



CORNBELT[®] BASE[™]

Advanced
patent pending
spray adjuvant
with alkaline buffered
methylated seed oil
for crop protection products

Principal Functioning Agents

Alkaline buffered methylated seed oil, nitrogen-based fertilizer solution, nonionic surfactant and antifoam agent.....100%

Ingredients are accepted for use under CFR 40,180.1001(C)

CAUTION!
Keep Out of Reach of Children

Van Diest Supply Company-- Webster City, IA 50595

NET CONTENTS
2.5 gallons

General Information

BASE™ is a patent pending, micro emulsion concentrate combining an alkaline pH buffered methylated seed oil with a nitrogen-based fertilizer. **BASE™** enhances retention and penetration of herbicides sprayed onto weed surfaces and buffers the pH of the spray to minimize acid hydrolysis. The antifoam ingredient in **BASE™** minimizes the formation of troublesome foam. **BASE™** will maximize the performance of many post-emergent herbicides such as Accent®, Accent Gold®, Betamix®, Betanex®, Progress®, Pursuit®, Raptor®, Stinger® and UpBeet®. Do not use **BASE™** with Assert® herbicide. **BASE™** is also suitable for use when pesticide label recommends methylated or modified seed oil adjuvants.

Directions For Use

BASE™ should be added to the herbicide tank mix in keeping with recommendations found on the herbicide product label.

Note: make sure that UpBeet® is properly preslurried if adding **BASE™** to the tank prior to the herbicide. Shake **BASE™** well before using.

Use Rate

Use rates vary from 1 gallon to 2.5 gallons of **BASE™** per 100 gallons of spray mixture (1% to 2.5% v/v). A use rate of 1 gallon per 100 gallons of spray solution is the most common, but always use the use rate required on the specific herbicide label.

If heavy velvetleaf infestation is present, the addition of 2 pounds of AMS per acre or 2 quarts of 28% nitrogen per acre may be necessary.

Storage And Disposal

Storage: Do not contaminate water, food, or feed by storage or disposal. Do not store in freezing temperatures.

Disposal: Triple rinse container. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke. Do not re-use empty containers.

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Accent®, Accent Gold® and UpBeet® are registered trademarks of DuPont Agricultural Products. Betamix®, Betanex® and Progress® are registered trademarks of Aventis CropScience. Assert®, Pursuit®, and Raptor® are registered trademarks of BASF Corp. Stinger® is a registered trademark of Dow AgroSciences. **BASE™** is a trademark of Van Diest Supply Company. Cornbelt® and Cornbelt Logo® are trademarks of Van Diest Supply Company.

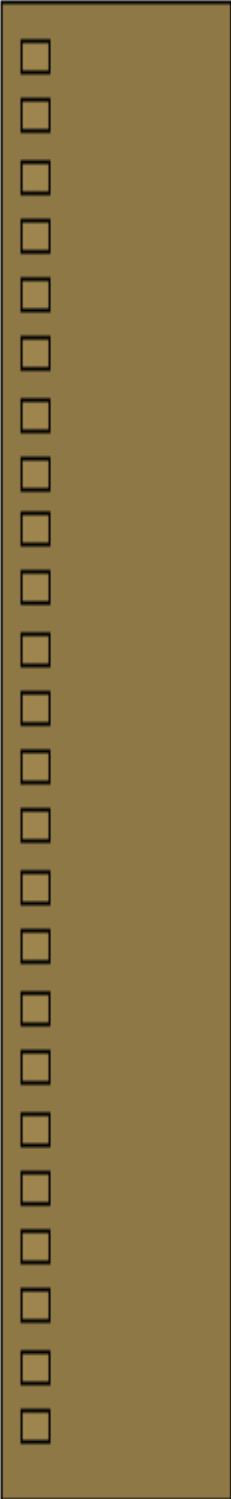
Precautionary Statements

May cause severe eye irritation. Do not get in eyes, on skin, or on clothing. In case of eye contact, immediately flush eyes with plenty of water and call a physician. If on skin, wash thoroughly with soap and water. Remove contaminated clothing and launder before reuse. If swallowed so not induce vomiting. Promptly drink a large quantity of milk, gelatin solution, or if these are not available, large quantities of water. Get medical attention. Use in well ventilated areas and avoid breathing vapors or spray mist.

