



## ***Integrating Nutrition and Biology toward Plant and Soil Health***

Joel Williams | [www.integratedsoils.com](http://www.integratedsoils.com)

6<sup>th</sup> March 2018, at the farm of Mans Organics, Coaldale AB

***Some of the topics... also Vermicastings Extractor Demo... Greenhouse Tour... Compost Tea Brewing!***

### ***The Living Soil and Organic Carbon: The centrepiece of soil health***

- Defining a healthy soil in the context of soil chemistry, physics and biology.
- Functions, roles and interactions of life in agricultural soils.
- Photosynthesis, root exudates and rhizosphere interactions.
- Mycorrhizal fungi, glomalin, aggregation and disease suppression.
- Supporting mycorrhizal fungi via management of environment, agronomics, rotations, inoculations, green manures and avoiding practices that suppress them.
- Soil disturbance – cultivation and no-till, impacts on carbon cycling, aggregation, how to offset negative effects of tillage to support soil life.

### ***Making the Most of Soil: Unlocking soil nutrients and improving input efficiency***

- Leveraging existing soil fertility and optimising purchased inputs.
- Understanding total, exchangeable, soluble nutrient pools.
- Cover crops and green manures – diversity and digestion.
- The role of carbon-input complexes in improving input efficiency and protecting soil life.
- The biological link to foliar applied inputs – nutrition, photosynthesis and root exudates as drivers of soil health.

### ***Plant Health and Integrated Pest Management***

- Rethinking minerals and microbes – optimising photosynthesis, crop quality and pest and disease resistance – are we ‘thinking’ the right way about plant health and pest problems?
- The management of disease, insects and weed pressure as an integrated nutritional and biological approach toward plant health.
- Plant nutrition – functions of essential minerals, nutrient mobility, deficiency diagnosis.
- Weeds as indicators, fungal:bacterial ratio, detoxifying herbicides.



Joel Williams is an independent plant and soil health educator and consultant; a healthy soils advocate and passionate presenter on soil biology, plant nutrition and integrated approaches of sustainable farming. Joel has worked on conventional and organic farms improving biological practices in Australia and the UK where he integrates soil chemical and biological assessments along with plant nutritional analysis as a joined-up strategy for farm management. Joel has a Bachelor of Agricultural Science specializing in crop and soil sciences and a keen interest in managing soil microbial ecology and plant & soil nutrition to optimize crop immunity, soil health and soil carbon sequestration. He has a passion for teaching and sharing both scientific and practical knowledge on sustainable growing practices. Joel has recently relocated to Ontario and he has lectured to farming audiences in Australia, UK, Ireland, Netherlands, Latvia, South Africa, Kenya, Canada and the US.

**Tickets:** \$100/person – Coffee, Lunch, Snacks provided.

**Bookings:** Pre-Registration is required - <https://www.eventbrite.ca/e/integrating-nutrition-and-biology-toward-plant-and-soil-health-tickets-42383587451>

**Location:** Mans Organics, 102040 RR 200, Coaldale AB. Search for “Mans Organics” on Google Maps

**Arrival/Registration:** 8:00 am for an 8:30 am start. **Finish:** 4 – 4:30 pm

**Queries:** [mail@mansorganics.ca](mailto:mail@mansorganics.ca)

