From our first varietal release in 1958 to our 87th variety and counting, the team at W-L Research has maintained a singular focus: to produce high-quality alfalfa seed that helps improve production for alfalfa growers. Thanks to that commitment, farmers across the country — and the world — are benefiting from improved alfalfa products that span the entire spectrum of dormancies, technologies and traits.

Building on a rich heritage of innovation, W-L Research continues to introduce game-changing products, including varietal attributes such as High Quality (HQ) forage quality, advanced pest- and disease-resistant varieties, and multiple Genuity® Roundup Ready® alfalfas that deliver clean stands with high yield potential.

To W-L Research, success has always been measured by our customers’ achievements and satisfaction — and it’s that determination that motivates our industry-leading global research efforts. Under the banner of “Better Seed Through Research,” we’re positioned to continue delivering the breakthrough products our customers need to meet increased demands on global agriculture.
THE FIRST NAME IN ALFALFA IS ACTUALLY TWO.

Since 1958, the W-L name has been behind some of the most sought-after alfalfa varieties available in the market today. In fact, over 55 years of genetic research and trait development has resulted in some of the highest-yielding, most disease and pest resistant varieties in the world, all while maintaining the award-winning foreign quality that’s become synonymous with the first and second name in alfalfa, Waterman and Loomis. Learn what over half a century of alfalfa research can do for you at wiesearch.com

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<td>SEMI-DORMANTS</td>
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<td>NONDORMANTS</td>
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<td>W-L’S GOLD TREATMENT PLUS</td>
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</tbody>
</table>
WL 356HQ.RR

OUTSTANDING YIELD POTENTIAL AND FORAGE QUALITY WITH POWERFUL PROTECTION ON YOUR TOUGHEST SOILS

WL 356HQ.RR Advantages

- Very high yield potential under 3- to 5-cut harvest managements
- Unique wet soil disease resistance package (HR to Aphanomyces Race 2) promoting better stand establishment, persistence, and forage yield
- WL 356HQ.RR carries the “HQ” designation, exhibiting strong potential to deliver higher feed intake, improve milk production, and increase profitability when fed
- Very winterhardy (WH=1.6); WL 356HQ.RR delivers long stand life under adverse weather and soil conditions
- WL 356HQ.RR continues the “HQ” tradition of Elite Forage Quality

Planting WL 356HQ.RR alfalfa and utilizing the Genuity® Roundup Ready® weed control system provides many benefits over conventional herbicides programs:

- Unmatched weed control at both stand establishment and in established stands means fewer weeds and higher-quality hay and haylage, which can result in more milk per ton fed and higher RFQ when tested
- Superior crop safety at all growth stages with the Roundup Ready® weed control system delivers increased yield potential in both the establishment year and subsequent years
- The simplicity of using a single herbicide (Roundup®) provides superior weed control with no need to mix; one herbicide does it all
- Flexibility in timing of application allows growers utilizing the Roundup Ready® system to spray when necessary; no carryover or crop rotation limitations
- Minimal wait (5 days) after Roundup® application before baling/feeding
- Highly resistant (HR) to stem nematode
- Perfect Disease Resistance Index (DRI) of 35/35 promotes fast seedling establishment and long stand life
- Ideal FD4 variety for Midwest, Northern Plains, Pacific Northwest and Northeastern region of the U.S. for hay and haylage uses
- Salt tolerance of germinating seeds similar to resistant check
- Very winterhardy (WH=1.6); WL 356HQ.RR delivers long stand life under adverse weather and soil conditions
- Ideal FD4 variety for Midwest, Northern Plains, Pacific Northwest and Northeastern region of the U.S. for hay and haylage uses

WL 356HQ.RR OUT YIELDS THE COMPETITION

WEST SALEM, WI 2010-2011

PEST RESISTANCE TRAITS

Bacterial Wilt HR
Fusarium Wilt HR
Anthracnose HR
Phytophthora Root Rot HR
Aphanomyces Root Rot - Race 1 HR
Aphanomyces Root Rot - Race 2 HR
Verticillium Wilt HR
Leaf Disease HR
Aphids FI
Stem Nematode HR
Disease Resistance Index 35/35

** Relative Forage Quality 85% to 95% $3,653 $3,853
*** Results and prices may vary; therefore, results to be obtained, including but not limited to yields, financial performance, or profits, cannot be predicted or guaranteed by W-L Research.

Do You Need Dual-Race Aphanomyces Root Rot Resistance?

The Aphanomyces fungus prunes alfalfa roots, resulting in stunted, chlorotic plants and poor seedling establishment on wet soils. Most alfalfa varieties currently marketed in the U.S. are resistant to Race 1 Aphanomyces, but very few varieties are resistant to Race 2.

Race 2 Aphanomyces isolates are widespread and cause severe disease on Race 1-resistant varieties. University forage specialists throughout the Midwest and Northeast suggest that Race 2 Aphanomyces represents a widespread risk to alfalfa varieties that possess only Race 1 Aphanomyces resistance.

Planting alfalfa with high resistance to Race 2 Aphanomyces (WL 356HQ.RR, left, below) will significantly improve alfalfa stand establishment and productivity on heavy or poorly drained soils where root diseases are prevalent.

** Relative Forage Quality 85% to 95% $3,653 $3,853
*** Results and prices may vary; therefore, results to be obtained, including but not limited to yields, financial performance, or profits, cannot be predicted or guaranteed by W-L Research.

** Relative Forage Quality 85% to 95% $3,653 $3,853
*** Results and prices may vary; therefore, results to be obtained, including but not limited to yields, financial performance, or profits, cannot be predicted or guaranteed by W-L Research.
EXCEPTIONAL YIELD POTENTIAL AND SUPERIOR FORAGE QUALITY UNDER HEAVY LEAFHOPPER PRESSURE

WL 352LH.RR Advantages

- Industry-leading “7th Generation” potato leafhopper resistance with HopperShield™ protection delivers high yield potential and excellent forage quality under heavy leafhopper pressure without spraying
- Very high yield potential (FD=3.9) under 3-, 4-, and 5-cut harvest schedules
- Superior digestibility produces more milk or beef and greater profit potential when fed
- Very winterhardy (WH=1.9); WL 352LH.RR delivers long stand life under the toughest weather conditions
- A perfect disease resistance index (DRI) of 30/30 can produce big yields and long stand life across a wide range of soil types
- Very well-adapted for use in the Midwestern and Northeastern U.S. for hay and haylage uses