NOTICE – READ CAREFULLY CONDITIONS OF SALE AND WARRANTY:

The directions for use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of Van Diest Supply Company or the Seller. All such risks shall be assumed by the Buyer.

Van Diest Supply Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the Direction for Use, subject to the inherent risks referred to above. VAN DIEST SUPPLY COMPANY MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. IN NO CASE SHALL VAN DIEST SUPPLY COMPANY OR THE SELLER BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT. Van Diest Supply Company and the Seller offer this product, and the Buyer and the User accept it, subject to the foregoing Conditions of Sale and Warranty, which may be varied only by agreement in writing signed by a duly authorized representative of Van Diest Supply Company.



New Adjuvant Technology

“Basic Blend Adjuvants”

BASIC BLEND ADJUVANTS

Basic Blend Adjuvants increase water pH which increases water solubility of certain herbicides. Sulfonylurea (Accent[®], UpBeet[®], etc.) and Imidazolinone (Pursuit[®], Raptor[®], etc.) herbicides, although not the only types of herbicides that are enhanced by Basic Blend adjuvants, they are very common examples. These herbicides vary in their solubility but are more soluble at higher pH ranges rather than lower pH ranges. For example Accent[®] is approximately 3 times more soluble at a pH of 8 than at a pH of 7 and Pursuit[®] is approximately twice as soluble at a pH of 9 than at a pH of 7. Basic Blend Adjuvants are referred to as blends because they contain very different components that have different functions within the composition of the adjuvant.

The first functioning portion is often referred to as the “activator adjuvant” portion of the blend. This is most commonly a nonionic surfactant. A newer version of a Basic Blend also contains a methylated seed oil in the “activator adjuvant” portion of the blend. These portions give the Basic Blend similar properties to what traditional adjuvants will provide. Nonionic surfactants will cause reduction of the surface tension of the spray droplet which then improves spreading, coverage, and retention of the spray droplet. Nonionic surfactants will also function to increase herbicide absorption into the plant. Methylated Seed Oils function to increase herbicide absorption into the plant and aid with spray retention. Methylated Seed Oils will provide faster leaf cuticle penetration than crop oil concentrates and much faster leaf cuticle penetration than nonionic surfactants.

The second functioning portion is often referred to as the ammonium nitrogen ion portion of the blend. This portion of the blend has two functions. The first function of the ammonium nitrogen ion portion is to help prevent salt antagonism of many herbicides (they do not prevent salt antagonism of glyphosate). Sodium bicarbonate can antagonize many herbicides and ammonium nitrate is effective in overcoming this antagonism. The second function is to enhance herbicide absorption into many weed species. This increased herbicide absorption can lead to many benefits such as increased translocation, faster activity prior to herbicide degradation, and shorter time for environmental conditions to impact the herbicide.

The third functioning portion of the blend is the pH buffering portion of the blend. Although water sources will vary and their impact from adding specific herbicide formulations will also vary (many herbicide combinations will lower the spray pH when they are added to the spray solution), this portion buffers the pH to ranges in the general vicinity of 8 to 8.5 for most situations when using basic blends at 1% v/v. It is this function that causes certain herbicides to be more water soluble than when they are sprayed in spray solutions with lower pH ranges.

Base[®] combines the surfactant advantages of nonionic surfactants, methylated seed oils, and fertilizer adjuvants, while raising the pH of the solution to optimal ranges in order to obtain maximum activity from many herbicides including sulfonylurea and imidazolinone herbicides.

Base[®] is a trademark of Van Diest Supply Company.

Accent[®] and UpBeet[®] are trademarks of Dupont Agricultural Products.

Pursuit[®] and Raptor[®] are trademarks of BASF.

