive, while keeping enough force on the brake to avoid burning out its stored nutrient supply. It needs to do this for as long as ... well J. Shen-Miller et al. (2002) germinated a sacred lotus seed that was carbon dated to 1,300 years.

2. Seed dormancy follows a mutual separation.

If fertilization occurs, then seeds are produced, and those seeds are prepared for life away from the parent plant. But, sometimes that parent has to use some tough love. Have you ever seen immature apples shed by the parent tree mid-season? Those seeds were culled (aborted) in order to maximize viability of the remaining fruits. A limb broken from the weight of too many apples is a costly reproductive risk. Conversely, during a cool, wet autumn, grain seeds sometimes sprout while still intact on the plant (precocious germination). This failure in timing was a waste of parental energy, and is fatal for the seed. In cases of seed success, plant-seed communication prompts the embryo in the seed to grow while the parent plant reduces support. The hormone ethylene stimulates the growing abscission layer to dry out and release. Result? Healthy parent-seed separation.

3. Embryo maturation vs. seed maturation.

This is the one foot on the gas and the other on the brake scenario. Upon fertilization, the plant embryo begins growth (embryogenesis or embryo maturation). The intact embryo is waiting in the grass seed pictured below (intact but not necessarily mature. Some embryos are immature when dropped and must ripen off of the plant). Still, the embryo must be able to survive the drop, its dormancy, and be able to initiate germination in response to internal and external signals.



While the embryo is maturing, the seed is also maturing by synthesizing an energy reserve, increasing tolerance against drying out (desiccation), and building dormancy to match the embryo's maturity. Dormancy is a state of germination lock-out. But both maturation and dormancy are a process. Dormancy spares the seed unseasonal germination, and allows for seed dispersal so the new seedling is not competing with its fully mature parent for resources.

There are a lot of complicated processes waiting under the snow at Living Prairie Museum.

Thank You

Thank you for another great year. The Friends of the Living Prairie Museum secured grants to hire three students and to help create a new exhibit on pollinating insects. Your volunteer hours provided the public with a fantastic butterfly festival and a new batch of native seed.

We wish you all the best in 2018!

Volunteers Needed

Snowshow Sunday Assistants. Contact us for details!

MUSEUM STAFF

Sarah Semmler
Lois Grieger
Kelly Ferrand



Thank you for receiving your newsletter electronically.

UPCOMING EVENTS

Snowshoe Sundays

Our first event will take place Sunday, January 7th, then continue on the first and last Sunday of the month from January to February, snow permitting, 10AM to 4PM.

Snowshoes are lent out on a first come, first served basis. Be sure to wear winter boots!

Special Event - Jan 7: We'll be joined by Snow Motion for a kicksled and skijoring demonstration! See some great dogs and learn about a new winter sport for you and your pup. Timing TBA - we'll send an update to membership soon!

Winter Speaker Series

Join us for another season of interesting speakers! The series takes place every other Tuesday, 7:00 - 8:30PM. Space is limited so please call in advance to reserve your seat. Friends of the Living Prairie Museum members may register for any date after Jan 2nd.

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| Jan. 16 | Indigenous Historical Awareness - Allan Sutherland |
| Jan. 30 | Up close and personal with owls and owl research in Manitoba - Dr. James Duncan |
| Feb. 13 | The Deer Lodge bison herd: Manitoba's role in the conservation of the plains bison - Dr. William Watkins |
| Feb 27 | Canadian prairie soils: Manitoba - Bob Eilers |
| Mar 13 | What you need to know about emerald ash borer - Martha Barwinsky |

More information can be found on our website. Follow us on social media for event postings! Hope to see you in 2018.



LIVING PRAIRIE MUSEUM

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