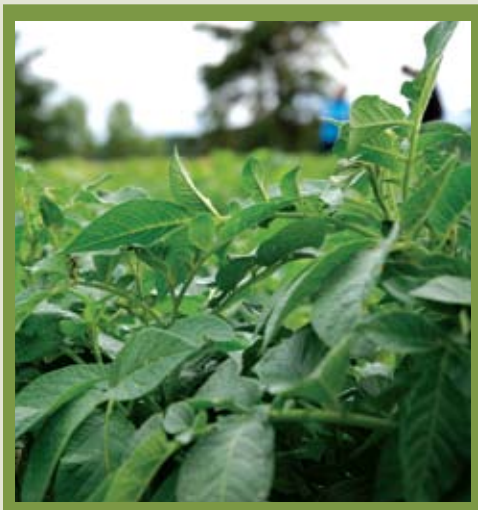
EarthRenew®

Power to Renew the Earth

EarthRenew Organic Matter Fertilizer™ contains concentrated organic matter and natural nutrients bundled into granules.

Potatoes



EarthRenew Organic Matter Fertilizers™

EarthRenew

EarthRenew fertilizer is a natural soil performance enhancer. By providing a rich source of concentrated organic matter, an essential component to healthy soils, plants maximize the use of all available nutrients.

A natural nitrogen release

Organic nitrogen is made available to the plant throughout the growing season by microbial activity. Because this is a biological process, mineralization is greatest from 20 – 25°C (68 – 95°F).

Aerate soils, promote root development and enhance beneficial microbial activities

Organic matter is essential to good soil structure. Creating spaces for air and water increases water and nutrient holding capacity, and promotes root growth and development. Proper aeration further encourages beneficial microbial activities allowing for natural nitrogen release.

(continued on next page)

EarthRenew
RECOMMENDATIONS FOR POTATOES

EarthRenew and Soil Testing

Proper agronomic practices is a part of your sound crop management program. Soil testing and sound nutrient management practices are essential to realize the maximum benefits from EarthRenew fertilizer. EarthRenew fertilizers are to be used following recommendation application rates and procedures.

Enhancing Nutrient Management Practices

Nutrient management in potatoes presents numerous challenges. Most potatoes are grown on sandy soils with supplemental irrigation. Nitrogen is prone to leaching losses early in the season because of limited plant uptake. By increasing organic matter levels in the soils with EarthRenew fertilizer, nutrients are held in place to be released as the plants develop.

Potato Development

Proper nitrogen (N) nutrition for potatoes is essential to produce high yields, optimum crop quality, and maximum farm profitability. Nitrogen is essential for vegetative growth, protein synthesis and converting solar energy to carbohydrates that are stored in the tuber.

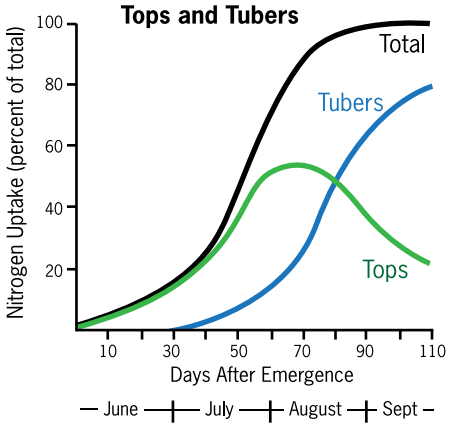


Figure 1
Tops and Tubers
Figure 1 illustrates the seasonal nitrogen uptake. Potatoes take up little nitrogen in the first month after planting but take up 60-80% of the total nitrogen needs during tuber initiation and development. Timing of specific growth stages is approximate and varies with potato variety and environmental conditions.

The release of organic nitrogen is a temperature sensitive biological process. Therefore, when the temperature reaches its highs in July and August, the rate of nutrients released by the organic matter is also at its highest, precisely when the nutrient demand of the potato is at its peak.

Irrigation and Chemigation

Maximizing utilization of nitrogen fertilizers in potatoes on irrigated sandy soils require multiple applications at pre-planting, hilling and through the growing season. Best Management Practices (BMP) recommend fertilizers (such as urea-ammonium nitrate) to be applied through irrigation systems (Chemigation) when used with center pivot or lateral move systems. However, applied nitrogen fertilizers are at risk of leaching; a serious threat to groundwater. The application of EarthRenew fertilizer holds the water, nitrates and other nutrients in the plant root zone increasing fertilizer utilization and crop quality while minimizing the loss of nutrients.

Quality

Proper potato management produce tubers that meets varietal confirmation, exhibits excellent total solids, specific gravity and with high marketable yields. The application of EarthRenew fertilizer provides the foundation for sustainable, high quality and productive soils that make available, the water and nutrients needed by the potato crop.

EarthRenew trial results

Figure 2 shows first year results from the Crop Diversification Center in Brooks Alberta. This study field research has showed that EarthRenew fertilizer produced greater marketable yield, with higher specific gravity and better appearance than "growers' standard practices".

