



# Extending Your Spray Season on Utility Rights of Way

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# Agenda

- Basal Bark
- Dormant Stem
- Hack and Squirt
- Cut Stump
- Cut Stubble



# Agenda

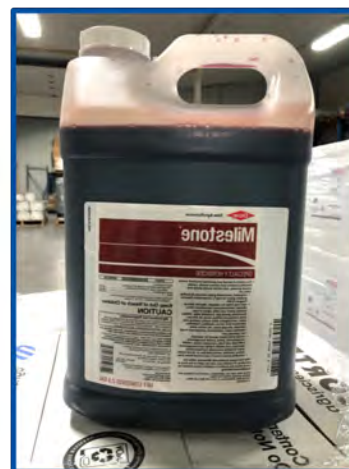
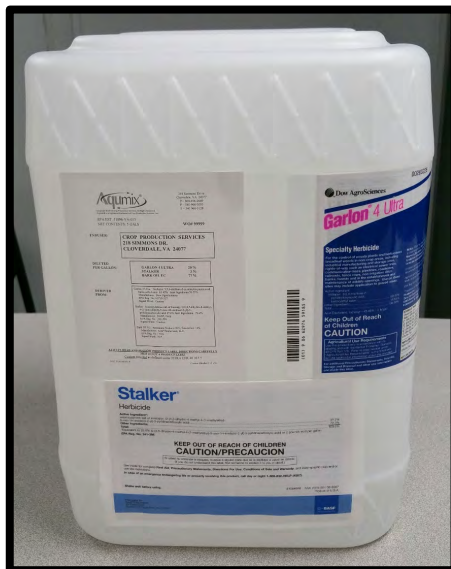
- Application techniques
  - ▶ What
  - ▶ Why
  - ▶ Where
  - ▶ How
  - ▶ Products and tank-mixes
  - ▶ Tips for success

# Why Use Basal Bark, Dormant Stem and Cut Surface Treatments?

- Allows for herbicide applications almost anytime of year
- Keeps experienced spray crews working
- Difficult to get all spray work completed using only foliar applications
- Provides application technique flexibility
- Reduces crew visibility
- Allows for treatment near areas planted in crops during the summer

# Common Products Used

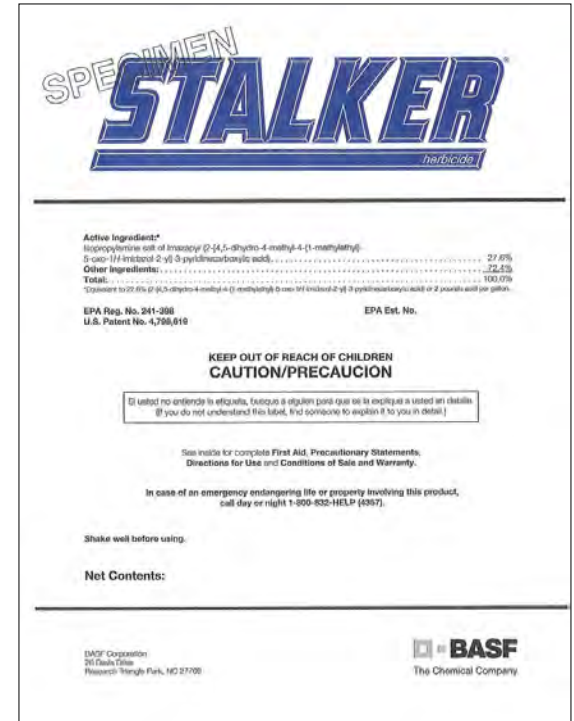
- Stalker
- Arsenal
- Arsenal AC
- Garlon 4 Ultra
- Pathfinder II
- Milestone
- Method





# BASF Solutions

- Common Name: Stalker
- Active Ingredient: Imazapyr 2 lbs. per gal.
- Mode of Action: ALS Inhibitor
- Signal Word: Caution
- Soil Activity: Yes
- Strengths: Hardwoods
- Weaknesses: Conifer and legumes
- Uses: Cut stump, basal bark, cut stubble and dormant stem
- Notes: Only imazapyr formulation designed to mix with basal oil carriers for cut stump and basal treatments