Planting WL 352LH.RR and utilizing the Genuity® Roundup Ready® weed control system provides many benefits vs. conventional herbicide programs

- Unmatched weed control at both stand establishment and in established stands means fewer weeds and higher-quality hay and haylage, which can result in more milk and beef per acre
- Superior crop safety with the Roundup Ready® system provides increased yield potential in both the establishment and subsequent years
- Flexibility in timing of application allows growers utilizing the Roundup Ready® system in alfalfa the ability to spray when necessary; no crop rotation restrictions

WL 352LH.RR excels under heavy potato leafhopper pressure

When compared to conventional alfalfas, WL 352LH.RR tolerates TEN TIMES the level of leafhoppers before spray treatment is necessary
**WL 372HQ.RR**

### SUPERIOR TONNAGE AND EXCEPTIONAL FORAGE QUALITY UNDER INTENSIVE MANAGEMENT

**WL 372HQ.RR Delivers Superior Performance**
The combination of exceptional yield potential, very broad adaptation, and “HQ” superior feed value make WL 372HQ.RR the variety of choice for cash hay and dairy producers looking for a Fd5 alfalfa that maximizes profitability under intensive management while utilizing the breakthrough benefits of the Roundup® Ready® weed control system in alfalfa.

**WL 372HQ.RR Advantages**
- Our highest-yielding winterhardy RR Fd5 released to date
- Very high yield potential under 4- to 6-cut harvest schedules
- WL 372HQ.RR demonstrates “HQ” forage quality levels that promote higher feed intake, improved milk production, and greater profitability when fed
- Very winterhardy (WH=1.8); WL 372HQ.RR delivers long stand life even under harsh weather conditions
- Very strong disease package with a perfect Disease Resistance Index (dRI) of 30/30 to promote fast establishment
- High resistance (HR) to stem nematode
- Ideal Fd5 variety for cash hay growers, dairy producers, or other intensive managers; WL 372HQ.RR has consistently produced big yields of leafy, fine-stemmed hay with high RFQ levels

### WL 372HQ.RR OUT YIELDS THE COMPETITION

<table>
<thead>
<tr>
<th>WEST SALEM, WI. 2010-2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variety</td>
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<tr>
<td>HybriForce-400</td>
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<tr>
<td>Pioneer 54VRB</td>
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<td>WL 372NR</td>
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<th>BASIN CITY, OR. 2011-2012</th>
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<td>Variety</td>
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<td>Pioneer 54Q22</td>
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<tr>
<td>HybriForce-2400</td>
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<td>WL 372HQ.RR</td>
</tr>
</tbody>
</table>

### AGRONOMIC TRAITS

- Maturity: Early
- Fall Dormancy: 4.8
- Winterhardiness: 1.8
- Organoleptically Treated: Sweet
- Persistence Index: Very High
- Recovery After Harvest: Very Fast
- Traffic Tolerance: Very Good
- Standability: Excellent
- Multileaf Expression: Very High

### PEST RESISTANCE TRAITS

- Bacterial Wilt: RR
- Fusarium Wilt: RR
- Anthracnose: RR
- Phytophthora Root Rot: RR
- Rhizoctonia Root Rot: RR
- Verticillium Wilt: RR
- Leaf Blight: R
- Aphids: RR
- Stem Nematode: RR
- Disease Resistance Index: 30/30

*FD5 = Resistant to: Bacterial Wilt, Fusarium Wilt, Anthracnose, Verticillium Wilt, Leaf Blight, Stem Nematode. DORMANT = Resistant to: Bacterial Wilt, Fusarium Wilt, Anthracnose, Verticillium Wilt, Leaf Blight, Stem Nematode.

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**Genuity® Roundup Ready® alfalfa and utilizing the Genuity® Roundup Ready® weed control system provides many benefits over conventional herbicide programs**

- Unmatched weed control at both stand establishment and in established stands means fewer weeds and higher quality hay and haylage, which can result in more milk per ton fed and higher RFQ when tested
- Superior crop safety at all growth stages with the Roundup Ready® weed control system delivers increased yield potential in both the establishment year and subsequent years
- The simplicity of using a single herbicide (Roundup®) provides superior weed control with no need to tank mix; one herbicide does it all
- Flexibility in timing of application allows growers utilizing the Roundup Ready® system to spray when necessary; no carryover or crop rotation limitations
- Minimal wait (5 days) after Roundup® application before haying/feeding

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**PLANTING**

**WL 372HQ.RR**

- For sale and distribution by authorized Seed Companies or their dealers for use in the United States only. This seed may not be planted outside of the United States.
- Growers should talk to their grain handler or product purchaser to confirm their buying position for this product.

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**Visit usresearch.com for more information.**
WL 367HQ.RR

EXCEPTIONAL YIELD POTENTIAL AND SUPERIOR FORAGE QUALITY UNDER INTENSIVE CUTTING

WL 367HQ.RR Advantages

- Very high yield potential under 4-, 5-, and 6-cut harvest schedules
- Superior digestibility produces more milk or beef and greater profit potential when fed; WL 367HQ.RR consistently beats the competition in head-to-head digestibility comparisons
- Very winterhardy (WH=1.9); WL 367HQ.RR delivers long stand life even under the toughest weather conditions
- A perfect disease resistance index (DRI) of 30/30 and strong resistance to insects and nematodes can produce big yields and long stand life across a wide range of soil types
- Dark green, fine-stemmed, and highly palatable

Planting WL 367HQ.RR and utilizing the Genety® Roundup Ready® weed control system provides many benefits vs. conventional herbicide programs:

- Unmatched weed control at both stand establishment and in established stands means fewer weeds and higher-quality hay and haylage, which can result in more milk and beef per acre
- Superior crop safety with the Roundup Ready® system provides increased yield potential in both the establishment and subsequent years
- Flexibility in timing of application allows growers utilizing the Roundup Ready® system in alfalfa the ability to spray when necessary; no crop rotation restrictions

The Genety® Roundup Ready® Weed Control Program Delivers Outstanding Crop Safety

WL 367HQ.RR East-Central Wisconsin

The Genuity® Roundup Ready® Weed Control Program Delivers Outstanding Crop Safety
Outstanding yield potential and exceptional forage quality on your toughest soils make WL 354HQ the alfalfa variety of choice for dairy, beef, and cash hay producers looking to significantly reduce the impact of root disease on seedling establishment and stand life.