Figure 2

	Marketable Yield	Specific Gravity
Check	27.2	1.087
GSP	28.3	1.082
EarthRenew	30.9	1.086

Figure 2. Treatments: Check- approximately 75 lbs/ac N; GSP – 110 lbs/ac N, 25 lbs/ac P incorporated pre-plant + 50 lbs/ac N top-dressed at hilling; EarthRenew 3 tonnes/ac incorporated at before planting.

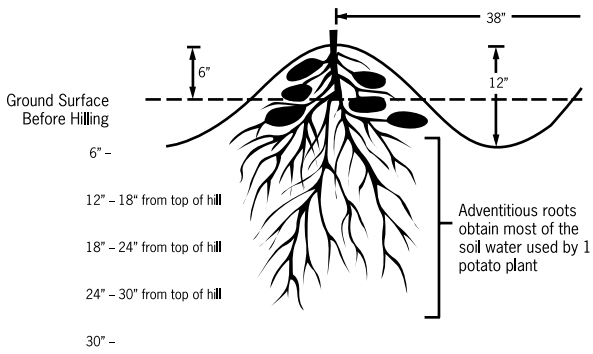
Risk Reduction

A wide array of inputs are needed to grow the perfect potato crop. Management to ensure appropriate and timely inputs is key to successful potato farming. EarthRenew fertilizer provides a storehouse for many organic nutrients and increases their holding capacity in the soil. Nitrogen is naturally converted into plant available form as the soil temperature increases and the potato grows. The addition of organic matter with EarthRenew fertilizer promotes beneficial microbial activities, breaks down and binds residual damaging chemicals, aerates and improves the soil structure, all of which allows potatoes to grow more uniformly.

Figure 3

Root System

Potatoes are a shallow rooted crop. Typically roots grow laterally 10 to 18 inches and downward to a depth of about 30 inches or more.



Application

Potato production is maximized when the supply of nutrients matches the proper level for each growth stage. EarthRenew fertilizer holds nutrients in place and releases them as required. It is easy to apply. Granular form can be applied at planting without worry of burning the seed potato, or broadcast spread and incorporated into the hilling process prior to planting. By placing EarthRenew fertilizer at the root zone, water and nutrients are made available as the tubers develop.

EarthRenew fertilizer application rates are generally recommended at two to three tonnes per acre in the first year, with reduced application rates in subsequent years due to the multi-year benefits of this product. Soil management practices and crop rotations will influence the application rate. Annual soil testing is recommended to adjust application rates to achieve maximum productivity using EarthRenew fertilizer.

EarthRenew Organic Matter Fertilizers (cont.)

Reduce nitrogen leaching

Adding 1% organic matter to soils can increase water-holding capacity by 2 inches. This minimizes moisture stress and reduces nitrogen leaching. Nitrates (the most plant available form of nitrogen are primarily lost through leaching), easily move with water. By increasing the water holding capacity of the soil helps hold nitrates at the root zone where it is needed.

Boost your micronutrients

EarthRenew fertilizer contains a host of micronutrients essential for healthy plants and soils. The organic matter in EarthRenew fertilizer has the potential for storing high levels of micronutrients that can be utilized by the potato crop.

Protect your potatoes from weeds, pesticides & herbicides

EarthRenew fertilizer is cooked up to 540ºC (1000°F) and tested to be free from weed seeds and active pesticides and herbicides including Lontrals, Tordons, Clopyralid and other damaging chemicals that do not breakdown in composting.

EarthRenew®

Contact Us

If you would like to know more about us, please visit our website at **www.earthrenew.com**

Or give us a call at **1-877-457-7667**, we are always excited to talk about the company and our products.

You can also drop us an email at **info@earthrenew.com**

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PRODUCT ANALYSIS*

Per One Metric Tonne of Product (2205 lbs)

Organic Matter	**50.6**	**%**	**1116**	**lb/tonne**
Total Nitrogen	**1.8**	**%**	**39**	**lb/tonne**
Available Phosphorous (P_2O_5)	**1.2**	**%**	**27**	**lb/tonne**
Soluble Potash (K_2O)	**1.5**	**%**	**34**	**lb/tonne**
Total Sulfur	**0.4**	**%**	**9**	**lb/tonne**
Calcium	**2.0**	**%**	**44**	**lb/tonne**
Magnesium	**0.6**	**%**	**13**	**lb/tonne**
Sodium	**0.3**	**%**	**7**	**lb/tonne**
Other Micronutrients (Al, B, Cu, Fe, Mo, Zn)	**1.2**	**%**	**26**	**lb/tonne**
Moisture	**7.6**	**%**		
Description	**1/8**	**inch diameter pellets**		
Pellet Durability Index	**96.4**			
Bulk Density	**49.0**	**lbs/ft³**		

* EarthRenew fertilizers in this brochure are produced at our Unit #1 Strathmore facility, Alberta, Canada. Due to the organic nature of this product the numbers listed may vary. These numbers are intended as a guideline to users.