**Nutrient Recycling**

Green Spirit is a very effective use of soil nutrients. It can significantly reduce the need for fertilizer and other inputs.

**Adaptation**

Growing in all planting zones. It is suited for all planting zones in the United States. It can be used as an annual crop in the northern United States or as a perennial in the southern United States.

**Adaptation to Climate**

- **Soils:** Green Spirit is adapted to a wide range of soil types but performs best in well-drained soils.
- **Climate:** Green Spirit is well adapted to all planting zones in the United States. It can be grown as an annual or as a perennial in the northern or southern United States, respectively.

**Adaptation to Regions**

- **Western United States:** Green Spirit performs well in the western United States with supplemental irrigation.
- **Eastern United States:** Green Spirit is adapted to eastern United States with supplemental irrigation.

**Adaptation to Irrigation**

Green Spirit is adapted to a wide range of irrigation systems. It performs well under dryland conditions but benefits from supplemental irrigation in the southern United States.

**Seeding Rate**

- **Forage:** 30 - 35 lbs/acre
- **Grain:** 15 - 20 lbs/acre

**Management**

- **Establishment:** Green Spirit may be planted in the fall or spring. For fall planting, apply 100 lbs of a 20:20:20 fertilizer. For spring planting, apply 100 lbs of a 20:20:20 fertilizer. For fall planting, apply 100 lbs of a 20:20:20 fertilizer. For spring planting, apply 100 lbs of a 20:20:20 fertilizer.

**Fertilization**

Green Spirit responds well to nitrogen fertilization. We recommend applying 40 units of nitrogen following each cutting.

**Grazing and Finishing Grass Fed Beef**

- **Establishment:** Green Spirit may be planted in the fall or spring. For fall planting, apply 100 lbs of a 20:20:20 fertilizer. For spring planting, apply 100 lbs of a 20:20:20 fertilizer.

**Quality Assurance and Genetic Purity**

- **Soils:** Green Spirit is adapted to a wide range of soil types but performs best in well-drained soils.
- **Climate:** Green Spirit is well adapted to all planting zones in the United States. It can be grown as an annual or as a perennial in the northern or southern United States, respectively.

**Seed Heads**

Seed heads should be expected 6 to 8 weeks after sowing. Seed heads are a natural part of the genetic purity of Italian ryegrass.

**Growing Conditions**

- **Light:** Full sun
- **Temperature:** Cool season grasses perform best in cool temperatures.

**Excellent Forage Quality**

- **Nitrogen Uptake:** Green Spirit is well adapted to all planting zones in the United States. It can be grown as an annual or as a perennial in the northern or southern United States, respectively.

**High Dry Matter Production**

- **Excellent Forage Quality:** Green Spirit is well adapted to all planting zones in the United States. It can be grown as an annual or as a perennial in the northern or southern United States, respectively.

**Great Component in Your TMR**

- **Excellent Forage Quality:** Green Spirit is well adapted to all planting zones in the United States. It can be grown as an annual or as a perennial in the northern or southern United States, respectively.
Green Spirit is a unique blend of diploid and tetraploid Italian ryegrass varieties. Combining tetraploid and diploid varieties maximizes the advantages each has to offer. Our tetraploid varieties provide high dry matter production, disease resistance to crown rust and improved palatability. Our diploid varieties are added for better persistence under grazing and improved traffic tolerance. These varieties also have improved dry matter production and water hardness compared to older cultivars. In regions with moderate climates, Green Spirit will be a biannual forage. The varieties used in Green Spirit require prolonged periods of cold weather for vernalization. Once vernalized the plant has the ability to produce seed heads which result in the loss of forage quality. Inferior products that imitate Green Spirit has the ability to produce seed heads which result in the loss of forage quality. Inferior products that imitate Green Spirit will be a biannual forage.

As a High Energy Ration Component in the TMR
Green Spirit is ideal as silage or green chop for high producing dairy cows. It produces impressive forage yields of exceptional high quality feed. To evaluate the forage quality of Green Spirit, three trials took place. The forage value of Green Spirit is higher than that of corn while maintaining similar DM yields. Green Spirit creates great economic advantages for producers. Green Spirit has a high energy value and is an excellent source of digestible protein (NDFd of 72% to 77%, see Table 1). It is also noted that Green Spirit is the perfect forage for lactating dairy cows. Green Spirit is also a high forage value alternative to forage chop.

In the Rotation: Corn Silage, Soybeans, Alfalfa
— harvesting Green Spirit Each year, researchers evaluate green grass varieties and fix the varieties used in Green Spirit are at the forefront of this field. These varieties also have improved dry matter production and water hardness compared to older cultivars. Improved dry matter production and water hardness compared to older cultivars. The varieties used in Green Spirit require prolonged periods of cold weather for vernalization. Once vernalized the plant has the ability to produce seed heads which result in the loss of forage quality. Inferior products that imitate Green Spirit has the ability to produce seed heads which result in the loss of forage quality. Inferior products that imitate Green Spirit will be a biannual forage.