WL 354HQ Advantages

- Unique wet soil disease resistance package (including HR to Aphanomyces Race 2) demonstrates significant on-farm benefits in stand establishment, persistence, and forage yield
- A perfect Disease Resistance Index (DRI) of 35/35
- Very high yield potential under 3- to 5-cut harvest managements; produces big yields across a wide range of soil types
- Excellent feed value and superior digestibility helps produce more milk or beef and greater profit potential when fed
- A great choice for cash hay: WL 354HQ delivers very high RFQ and Tdn numbers across a wide range of haying conditions
- Very winterhardy (WH=1.4); WL 354HQ delivers long stand life even under the toughest weather conditions
- Fast recovery after cutting and superior standability encourages intensive harvest management
- Dark green, fine-stemmed, and highly palatable
- Excellent later-maturing companion to WL 363HQ
- Very well-adapted for use in the Midwestern, Northern Plains, Pacific Northwest and Northeastern regions of the U.S. for hay and haylage uses

Do You Need Dual-Race Aphanomyces Root Rot Resistance?

The Aphanomyces fungus prunes alfalfa roots, resulting in stunted, chlorotic plants and poor seedling establishment on wet soils. Most alfalfa varieties currently marketed in the U.S. are resistant to Race 1 Aphanomyces, but very few varieties are resistant to Race 2.

Race 2 Aphanomyces isolates are widespread and cause severe disease on Race 1-resistant varieties. University forage specialists throughout the Midwest and northeast suggest that Race 2 Aphanomyces represents a widespread risk to alfalfa varieties that possess only Race 1 Aphanomyces resistance.

Planting alfalfa with high resistance to Race 2 Aphanomyces (see WL 354HQ below) will significantly improve alfalfa stand establishment and productivity on heavy or poorly drained soils where root diseases are prevalent.
WL 363HQ

EXCEPTIONAL YIELD POTENTIAL

WL 363HQ Advantages

• Very high yield potential under 4-, 5-, and 6-cut harvest managements (FD=4.9); the highest-yielding winterhardy conventional HQ released to date
• Superior digestibility can produce more milk or beef and greater profit potential when fed; WL 363HQ consistently beats the competition in head-to-head digestibility comparisons
• Very winterhardy (WH=1.6); WL 363HQ delivers long stand-life, even under the toughest weather conditions
• A great choice for cash hay, WL 363HQ delivers very high RFQ and Tdn numbers across a wide range of haying conditions
• Proven ability to “hold” high feed value in the field over a longer period of time; WL 363HQ delivers higher forage quality and greater harvest flexibility with less risk of rain damage to hay and haylage when harvest is delayed
• A perfect disease resistance index (dRI) of 30/30 and high resistance (HR) to both stem and root knot nematodes promotes big yield potential and long stand life across a wide range of soil types and growing conditions
• Fast recovery after cutting and superior standability encourages intensive harvest management
• dark green, fine-stemmed, and highly palatable
• excellent early maturing companion variety to WL 319HQ and WL 343HQ
• Well-adapted for hay and haylage use in the Midwestern, Northeastern, Northwestern, and Central Plains regions of the U.S.

Forage Quality and Milk Economics

La Crosse, Wisconsin

Variety Yield (T/A)
WL 363HQ 15.52
WL 357HQ 15.20
HybriForce-400 14.03
Alden 13.82
Pioneer 54V46 13.77
Anthem 13.54


Variety Yield (T/A)
WL 363HQ 20.74
WL 357HQ 21.08
Brower 22.61
Anthem 23.61
Pioneer 54V46 23.38
Ameristand 444NT 24.03

Area of Primary Adaptation

AGRONOMIC TRAITS

Maturity
Fall Dormancy 4.9
Winterhardiness 4.9
Disease Resistance Index 30/30

PEST RESISTANCE TRAITS

Bacterial Wilt HR
Fusarium Wilt HR
Anthracnose HR
Phytophthora Root Rot HR
Nematodes, Stem Knot HR
Nematodes, Root Knot HR
Disease Resistance Index 30/30

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For more information, visit www.wlresearch.com.
EXCEPTIONAL LEAFHOPPER RESISTANCE AND OUTSTANDING YIELD POTENTIAL

WL 353LH is a high-yielding, high-quality alfalfa that is the first variety to receive our HopperShield™ designation. HopperShield™ protection is based on patented (US 5908974) leafhopper resistance technology that delivers greater yields under heavy leafhopper pressure.

WL 353LH Advantages

- “7th Generation” potato leafhopper resistance with HopperShield™ protection, some of the best in the industry; a true “no-spray” PLH-resistant alfalfa, anytime, anywhere
- Dramatic improvements in agronomic performance with or without leafhopper pressure
- Impressive visual appeal under high leafhopper pressure
- Very high yield potential (FD = 4.0) under 3-, 4-, and 5-cut harvest managements
- Superior digestibility can produce more milk or beef and greater profitability when fed
- Very winterhardy (WH = 1.9) and persistent: WL 353LH delivers long stand life under tough weather conditions
- Perfect disease resistance index (DRI) of 30/30 promotes big yield potential on your toughest soils
- Resistant to aphid and nematode pests that attack alfalfa
- Dark green, fine-stemmed, and highly palatable
- Very well-adapted for use in the Northeastern and Midwestern U.S. for hay and haylage uses

OTTERBEIN, INDIANA 2007-2009 YIELD

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BLOOM, IOWA 2007-2009 YIELD

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MT. JOE PENNSYLVANIA 2006-2008 YIELD

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IOWA STATE UNIVERSITY, AMES, IOWA 2008 YIELD

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ALFALFA STEM HEIGHT (INCHES)

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</table>

AGRONOMIC TRAITS

- Maturity: Early
- Fall Dormancy: 4.0
- Winterhardiness: 1.9
- Digestibility/Feed Value: Superior
- Persistence index: Very High
- Disease Resistance Index: 30/30
- Recovery After Harvest: Very Fast
- Tolerance to Traffic: Very Good
- Standability: Excellent

AREA OF PRIMARY ADAPTATION

PEST RESISTANCE TRAITS

- Bacterial Wilt: HR
- Fusarium Wilt: HR
- Anthracnose: HR
- Phytophthora Root Rot: HR
- Aphanomyces Root Rot: Race 1 HR
- Verticillium Wilt: HR
- Potato Leafhopper: 80%
- Leaf Disease: R
- Pest Resistance: R
- Nematicides: R
- Insecticide: R

When compared to conventional alfalfas, WL 353 LH tolerates TEN times the level of leafhoppers before spray treatment is necessary.