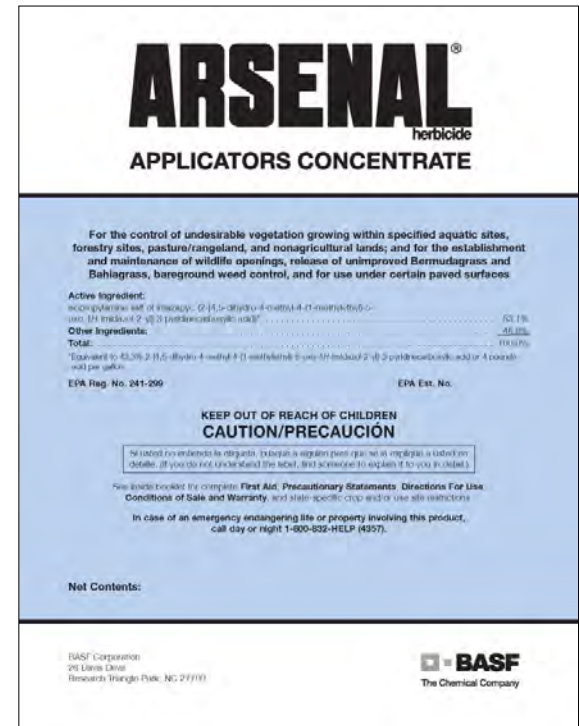
# BASF Solutions

- Common Name: Arsenal
- Active Ingredient: Imazapyr 2 lbs. per gal.
- Mode of Action: ALS Inhibitor
- Signal Word: Caution
- Soil Activity: Yes
- Strengths: Most hardwoods
- Weaknesses: Conifers and legumes
- Uses: Cut stump, cut stubble and dormant stem
- Notes: The base of most brush programs.  
Aquatic label and spot treatment in pasture



# BASF Solutions

- Common Name: Arsenal AC
- Active Ingredient: Imazapyr 4 lbs. per gal.
- Mode of Action: ALS Inhibitor
- Signal Word: Caution
- Soil Activity: Yes
- Strengths: Most hardwoods
- Weaknesses: Conifers and legumes
- Uses: Cut stump, cut stubble and dormant stem
- Notes: The base of most brush programs.  
Aquatic label and spot treatment in pasture





# Garlon 4 Ultra

- Active Ingredient: Triclopyr
- Mode of Action: Synthetic Auxin
- Signal Word: Caution
- Soil Activity: No
- Strengths: Some hardwoods, pines and other conifers, legumes, broadleaf weeds, waxy species
- Weaknesses: Some hardwoods, Virginia pine and grasses
- Uses: Cut stump, basal bark and dormant stem treatments

# Pathfinder

- Active Ingredient: Triclopyr (ready to use)
- Mode of Action: Synthetic Auxin
- Signal Word: Caution
- Soil Activity: No
- Strengths: Some hardwoods, pines and other conifers, legumes, broadleaf weeds, waxy species
- Weaknesses: Some hardwoods, Virginia pine and grasses
- Uses: Cut stump and basal bark treatments

# Milestone

- Active Ingredient: Aminopyralid
- Mode of Action: Synthetic Auxin
- Signal Word: Caution
- Soil Activity: Yes
- Strengths: Some hardwoods, pines and other conifers, legumes, broadleaf weeds, waxy species
- Weaknesses: Some hardwoods, Virginia pine and grasses
- Uses: Cut stump, basal bark, dormant stem and cut stubble treatments



# Method

- Active Ingredient: Aminocyclopyrachlor
- Mode of Action: Synthetic Auxin
- Signal Word: Caution
- Soil Activity: Yes
- Strengths: Many hardwoods, pines and other conifers, legumes, broadleaf weeds, waxy species
- Weaknesses: Some hardwoods, Virginia pine and grasses
- Uses: Cut stump, basal bark, dormant stem and cut stubble treatments

# Basal Bark



- All terrain
- All access
- Low visibility
- Medium to tall height brush
- Low to medium density brush
- Low efficiency
- Medium cost
- Extends season
- 90%+ control
- Selective placement

# Basal Bark

- Equipment: Backpack
- Product(s)
  - ▶ Garlon 4 Ultra
  - ▶ Stalker
- Brush less than 4 in diameter
- Timing:
  - ▶ Most of year
  - ▶ Avoid early spring
  - ▶ Avoid frozen ground
- Watch-Outs:
  - ▶ Treat all the way around the stem