There are two major reasons why farmers have been reluctant to grow green grass, both high yields and winter hardiness. The second is the potential for forage quality depression, in fact there was actually a slight yield boost when compared to the legumes. Now what about quality – because high yields mean little if the feed produced is of low quality, and protein content.

Two questions were asked:
1) Can the quality and yield of an Italian ryegrass called Green Spirit compete with conventional rotation crops such as corn silage and alfalfa?
2) Will planting Green Spirit depress corn silage yields on the same ground around the following year?

Dr. Don Underhinder conducted the investigation at the University of Wisconsin, Arlington Research Station. The study was extensive and after two years of gathering data the results are impressive. The results are displayed in Table 1 and 2. Green Spirit not only significantly out yields both alfalfa and soybeans, but it even comes close to yielding the same as corn silage. But what does it do to the rotation? In the study, every crop was rotated and followed by corn silage. As you would expect, the worst corn silage yields were on ground that was planted to corn silage the previous year. But here is the surprising result: The highest yields of corn silage were on ground that was planted to Green Spirit the previous year. There was no yield depression, in fact there was actually a slight yield boost when compared to the legumes.

Now what about quality – because high yields mean little if the feed produced is of low quality, and protein content.

Forage Crop 2007 2008
Silage Yield L.S.D (0.05) 0.3 0.2
Corn Silage 10.5 7.8
Alfalfa 4.5 9.3
Table 1
Forage Crop Protein (% DM) NDF (%DM) NDFd (%NDF) lbs milk/ton
Silage 7.0 48.2 58.3 3,589
Corn Silage 6.9 46.2 56.8 3,672
Alfalfa 6.9 43.7 54.0 3,687
Table 2
Forage Crop Protein (% DM) NDF (%DM) NDFd (%NDF) lbs milk/ton
Silage 7.0 48.2 58.3 3,589
Corn Silage 6.9 46.2 56.8 3,672
Alfalfa 6.9 43.7 54.0 3,687
Table 3
Forage Crop Protein (% DM) NDF (%DM) NDFd (%NDF) lbs milk/ton
Silage 7.0 48.2 58.3 3,589
Corn Silage 6.9 46.2 56.8 3,672
Alfalfa 6.9 43.7 54.0 3,687
Table 4
Forage Crop Protein (% DM) NDF (%DM) NDFd (%NDF) lbs milk/ton
Silage 7.0 48.2 58.3 3,589
Corn Silage 6.9 46.2 56.8 3,672
Alfalfa 6.9 43.7 54.0 3,687
Table 5
Forage Crop Protein (% DM) NDF (%DM) NDFd (%NDF) lbs milk/ton
Silage 7.0 48.2 58.3 3,589
Corn Silage 6.9 46.2 56.8 3,672
Alfalfa 6.9 43.7 54.0 3,687
Table 6
Forage Crop Protein (% DM) NDF (%DM) NDFd (%NDF) lbs milk/ton
Silage 7.0 48.2 58.3 3,589
Corn Silage 6.9 46.2 56.8 3,672
Alfalfa 6.9 43.7 54.0 3,687
Table 7
Forage Crop Protein (% DM) NDF (%DM) NDFd (%NDF) lbs milk/ton
Silage 7.0 48.2 58.3 3,589
Corn Silage 6.9 46.2 56.8 3,672
Alfalfa 6.9 43.7 54.0 3,687
Table 8
Forage Crop Protein (% DM) NDF (%DM) NDFd (%NDF) lbs milk/ton
Silage 7.0 48.2 58.3 3,589
Corn Silage 6.9 46.2 56.8 3,672
Alfalfa 6.9 43.7 54.0 3,687
Table 9
Forage Crop Protein (% DM) NDF (%DM) NDFd (%NDF) lbs milk/ton
Silage 7.0 48.2 58.3 3,589
Corn Silage 6.9 46.2 56.8 3,672
Alfalfa 6.9 43.7 54.0 3,687
Table 10
Forage Crop Protein (% DM) NDF (%DM) NDFd (%NDF) lbs milk/ton
Silage 7.0 48.2 58.3 3,589
Corn Silage 6.9 46.2 56.8 3,672
Alfalfa 6.9 43.7 54.0 3,687
Table 11
Forage Crop Protein (% DM) NDF (%DM) NDFd (%NDF) lbs milk/ton
Silage 7.0 48.2 58.3 3,589
Corn Silage 6.9 46.2 56.8 3,672
Alfalfa 6.9 43.7 54.0 3,687
Table 12
Forage Crop Protein (% DM) NDF (%DM) NDFd (%NDF) lbs milk/ton
Silage 7.0 48.2 58.3 3,589
Corn Silage 6.9 46.2 56.8 3,672
Alfalfa 6.9 43.7 54.0 3,687
Table 13