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Visit wlresearch.com for more information.
Superior feed value and exceptional yield potential make WL 343HQ the alfalfa variety of choice for dairy, beef, and cash hay producers looking to maximize production and profit potential in their operations.

**WL 343HQ Advantages**

- Superior digestibility promotes more milk or beef and greater profit potential when fed; WL 343HQ consistently beats the competition in head-to-head digestibility comparisons
- Very high yield potential (FD=3.9) under 3-, 4-, and 5-cut harvest managements
- Very winterhardy (WH=1.7); WL 343HQ delivers long stand life even under the toughest weather conditions
- Proven ability to “hold” high feed value in the field over a longer period of time; WL 343HQ can deliver higher forage quality and greater harvest flexibility with less risk of rain damage to hay and haylage when harvest is delayed
- A “perfect” disease resistance index (DRI) of 30/30 and strong resistance to insects and nematodes promotes big yield potential and long stand life across a wide range of soil types
- Very fast recovery after cutting and superior standability encourages intensive harvest management
- Dark green, fine-stemmed, and highly palatable.
- Very well-adapted for use in the Midwestern, Northeastern, Northwestern, and Central Plains regions of the U.S. for hay and haylage uses

**AGRONOMIC TRAITS**

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**PEST RESISTANCE TRAITS**

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</table>
**EXCEPTIONAL WINTERHARDINESS AND OUTSTANDING PROFIT POTENTIAL**

Proven in university and regional tests all across the country, WL 319HQ consistently delivers exceptional yields and outstanding feed value. WL 319HQ also provides producers with the highest levels of cold tolerance and winterhardiness available in the W-L lineup today. And when fed to dairy or beef cattle, WL 319HQ easily beats the competition in head-to-head comparisons for palatability, digestibility, and overall profitability.

**WL 319HQ Advantages**
- Very high yield potential under both 3- and 4-cut harvest managements
- Group 1.3 winterhardiness and Group 2.8 fall dormancy can deliver fast recovery after cutting, high yields, long stand life, and superior cold tolerance
- Proven ability to “hold” high forage quality over a longer period of time; WL 319 HQ promotes higher forage quality and greater harvest flexibility with less risk of damaged hay or haylage when harvest is delayed
- A perfect disease resistance index (DRI) of 30/30 and strong resistance to insects and nematodes provide for big yield potential and long stand life across a wide range of soil types and climates
- Superior ration economics for both dairy and beef: high forage yield potential plus high feed quality delivers significantly greater profit potential when fed
- WL 319 HQ consistently beats the competition in head-to-head digestibility and feed value comparisons (“Best In Show” winner at the World Forage Superbowl)
- Dark green, fine-stemmed, and highly digestible
- Fast recovery after cutting and outstanding winterhardiness allows intensive harvest management for maximum quality and yield with no sacrifices in stand life

**Forage Quality and Milk Economics**

** Boone, Iowa**

<table>
<thead>
<tr>
<th>Variety</th>
<th>% CP</th>
<th>% IVId</th>
<th>$/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>WL 319HQ</td>
<td>23.4</td>
<td>79.4</td>
<td>$2,444</td>
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<tr>
<td>Geneva</td>
<td>22.6</td>
<td>78.1</td>
<td>$2,308</td>
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<tr>
<td>Magnum V</td>
<td>21.0</td>
<td>76.2</td>
<td>$2,229</td>
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<tr>
<td>Pioneer 5061BD</td>
<td>21.0</td>
<td>75.0</td>
<td>$2,208</td>
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WL 319 HQ beat Magnum V by $216 per acre

** La Crosse, Wisconsin**

<table>
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<th>Variety</th>
<th>% CP</th>
<th>% IVId</th>
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<tbody>
<tr>
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<td>77.1</td>
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<tr>
<td>Geneva</td>
<td>22.6</td>
<td>75.1</td>
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<tr>
<td>Affinity +Z</td>
<td>21.8</td>
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<tr>
<td>Pioneer 54V54</td>
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<td>74.9</td>
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</table>

WL 319 HQ beat Pioneer 54V54 by $377 per acre

** Mt. Joy, Pennsylvania**

<table>
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<th>Variety</th>
<th>% CP</th>
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<th>$/Acre</th>
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<tbody>
<tr>
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<td>Geneva</td>
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<td>Affinity +Z</td>
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<td>Pioneer 54V54</td>
<td>24.0</td>
<td>80.0</td>
<td>$2,093</td>
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WL 319 HQ beat Pioneer 54V54 by $377 per acre

*All milk performance uses Federal milk market analysis models to estimate test milk performance or profit. Source: Produce Milk Cooperatives, Inc.

**AGRONOMIC TRAITS**

<table>
<thead>
<tr>
<th>Trait</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Maturity</td>
<td>Medium</td>
</tr>
<tr>
<td>Fall Dormancy</td>
<td>2.8</td>
</tr>
<tr>
<td>Winterhardiness</td>
<td>1.3</td>
</tr>
<tr>
<td>Persistence Index</td>
<td>Very Fast</td>
</tr>
<tr>
<td>Recovery After Harvest</td>
<td>Very Fast</td>
</tr>
<tr>
<td>Standability</td>
<td>Excellent</td>
</tr>
<tr>
<td>Digestibility</td>
<td>Excellent</td>
</tr>
<tr>
<td>Traffic Tolerance</td>
<td>Very Good</td>
</tr>
<tr>
<td>Multi-Leaf Expression</td>
<td>Very Good</td>
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</tbody>
</table>

**PEST RESISTANCE TRAITS**

<table>
<thead>
<tr>
<th>Pest</th>
<th>Resistance Index (RRI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial Wilt</td>
<td>HR</td>
</tr>
<tr>
<td>Fusarium Wilt</td>
<td>HR</td>
</tr>
<tr>
<td>Anthracnose</td>
<td>HR</td>
</tr>
<tr>
<td>Phytophthora Root Rot</td>
<td>HR</td>
</tr>
<tr>
<td>Ascochyta Bean Rot</td>
<td>HR</td>
</tr>
<tr>
<td>Necrotic Rust</td>
<td>HR</td>
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<tr>
<td>Leaf Blight</td>
<td>R</td>
</tr>
<tr>
<td>Aphids</td>
<td>R</td>
</tr>
<tr>
<td>Necrotic Stems</td>
<td>HR</td>
</tr>
<tr>
<td>Disease Resistance Index (DRI)</td>
<td>30/30</td>
</tr>
</tbody>
</table>