# Tank Mixes

## Basal Bark

- 1% Stalker + 15% Garlon 4 Ultra + Basal Oil
- 25% Garlon 4 Ultra + Basal Oil
- 1% Stalker + 20% Garlon 4 Ultra + 1% Milestone + Basal Oil



# Species Controlled

## Stalker

- |                 |                  |
|-----------------|------------------|
| ■ Ash           | ■ Alder          |
| ■ Hickory       | ■ American Beech |
| ■ Maple         | ■ Birch          |
| ■ Oak           | ■ Ceanothis      |
| ■ Persimmon     | ■ Cherry         |
| ■ Poplar        | ■ Chinese Tallow |
| ■ Privet        | ■ Chinquapin     |
| ■ Saltcedar     | ■ Eucalyptus     |
| ■ Sourwood      | ■ Hawthorn       |
| ■ Sweetgum      | ■ Madrone        |
| ■ Sycamore      | ■ Manzanita      |
| ■ TiTi          | ■ Melaleuca      |
| ■ Willow        | ■ Mulberry       |
| ■ Yellow Poplar | ■ Tanoak         |

## Stalker + Garlon 4

- Autumn Olive
- **Black Locust**
- Cypress
- Dogwood
- Elderberry
- **Elm**
- Hazel
- Holly
- **Honey Locust**
- **Magnolia**
- Russian Olive
- Sumac
- **Tree of Heaven**
- **Waxmyrtle**

# Spray to Wet





# Basal Bark





# Basal Bark (8 MAT)



# Dormant Stem



- All terrain
- Good access
- Medium visibility
- Low to medium height brush
- Medium to high density brush
- Medium efficiency
- Medium cost
- Extends season
- 70%+ control
- Selective Placement



# Dormant Stem

- Equipment: Spray truck
- Product(s)
  - ▶ Stalker
  - ▶ Arsenal or Arsenal AC
  - ▶ Milestone
  - ▶ Garlon 4 Ultra
  - ▶ Method
- Timing:
  - ▶ Immediately following leaf drop until bud break
- Watch-Outs:
  - ▶ Avoid frozen ground





# Tank Mixes

Dormant Stem – Mixed in 100 gallon water

- 16 oz. Stalker + 1.5 gal. Garlon 4 Ultra + 7 oz. Milestone + 2 gal. Basal Oil
- 16 oz. Stalker + 10 oz. Method + 2 gal. Basal Oil



# Dormant Stem (1 YAT)





# Hack and Squirt



- All terrain
- All access
- Low visibility
- Tall brush
- Low brush density
- High efficiency
- Low cost
- Extends season
- 90%+ control
- Selective Placement

# Hack and Squirt

- Equipment: Squirt bottle + water
- Product(s)
  - ▶ Arsenal AC – Most efficient use of herbicide
  - ▶ Accord XRTII
- Most efficient use of Arsenal AC
- Works on most hardwoods
- Timing: Anytime of year except early spring



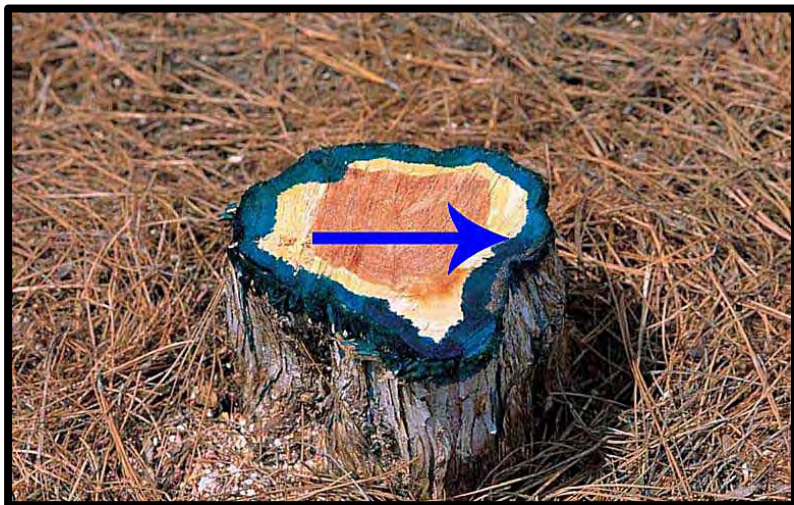
# Mixes

## ■ Tips:

- ▶ Arsenal AC - 10% solution
  - For stems 4 dbh inches and larger
  - 1 hack for every 3 inches in diameter
  - 1 milliliter of solution per hack
- ▶ Accord XRTII - 50%-100% solution