Basic Blend Adjuvants Contain

- Nonionic Surfactant and/or methylated seed oil
 - ◆ Enhance spray retention
 - ◆ Enhance herbicide absorption
- pH buffer
 - ◆ Enhance herbicide solubility in tank and in spray deposit
- Ammonium Ions
 - ◆ Prevent Salt antagonism
 - ◆ Enhance Herbicide Absorption



Solubility of “SU” and “IMI” Herbicides

- **Accent** is 3 times more soluble at a pH of 8.5 than at a pH of 7 and > 30 times more soluble at a pH of 7 than at a pH of 5.
- **Upbeet** is 100 times more soluble at a pH of 9 than at a pH of 5.
- **Pinnacle** is 4 times more soluble at pH of 9 than pH of 7 and 10 times more soluble at pH of 7 than a pH of 5.
- **Pursuit** is twice as soluble at a pH of 9 than at a pH of 7.



Base™

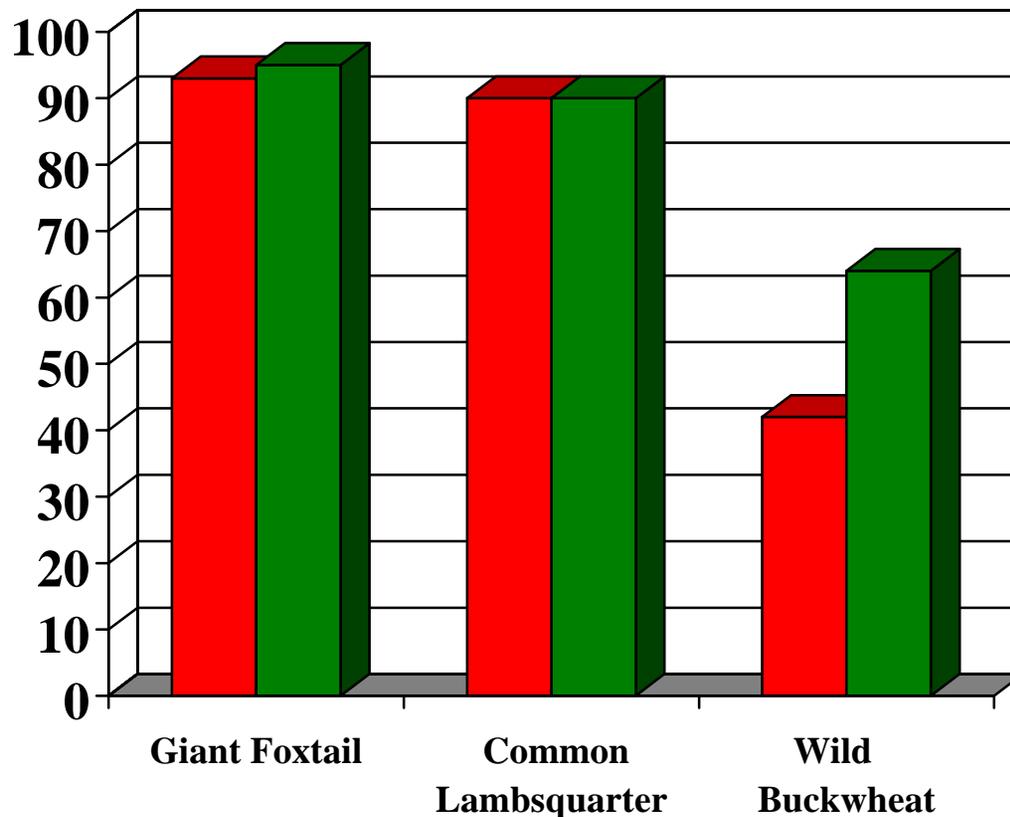
■ **Base™** is designed for many herbicides including sulfonylurea herbicides such as Accent and Accent Gold, imidazolinones such as Pursuit and Raptor, and the sugarbeet “microrates”.

■ **Base™** is a blend of methylated seed oil, nonionic surfactant, ammoniated nitrogen, and compatibility aids.