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Visit wlresearch.com for more information.
WL 454HQ.RR

EXCEPTIONAL YIELD POTENTIAL AND OUTSTANDING HAY QUALITY

WL 454HQ.RR Advantages

• Intermediate dormant FD=6.7
• Outstanding yield potential under 5-, 6-, and 7-cut harvest managements
• Highly resistant to all major aphid pests
• Highly resistant/resistant to all major nematode pests
• WL 454HQ.RR promotes higher feed intake, improved milk production, and greater profitability when fed
• Ideal intermediate variety for the cash hay producer: WL 454HQ.RR has consistently produced big yields of leafy, fine-stemmed hay with dark green color and high %Tdn
• Very strong disease resistance package (including HR to Phytophthora Root Rot and Fusarium wilt; R to Verticillium wilt and Anthracnose) promotes fast seedling establishment and long stand life

Planting WL 454HQ.RR and Utilizing the Genuity® Roundup Ready® Weed Control System Provides Many Benefits Over Conventional Herbicide Programs

• Unmatched weed control both when establishing new stands and in established stands means fewer weeds and higher quality hay, which can result in higher %Tdn and greater profit potential
• Superior crop safety at all growth stages with the Genuity® Roundup Ready® weed control system can deliver thicker stands and higher yields for the life of stand
• Flexibility in timing of herbicide application allows alfalfa producers utilizing the Roundup Ready® system to spray when necessary; no carryover or crop rotation limitations
• Minimal wait (5 days) after Roundup® application before haying/feeding

WL 454HQ.RR: The Hay Quality Leader

Woodland, CA

<table>
<thead>
<tr>
<th>VARIETY</th>
<th>% CP</th>
<th>RFQ</th>
<th>% TdN</th>
</tr>
</thead>
<tbody>
<tr>
<td>WL 454HQ.RR</td>
<td>23.5</td>
<td>185</td>
<td>63.7</td>
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<tr>
<td>CM 754</td>
<td>22.0</td>
<td>173</td>
<td>62.5</td>
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<tr>
<td>HypeForce 505</td>
<td>21.3</td>
<td>167</td>
<td>61.6</td>
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<tr>
<td>6R100</td>
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<tr>
<td>Amerileaf 721</td>
<td>20.9</td>
<td>150</td>
<td>60.9</td>
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</tbody>
</table>

*Studer Farm Study

AGRONOMIC TRAITS

Fall Dormancy 6.7
Winter Activity Moderate
Dispersibility/Food Value Superior
Hay Quality (%TDN) Excellent
Mulched Herbage Expression Very High
Persistence Index Very High
Aphid Resistance Index 15/15
Recovery After Harvest Very Fast
Net Soil Tolerance Excellent
Traffic Tolerance Very Good
Standability Excellent

PEST RESISTANCE TRAITS

Bacterial Wilt R
Fusarium Wilt HR
Antarctiviruses HR
Phytophthora Root Rot HR
Verticillium Wilt R
Stem Nematode HR
Pea Aphid HR
Spotted Alfalfa Aphid HR
Blue Alfalfa Aphid HR

HR = High Resistance
R = Resistant

YIELD (% OF CHECK VARIETIES)

DKA50-18
Hybriforce 620
CW 704
6R100
WL 440HQ
WL 454HQ.RR

WL 454HQ.RR OUT-YIELDS THE COMPETITION

96% 98% 100% 102% 104% 106% 108%

FD6

FD6

SEED PROGRAM

ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. Roundup Ready® crops contain genes that confer tolerance to glyphosate, the active ingredient in Roundup® brand agricultural herbicides. Roundup® brand agricultural herbicides will kill crops that are not tolerant to glyphosate. Genetically Engineered, Genetically Modified, Genetically Altered, Genetically Engineered Crop, Roundup Ready®, and Roundup Ready® are trademarks of Monsanto Technology LLC. MONSANTO COMPANY is a member of Excellence Through Stewardship® (ETS). Monsanto products are commercialized in accordance with ETS Product Launch Stewardship Guidance, and in compliance with Monsanto’s Policy for Commercialization of Biotechnology-derived Plant Products in Commodity Crops. This product has been approved for import into key export markets with functioning regulatory systems. Any crop or material produced from this product can only be exported to, or used, processed or sold in countries where all necessary regulatory approvals have been granted. Do not export Roundup Ready® Alfalfa seed or crop, including hay or alfalfa products, to China pending import approval. It is a violation of national and international law to move material containing biotech traits across boundaries into nations where import is not permitted. Growers should talk to their grain handler or product purchaser to confirm their buying position for this product. Excellence Through Stewardship® is a registered trademark of Biotechnology Industry Organization. ALREADY READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. Roundup Ready® means certain genes that confer tolerance to glyphosate, the active ingredient in Roundup® brand agricultural herbicides. ROUNDUP® brand agricultural herbicides will kill crops that are not tolerant to glyphosate. Genetically Engineered, Genetically Modified, Genetically Altered, Genetically Engineered Crop, Roundup Ready®, and Roundup Ready® are trademarks of Monsanto Technology LLC.
WL 440HQ

SUPERIOR YIELD POTENTIAL

Our newest intermediate HQ (high quality-selected) alfalfa, WL 440HQ carries on the great tradition set by WL 442: very high yield potential, outstanding persistence, and unmatched hay quality. WL 440HQ produces outstanding per-acre profit potential when compared to the competition. With outstanding levels of resistance to all important diseases, aphids, and nematode pests, WL 440HQ is clearly a per-acre profit leader.

