

Tiger 90CR Alfalfa Research

Influence on Disease & Yield



Tiger-Sul Products (Canada) Co.

6444—42nd Street SE
Calgary, AB T2C 2V1
Phone: 1.877.299.3399
Phone: 1-403-279-2616

Tiger-Sul Products LLC

P.O. Box 5
Atmore, AL 36504
Phone: 1.800.239.3647

E-mail: order@tigersul.com

Web Site: www.tigersul.com

Research Project :

Influence of disease on alfalfa production and the importance of Sulphur in an alfalfa fertilizer program.

Researcher : Dr. Sheau-Fang Hwang, Alberta Research Council, C/O Environmental Centre, Vegreville, Alberta.

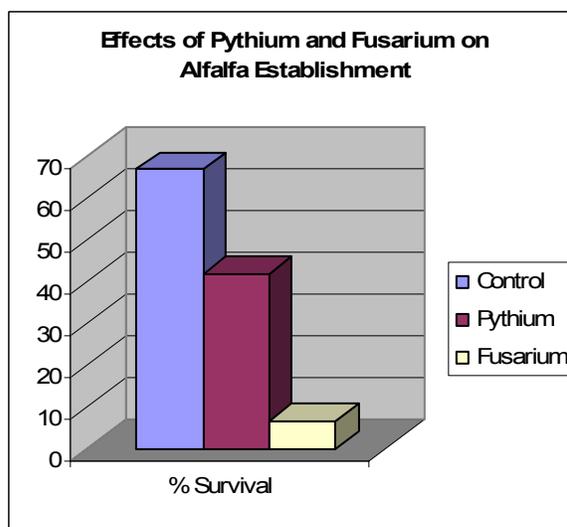
Alfalfa, when well managed, has a high requirement for sulfur because of its key roles in protein synthesis, chlorophyll formation, and utilization of nitrogen in this productive crop plant.

Since host tolerance to pathogens is related to the nutritional status of plants, a three year experiment was established to assess the influence sulphur fertilization would have on seedling pathogens such as damping-off problems (*Pythium*) as well as possible reduction of crown and root rots (*Fusarium*) and snow mold (*Coprinus psychromorbidus*). Disease assessments as well as yield measurements were taken.

Three split plot, four replicate sites were designed one of each inoculated with *Pythium* or one with *Fusarium* along with a control. Over these treatments NPK and NPK plus Tiger 90CR Sulphur treatments were applied.

Results :

Tiger 90CR Sulphur provided a significant increases in yield over NPK only treatments. The use of Tiger 90CR sulphur in alfalfa production improved the health of the alfalfa stand and helped to suppress disease in the alfalfa stand.

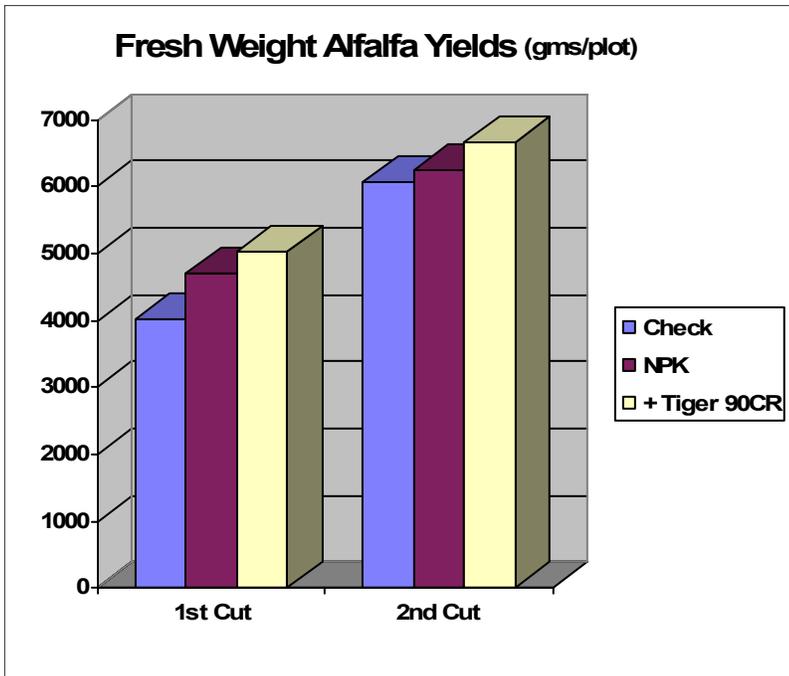


*Tiger 90CR Producer Alfalfa trial
Nokomis, Saskatchewan*

Seedling establishment was significantly lower in the plots inoculated with *Pythium spp.* or *Fusarium spp.* than that of the control plots. The *Fusarium* plots produced virtually nothing and were not harvested.

Results from year one clearly show that Tiger 90CR Sulphur is part of a disease management tool that is critical for a healthy establishment of alfalfa.

The effects of nutrition are also being examined with a focus on the role of sulphur in alfalfa. Plots fertilized with Tiger 90CR Sulphur had significantly higher production than plots that received only N,P,K treatments alone.



Alfalfa	1st Cut	2nd Cut
Check	4014	6077
NPK	4704	6247
Tiger 90CR	5032	6671

Tiger 90CR increased yields by 7%, providing 13.8% additional production for the season

Discussion:

To maintain long-lived, high yielding alfalfa control of pathogens through crop management and proper nutrition is important. New Tiger 90CR Sulphur provides faster degradability and conversion to plant available sulphate than competitive bentonite sulphur products.

Site selection, careful seed procurement (in order to reduce risk of seed borne pathogens) and proper fertility is important considerations for achieving successful alfalfa production.

Alfalfa crops must have access to high levels of N,P,K,S, and micronutrients for maximum stand development and production.

4 tonnes/ac alfalfa crop will use over 40 lbs P, 175 lbs K & N, and over 20 lbs of Sulphur¹ along with Boron and other micronutrients. Alfalfa's sulphur demand is as great as a 35 bu/acre Canola crop. Since an Alfalfa stand is maintained over numerous years it is essential sulphur management is incorporated into a fertility program ensuring sulphur is not depleted from the soil.

Alfalfa effectively fixes its own nitrogen through nodules, sulphur ensures nitrogen is utilized within the plant assists with the formation of protein. The nutrient required in greatest amounts is potassium. Yearly applications of potassium, phosphorus and sulphur along with boron are necessary to maintain adequate crop health particularly on sandy soils.

A balanced fertilizer program will help to ensure the longevity of an alfalfa stand, and sulphur is a key nutrient component of that program.

Annual applications of 30-40 lbs/ac of sulphur as Tiger 90CR will ensure that there is adequate sulphur present to meet the crops' demand for this important nutrient.

¹ Western Canadian Fertilizer Association



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