■ **Base™** combines the surfactant advantages of nonionic surfactants, methylated seed oils, and fertilizer adjuvants, while raising the pH of the solution to optimal ranges in order to obtain maximum activity from many sulfonylurea and imidazolinone herbicides.



DuPont Adjuvant Trial Accent Gold Arthur, ND – 30 DAT Summer, 2000

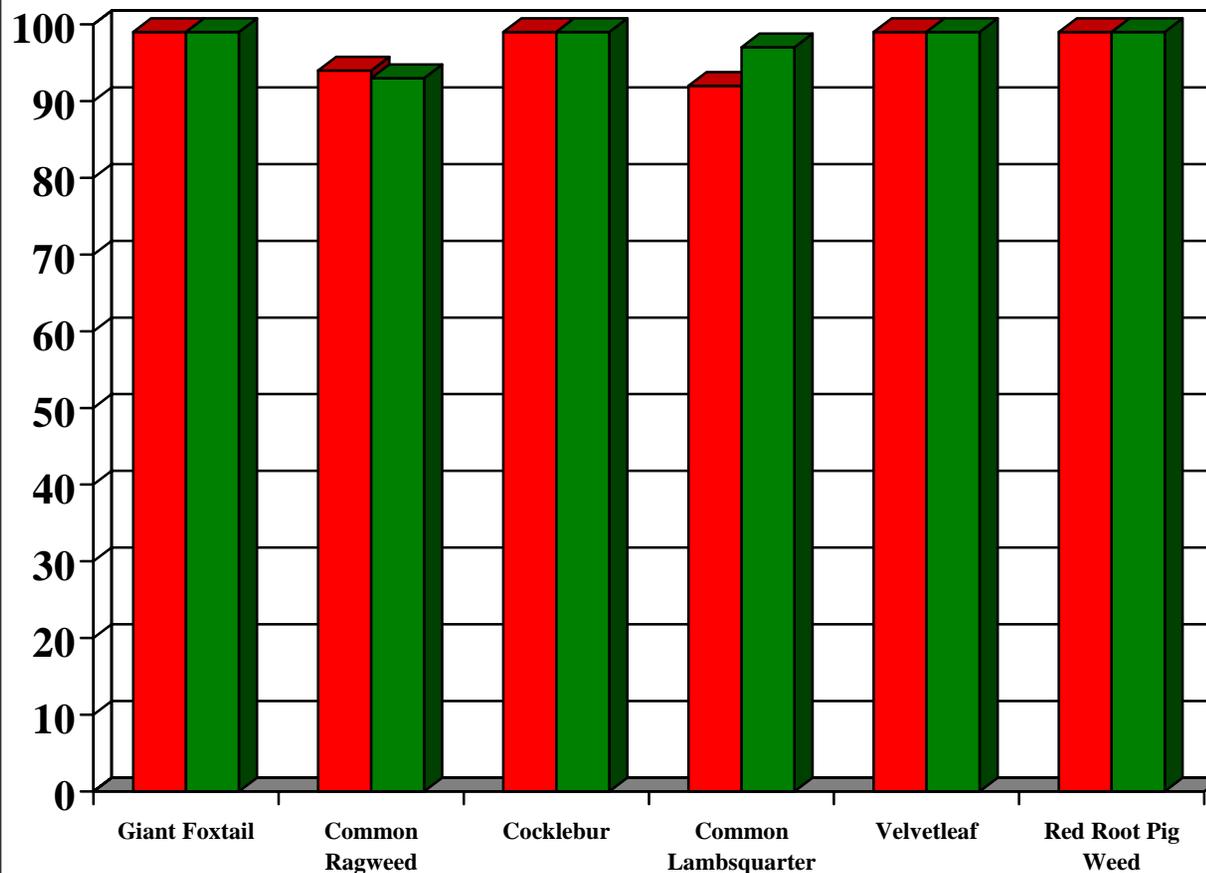