WL 440HQ Advantages

• Very high yield potential under 5- to 7-cut harvest managements
• Superior digestibility promotes more milk and greater profitability when fed; WL 440HQ consistently beats the competition in head-to-head digestibility comparisons
• A great choice for cash hay; WL 440HQ can deliver very high %Tdn numbers across a wide range of haying conditions
• Proven ability to hold high feed value in the field over a longer period of time; WL 440HQ delivers very high %Tdn numbers across a wide range of haying conditions
• High resistance to all major diseases, high resistance to both stem and root knot nematodes, and high resistance to all three aphid pests produces big yield potential and long stand life across a wide range of soil types and growing conditions
• Very fast recovery after cutting and superior standability encourages intensive harvest management
• Dark green, fine-stemmed, and highly palatable

Forage Quality and Milk Economics

Exceptional yield potential and very broad adaptation make WL 440HQ the alfalfa variety of choice for dairy and cash hay producers looking to maximize both production and profit potential in their operations.
WL 662HQ.RR

SUPERIOR YIELD, EXCELLENT HAY QUALITY AND EXCEPTIONAL GROWER VALUE

WL 662HQ.RR Advantages

- Winter-active, very nondormant FD9.2
- Very high yield potential under 8- to 11-cut harvest managements
- WL 662HQ.RR demonstrates strong potential to deliver higher feed intake, improved milk production, and greater profitability when fed
- Highly resistant (HR) to all major aphid pests
- Highly resistant/resistant to all major nematode pests
- Very strong disease resistance package (including HR to Phytophthora Root Rot and Fusarium Wilt); promotes fast seedling establishment and long stand life
- Ideal FD=9 variety for the cash hay producer: WL 662HQ.RR consistently produces big yields of leafy, fine-stemmed hay with high %TDN
- Salt-tolerant at seed germination, similar to the salt-tolerant checks
- Outstanding persistence and long stand life on your toughest fields

Planting WL 662HQ.RR alfalfa and utilizing the Genuity® Roundup Ready® weed control system provides many benefits over conventional herbicide programs.

- Unmatched weed control at both stand establishment and in established stands can mean fewer weeds and higher quality hay and haylage, which can result in more milk per ton fed and higher %TDN when tested
- Superior crop safety at all growth stages with the Roundup Ready® weed control system delivers increased yield potential in both the establishment year and subsequent years
- The simplicity of using a single herbicide (Roundup®) provides superior weed control with no need to tank-mix; one herbicide does it all
- Flexibility in timing of application allows growers utilizing the Roundup Ready system to spray when necessary, no carryover or crop rotation limitations
- Minimal wait (5 days) after Roundup® application before haying/feeding

WL 662HQ.RR Delivers Superior Performance

A unique combination of exceptional yield potential, very broad adaptation, and superior feed value make WL 662HQ.RR the variety of choice for cash hay and dairy producers looking for an FD9 alfalfa that maximizes profit potential in their operations while utilizing the breakthrough benefits of the Roundup Ready® weed control system in alfalfa.

For more information, visit wilresearch.com.
WL 552HQ.RR

INCREdIBLE YiELd POTENTiAL BACKED BY SuPERB FORAGE Qu ALiTy

WL 552HQ.RR provides growers looking for superior yield potential and solid forage quality the perfect Fd8 product. This makes WL 552HQ.RR a top pick for cash hay and dairy producers who want to maximize profit potential while utilizing the Genuity® Roundup Ready® weed control system.

WL 552HQ.RR Advantages

• WL 552HQ.RR is a winter-active, nondormant Fd=8.2
• HR to R to all major aphids
• HR to R to all major nematodes
• WL 552HQ.RR promotes higher feed intake, improved milk production, and greater profitability
• An ideal nondormant variety for the cash hay producer, WL 552HQ.RR produces big yield potential of leafy, fine-stemmed hay with dark green color and high %TdN
• With a very strong disease resistance package (including HR to Phytophthora Root Rot, R to Fusarium Wilt, and Anthracnose) it promotes fast seedling establishment and long stand life
• WL 552HQ.RR has excellent tolerance to leaf diseases, promotes improved leaf retention, higher protein levels, and greater %TdN

Phanting WL 552HQ.RR and Utilizing the Genuity® Roundup Ready® Weed Control System Provides Many Benefits Over Conventional Herbicide Programs

• Unmatched weed control when establishing new stands and in established stands can mean fewer weeds and higher-quality hay, which can result in higher %TdN and greater profit potential
• Superior crop safety at all growth stages with the Genuity® Roundup Ready® weed control system means thicker stands and higher yields for the life of the stand
• Flexibility in timing herbicide applications allows alfalfa producers utilizing the Roundup Ready® system to spray when necessary; no carryover or crop rotation limitations
• There is minimal wait (5 days) after a Roundup® application before haying/feeding

WL 552HQ.RR EXCELS AGAINST THE COMPETITION

2011–2012 SHAFTER, CA

2011–2012 DOS PALOS, CA

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WL 656HQ

THE BEST YIELD POTENTIAL IN THE WEST

Exceptional yield potential, broad adaptation, and superior hay quality makes WL 656HQ the nondormant alfalfa variety of choice for cash hay and dairy producers looking to maximize both production and profitability.

WL 656HQ Advantages

- Winter-active, very non-dormant 9.3
- Very high yield potential and outstanding persistence across a wide range of soil types and harvest schedules
- Superior digestibility promotes more milk and greater profit potential when fed; WL 656HQ consistently beats the nondormant competition in head-to-head digestibility comparisons
- A great choice for cash hay; WL 656HQ can deliver very high %Tdn numbers across a wide range of haying conditions
- Proven ability to “hold” high feed value in the field for a longer period of time; WL 656HQ helps deliver higher forage quality and greater harvest flexibility with less risk of damage to hay and haylage when harvest is delayed
- Highly resistant to all major disease, insect, and nematode pests that attack alfalfa in the Southwestern U.S.
- Very fast recovery after cutting and superior standability encourages intensive harvest management
- Great visual appeal in the field; dark green, leafy, finestemmed, and tolerant to leaf disease

**Shafter, California**

<table>
<thead>
<tr>
<th>Variety</th>
<th>Yield (T/A)</th>
<th>Variety</th>
<th>Yield (T/A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WL 656HQ</td>
<td>34.1</td>
<td>WL 656HQ</td>
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<tr>
<td>WL 625HQ</td>
<td>32.7</td>
<td>WL 656HQ</td>
<td>12.7</td>
</tr>
<tr>
<td>AmeriStand</td>
<td>30.0</td>
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<tr>
<td>WL 79</td>
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</tr>
<tr>
<td>CufFV</td>
<td>28.6</td>
<td>Pioneer S849</td>
<td>12.2</td>
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<td>30.3</td>
<td>Pioneer S849</td>
<td>12.2</td>
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<tr>
<td>Pioneer S867</td>
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<td>Sequoia</td>
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</table>

**VARIETY % CP RFQ* % TdN**

<table>
<thead>
<tr>
<th>Variety</th>
<th>% CP</th>
<th>RFQ</th>
<th>% TdN</th>
</tr>
</thead>
<tbody>
<tr>
<td>WL 656HQ</td>
<td>22.9</td>
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<td>64.7</td>
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<td>WL 625HQ</td>
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<td>CW 907</td>
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<td>Cuf FV</td>
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</tbody>
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*Relative Forage Quality

Shafter, California is the area of primary adaptation for WL 656HQ.