# Cut Stump



- All terrain
- All access
- Low visibility
- All height brush
- All density brush
- Low efficiency
- High cost
- Extends season
- 90%+ control
- Selective placement

# Cut Stump

- Equipment: Backpack or squirt bottle
- Product(s):
  - ▶ Arsenal or Arsenal AC
  - ▶ Accord XRTII
  - ▶ Garlon 4 Ultra
  - ▶ Stalker
- Timing: Year round
- Watch-Outs:
  - ▶ Change mix depending on when the stump was cut
  - ▶ Avoid frozen ground

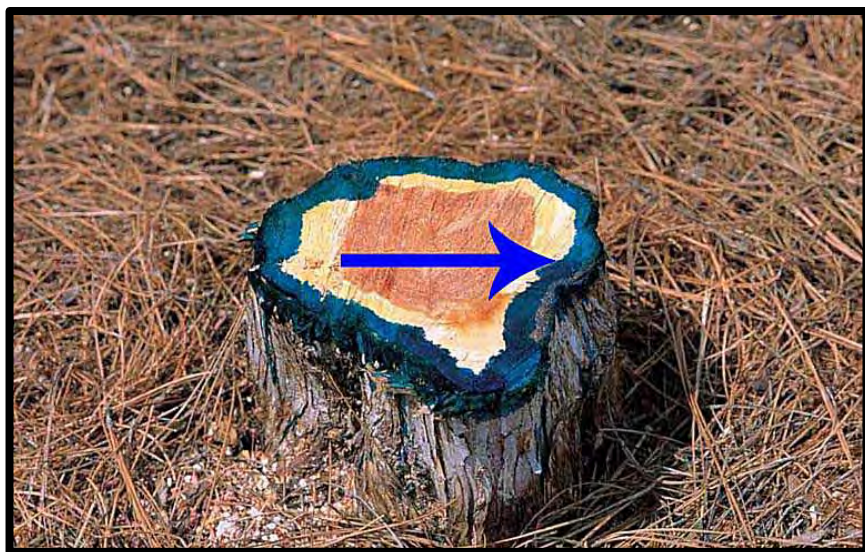




# Cut Stump

## Freshly Cut

- Use Arsenal, Arsenal AC or Accord XRTII in water
- Only treat the cambium – all the way around



# Cut Stump

## Old Cut

- Use Garlon 4 Ultra or Stalker in a basal oil carrier
- Treat all the way around the outside of the stumps and root collar





# Tank Mixes

Cut Stump (stumps cut more than 24 hours)

- 1% Stalker + 15% Garlon 4 Ultra + Basal Oil
- 25% Garlon 4 Ultra + Basal Oil
- 1% Stalker + 20% Garlon 4 Ultra + 1% Milestone + Basal Oil

Freshly Cut Stump (stumps cut less than 24 hours)

- 10% Arsenal AC + Water
- 50% Accord XRTII + Water

# Cut Stubble



- **Driveable terrain**
- **Good access**
- **Medium visibility**
- **All height brush**
- **All density brush**
- **Medium efficiency**
- **High cost**
- **Extends season**
- **80%+ control**
- **Non-selective placement**

# Cut Stubble

- Equipment: Tractor or All Terrain Vehicle with sprayer
- Product(s):
  - ▶ Stalker, Arsenal or Arsenal AC
  - ▶ Method
  - ▶ Garlon 4 Ultra
  - ▶ Milestone
- Timing: After leaf drop until bud break
- Watch-Outs:
  - ▶ Avoid frozen ground
  - ▶ Avoid edge species sensitive to root pickup



# Cut Stubble



Spray within 2 weeks of cutting



# Tank Mixes

Cut Stubble – Mixed in 50 gallons water

- 16 oz. Arsenal or Stalker + 10 oz. Method + 7 oz. Milestone
- 16 oz. Arsenal or Stalker + 16 oz. Method
- 16 oz. Arsenal or Stalker + 7 oz. Method + 32 oz. Garlon 4 Ultra





# Cut Stubble



**Before**



**2 YAT**

# Cut Stubble



**Untreated**



**3 YAT**

# Bas-Oil

- **Ideal for oil based herbicide solutions**
  - Basal bark
  - Cut-stump
  - Dormant stem
- **No more time guessing where you've sprayed**
- **Available in Red**
- Ideal for oil/petroleum diluted herbicides
- No more time guessing where you've sprayed.