■ Accent Gold 2.4
oz/A + COC @ 1% v/v +
AMS @ 2 lbs/A

■ Accent Gold @ 2.4
oz/A + Base @ 1% v/v



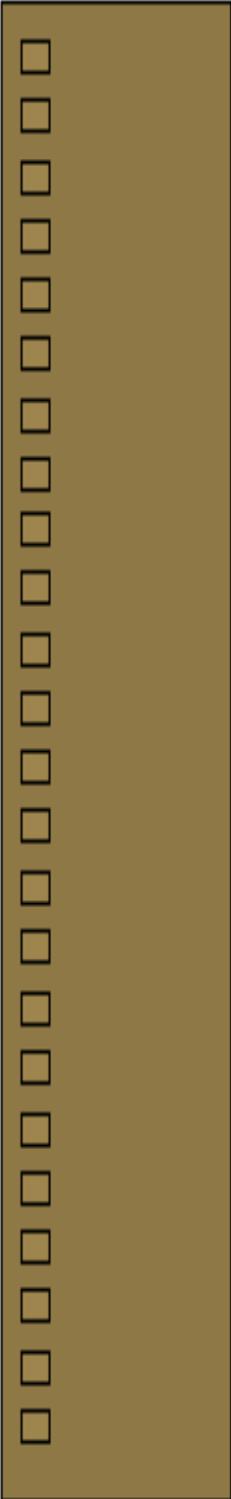
University of Minnesota Accent Gold Waseca, MN – 30 DAT Summer, 2000



■ **Accent Gold 2.9
oz/A + COC @ 1%
v/v + AMS @ 2 lbs/A**

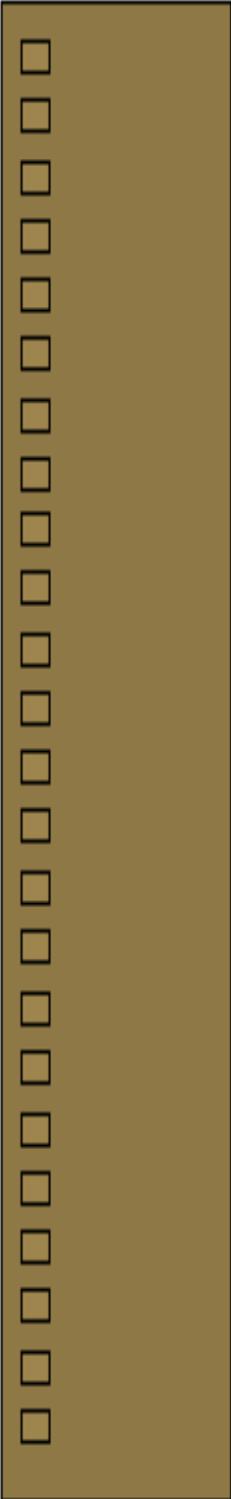
■ **Accent Gold @ 2.9
oz/A + Base @ 1 %
v/v**