**AGRONOMIC TRAITS**

<table>
<thead>
<tr>
<th>Trait Description</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Yield Potential</td>
<td>Superior</td>
</tr>
<tr>
<td>Excellent Persistence</td>
<td>Very High</td>
</tr>
<tr>
<td>Excellent Traffic Tolerance</td>
<td>Very Good</td>
</tr>
<tr>
<td>Excellent Standability</td>
<td>Excellent</td>
</tr>
</tbody>
</table>

**PEST RESISTANCE TRAITS**

<table>
<thead>
<tr>
<th>Pest Resistance</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spotted Aphid</td>
<td>HR</td>
</tr>
<tr>
<td>Pea Aphid</td>
<td>R</td>
</tr>
<tr>
<td>Blue Aphid</td>
<td>HR</td>
</tr>
<tr>
<td>Phytophthora Root Rot</td>
<td>HR</td>
</tr>
<tr>
<td>Fusarium Wilt</td>
<td>HR</td>
</tr>
<tr>
<td>Verticillium Wilt</td>
<td>HR</td>
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<tr>
<td>Bacterial Wilt</td>
<td>HR</td>
</tr>
<tr>
<td>Anthracnose</td>
<td>HR</td>
</tr>
<tr>
<td>Stem Nematode</td>
<td>HR</td>
</tr>
<tr>
<td>Root Knot Nematode (Southern)</td>
<td>HR</td>
</tr>
</tbody>
</table>

WL 656HQ: The One To Beat!

Our newest very nondormant HQ (high quality–selected) alfalfa, WL 656HQ carries on in the great tradition set by WL 625HQ: Very high yield potential, outstanding persistence, and unmatched hay quality. WL 656HQ offers a unique combination of high yield potential and high hay quality, producing outstanding per-acre profitability when compared to the competition. With superior levels of resistance to all important disease, aphid, and nematode pests, WL 656HQ is clearly the nondormant alfalfa to beat.

**Shafter, California**

Exceptional yield potential, broad adaptation, and superior hay quality makes WL 656HQ the nondormant alfalfa variety of choice for cash hay and dairy producers looking to maximize both production and profitability.

**The New HQ Leader**

Shafter, California

**WL 656HQ**

Visit wlresearch.com for more information.

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THE NEW YIELD POTENTIAL LEADER

Broadly adapted across the entire southwestern U.S. where nondormant alfalfas are grown, WL 535 HQ has consistently delivered outstanding persistence and long stand life under intensive harvest managements, providing producers with a valuable tool to increase both production and profit potential on every acre.

WL 535HQ Advantages

- Winter-active, nondormant FD=8.2
- Very high yield potential across a wide range of soil types and harvest schedules
- Highly resistant to all major aphid pests
- Resistant to all major nematode pests
- WL 535-HQ is highly palatable; higher intake, greater milk production, and lower feed costs increase profitability
- Ideal variety for the cash hay producer: WL 535 HQ consistently promotes big yield potential of leafy, fine-stemmed hay with high %TDN and dark green color
- Outstanding persistence and long stand life even under intensive cutting schedules
- Very strong disease resistance package (including HR to Phytophthora Root Rot, Fusarium Wilt, and Verticillium Wilt) promotes fast stand establishment and longer stand life
- Excellent tolerance to leaf diseases provides improved leaf retention, higher protein levels, and greater %TDN
- Very fast recovery after cutting

WL 535HQ Delivers

WL 535HQ can deliver big yield potential, superior feed value, and outstanding profit potential for both dairy and cash hay producers. WL 535HQ carries on the great HQ tradition set by WL 525HQ. Intense selection for parent plants with high forage quality traits (high % crude protein, excellent fiber digestibility, and higher %TDN) has resulted in an HQ alfalfa variety with superior hay quality. High forage yield plus superior feed value equals greater profit potential, and WL 535HQ delivers.

THE HQ CHOICE FOR UNBEATABLE FEED VALUE

Fresno, California

Variety Yield (T/A)
WL 535HQ 11.87
Pioneer 5939 11.35
doK 189 11.26
Condor 10.65
mecca ii 10.12
Cuf 101 9.17

Bakersfield, California

Variety Yield (T/A)
WL 535HQ 11.87
Pioneer 5939 11.35
doK 189 11.26
Condor 10.65
Pioneer 58N57 12.28

Los Angeles, California

Variety Yield (T/A)
WL 535HQ 10.72
doK 189 10.69
Tahoe 10.51
13R Supreme 9.74
Archer 9.31
Pioneer 5715 8.50

Shafter, California

Variety Yield (T/A)
WL 535HQ 12.84
doK 180mL 12.72
Pioneer 5939 12.66
Condor 12.60
Pioneer 58N57 12.28

AREA OF PRIMARY ADAPTATION

AGRONOMIC TRAITS

- Fall Dormancy 8.2
- Winter Activity High
- Digestibility/Feed Value Superior
- Hay Quality (%TDN) Excellent
- Persistence Index Very High
- Aphid Resistance Index 15/15
- Recovery After Harvest Very Fast
- Wet Soil Tolerance Excellent
- Traffic Tolerance Very Good
- Standability Excellent
- Leaf Type Trifoliate

PEST RESISTANCE TRAITS

- Spotted Alfalfa Aphid HR
- Pea Aphid HR
- Blue Alfalfa Aphid HR
- Phytophthora Root Rot HR
- Fusarium Wilt HR
- Verticillium Wilt HR
- Stem Nematode R
- Root Knot Nematode (Southern) R

VARiETY RFV* % TdN
WL 535HQ 212 57.5
doK 189 205 56.8
doK 180mL 193 56.1
Pioneer 5715 194 55.8
Tulare 194 55.8
Coronado 195 55.0

VARiETY RFV* % TdN
WL 535HQ 217 58.1
Pioneer 58N57 211 57.3
Tulare 208 57.2
dK 180mL 204 56.9
Salado 199 56.4
Corralita 195 56.1