# Custom Blends

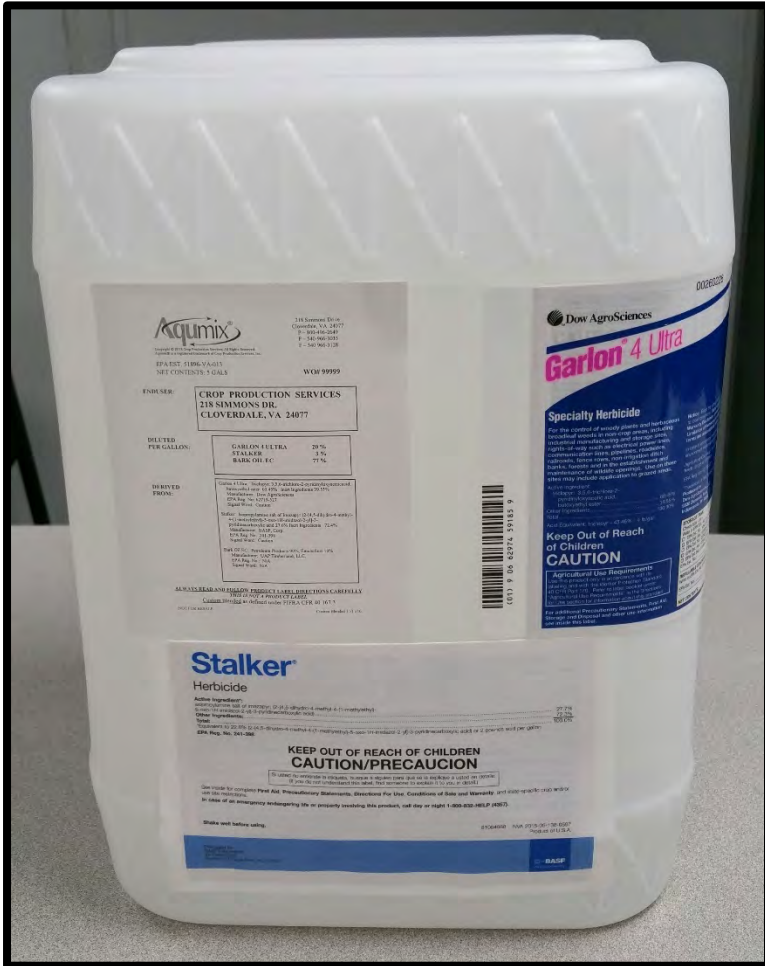




# Computer Controlled Container Mixing and Filling



# One Way and Returnable Containers



# Packaging Options



15g one-way drums



15g refillable drums



5g one-way jugs



Poly IBC Option



Stainless IBC Option

# Tips for Success

- Bud break is the one time of year NOT to use these treatments
- Coverage is critical
- Do not overspray
- Use a colored basal carrier to improve application (cut stump and basal)
- Use in appropriate brush conditions



# Conclusion

These treatments are a great way to extend the spray season, keep skilled crews working and reduce brush density!

# Keys To Success

- Know the site
- Use the appropriate technique
- Use the appropriate herbicide
- Calibrate equipment
- Read and follow label directions



# BASF ProVM Podcasts

- 5 - 7 Minute Podcasts
  - Posted on the ProVM website
  - Timely subjects

[www.bettervm.basf.us](http://www.bettervm.basf.us)



# BASF ProVM Webinars

- 15 – 30 Minutes
  - Slides and Audio
  - Posted on the ProVM website
  - Timely subjects

[www.bettervm.basf.us](http://www.bettervm.basf.us)





# Questions?

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**Visit our website at [www.bettervm.basf.us](http://www.bettervm.basf.us) for  
additional product information!**

# Thank You!



We create chemistry