Raptor Adjuvant Trial

Casselton, ND - 2000



10 Hours After Application:

7 – 10 inches of rain fell in a 6 hour
period

10 Days After Application:

Standing water in all plots

Beans were dead

Weeds were stressed

14 Days After Application

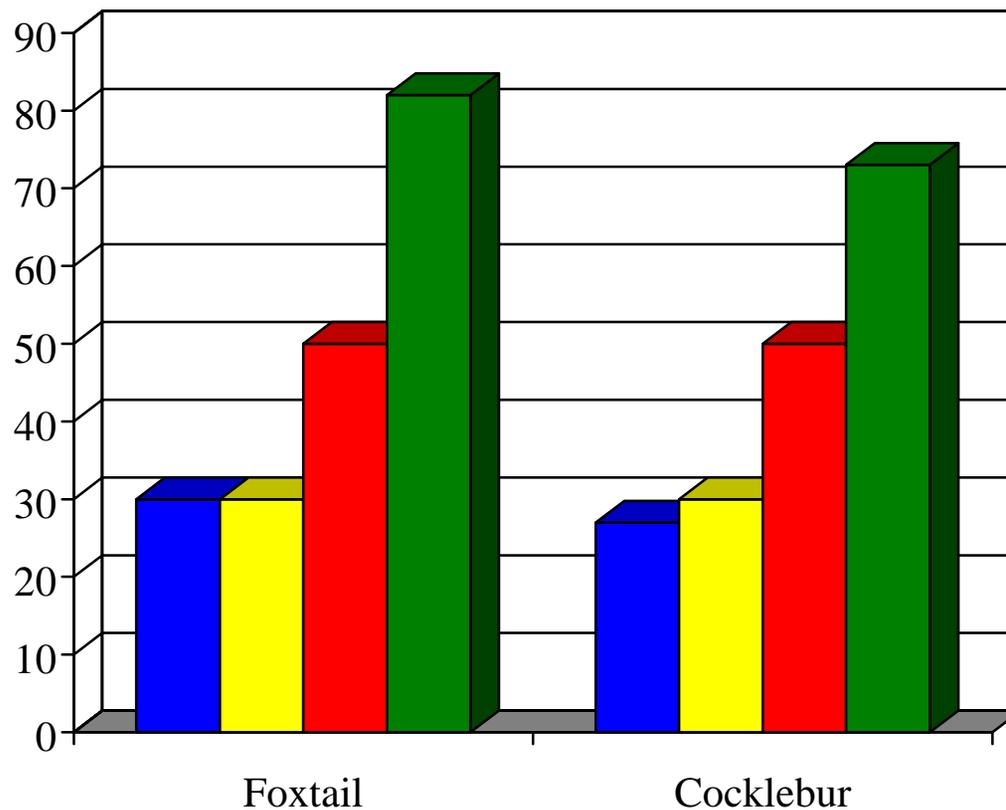
- Evaluations taken for weed control of green foxtail and cocklebur
- Drastic difference in weed control when comparing Basis Blends to conventional adjuvants
- Difference theorized to have come from speed of uptake of herbicide due to more soluble active ingredient



Raptor With Adjuvants

Casselton, ND – Raptor @ 5 Oz/a

14 DAYS AFTER TREATMENT



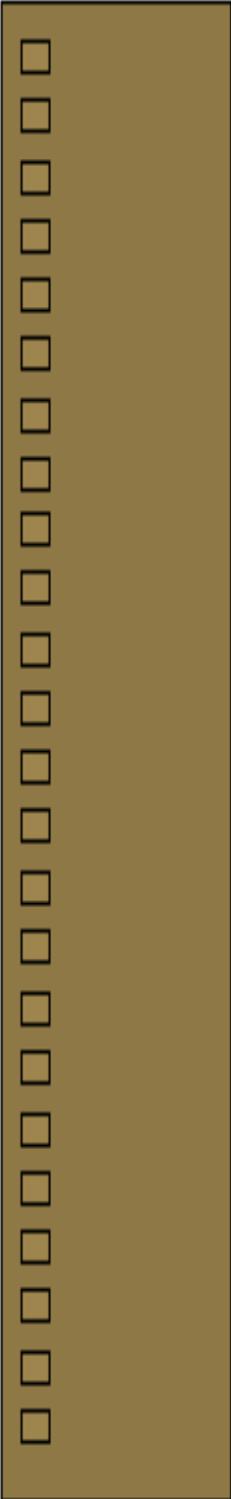
- Premier 90 @ 0.25% + 28% N**
- Premium COC @ 1% + 28% N**
- Soy-Stik @ 1% + 28% N**
- Base @ 1%**



BASE[®]

- *Base*[™] is a “basic blend adjuvant” that enhances the performance of many herbicides including sulfonylurea herbicides such as Accent[®] and Accent Gold, and imidazolinones such as Pursuit and Raptor, and the sugarbeet “microrates”.
- *Base*[™] combines the surfactant advantages of nonionic surfactants, methylated seed oils, and fertilizer adjuvants, while raising the pH of the solution to optimal ranges in order to obtain maximum activity from many sulfonylurea and imidazolinone herbicides.





Basic Blend Adjuvants Are on the Forefront of the Adjuvant Market