*Relative Feed Value
### DORMANT

<table>
<thead>
<tr>
<th>Variety</th>
<th>Rating</th>
<th>Resistance</th>
<th>Disease Resistance</th>
<th>Salt Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>WL 356HQ.RR</td>
<td>3.8</td>
<td>Very High</td>
<td>Excellent</td>
<td>35/35</td>
</tr>
<tr>
<td>WL 352LH.RR</td>
<td>3.9</td>
<td>High</td>
<td>Very Good</td>
<td>35/35</td>
</tr>
<tr>
<td>WL 367HQ.RR</td>
<td>4.8</td>
<td>High</td>
<td>Very Good</td>
<td>30/30</td>
</tr>
<tr>
<td>WL 354HQ</td>
<td>3.9</td>
<td>High</td>
<td>Excellent</td>
<td>30/30</td>
</tr>
<tr>
<td>WL 353LH</td>
<td>4.0</td>
<td>High</td>
<td>Very Good</td>
<td>30/30</td>
</tr>
<tr>
<td>WL 363HQ</td>
<td>4.9</td>
<td>High</td>
<td>Excellent</td>
<td>30/30</td>
</tr>
<tr>
<td>WL 319HQ</td>
<td>2.8</td>
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<td>30/30</td>
</tr>
<tr>
<td>WL 343HQ</td>
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<td>Excellent</td>
<td>30/30</td>
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</table>

### SEMI-DORMANT

<table>
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<th>Variety</th>
<th>Rating</th>
<th>Resistance</th>
<th>Disease Resistance</th>
<th>Salt Tolerance</th>
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</thead>
<tbody>
<tr>
<td>WL 454HQ.RR</td>
<td>0.7</td>
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<tr>
<td>WL 440HQ</td>
<td>0.8</td>
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<td>Excellent</td>
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### NONDORMANT

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<tr>
<th>Variety</th>
<th>Rating</th>
<th>Resistance</th>
<th>Disease Resistance</th>
<th>Salt Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>WL 626HQ.RR</td>
<td>9.2</td>
<td>Excellent</td>
<td>Excellent</td>
<td>15/15</td>
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<tr>
<td>WL 552HQ.RR</td>
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<td>Excellent</td>
<td>Excellent</td>
<td>15/15</td>
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<tr>
<td>WL 656HQ</td>
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<td>Excellent</td>
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</tr>
<tr>
<td>WL 535HQ</td>
<td>9.2</td>
<td>Excellent</td>
<td>Excellent</td>
<td>15/15</td>
</tr>
</tbody>
</table>

### AGRONOMIC TRAITS

- Yield Density
- Marketability
- Frost Tolerance
- Recovery After Harvest
- Dry Matter Content
- Root Hair Density
- Mulch Coverage

### PEST RESISTANCE TRAITS

- Fall Dormancy
- Winter Hardiness
- Southern Root-Knot Nematode
- Northern Root-Knot Nematode
- Potato Leafhopper
- Leaf Disease
- Disease Resistance Index
- Salt Tolerance
- Aphanomyces Race 2
- Aphanomyces Race 1
- Stem Nematode
- Pea Aphid
- Spotted Alfalfa Aphid
- Phytophthora Root Rot
- Anthracnose Race 1
- Verticillium Wilt
- Fusarium Wilt
- Bacterial Wilt
- Multifoliate Expression
- Aphid Resistance Index
- Feed Value
- Persistence Index
- Recovery After Harvest
- Standability
- Wet Soil Tolerance
- Traffic Tolerance

### RESISTANCE RATINGS

- **% Resistant Plants**: The percentage of plants resistant to the pest.
- **Resistance Class**: The classification of resistance.
- **Class Abbreviation**: The abbreviation for the class.

<table>
<thead>
<tr>
<th>% Resistant Plants</th>
<th>Resistance Class</th>
<th>Class Abbreviation</th>
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</thead>
<tbody>
<tr>
<td>0–5</td>
<td>Susceptible</td>
<td>S</td>
</tr>
<tr>
<td>6–14</td>
<td>Low Resistance</td>
<td>LR</td>
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<tr>
<td>15–30</td>
<td>Moderate Resistance</td>
<td>MR</td>
</tr>
<tr>
<td>31–50</td>
<td>Resistance</td>
<td>R</td>
</tr>
<tr>
<td>50+</td>
<td>High Resistance</td>
<td>HR</td>
</tr>
</tbody>
</table>

### SALT TOLERANCE

- **G** = Germination
- **F** = Forage
A NEW PREMIUM SEED ENHANCEMENT AVAILABLE EXCLUSIVELY ON W-L GENIUTY® ROUNDUP READY® ALFALFA

You make a substantial investment in a multi-year crop of alfalfa. Seedling vigor and standability, quick establishment, and maximum plant population in your stand is imperative. This is why W-L Research developed its Gold Treatment Plus seed coating and treatment. Gold Treatment Plus is a premium seed enhancement for use on all conventional W-L alfalfas and Genuity® Roundup Ready® alfalfas. It includes Dual-LCO Promoter Technology™ with Optimize® Gold Plus, which initiates the nodulation and nitrogen-fixation processes early, giving young alfalfa seedlings a boost and enhancing seeding-year yields and nutritional values.

• Optimize® Gold Plus includes Dual-LCO Promoter Technology™, a patented technology that promotes early-season seedling vigor, enhanced root development and improved stand establishment under adverse conditions

• Nitragin® Gold pre-inoculant has guaranteed counts of 300 million rhizobia per gram of inoculant

• Micronutrient Package Mo/Mn helps ensure early nodulation and improved nitrogen fixation

• Apron XL® fungicide protects young seedlings from damping-off diseases

W-L Research developed Gold Treatment Plus with Optimize® Gold Plus to provide protection from seeding to stand.

Enhancing the Nitrogen Fixation Cycle With Optimize® Gold Plus

Gold Treatment Plus takes high-quality W-L alfalfa seed and makes it better, promoting improved seedling vigor, faster stand establishment, and greater seeding-year profit potential. The growth boost provided by the addition of Optimize® Gold Plus and micronutrients maximizes the seed-to-plant ratio, and helps ensure your investment in premium W-L alfalfa seed pays off immediately and for years to come.

The impact of Optimize® Gold Plus on seedling establishment and seeding-year yield

Averaged over three locations and two seeding years, Optimize® Gold Plus delivered 7% higher yields*

*Information provided by the company Novozymes.