# 2024 BASF Quick Reference Guide

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## HRAC Herbicide Sites of Action (SOA)

| Group | Description | Active Ingredient | BASF Products |
|---|---|---|---|
| 1 | ACCase Inhibitor | Sethoxydim | Poast |
| 2 | ALS Inhibitor | Imazamox<br>Imazethapyr | Beyond Xtra<br>Pursuit, component in Zidua PRO |
| 3 | Microtubule Inhibitors | Pendimethalin | Prowl H2O |
| 4 | Synthetic Auxins | Dicamba | Engenia, Clarity, component in Distinct, Status, Facet L |
| 6 | Photosystem II Inhibitors (different binding site than 5 and 7) | Bentazon | Basagran 5L |
| 10 | Glutamine Synthesis Inhibitor | Glufosinate | Liberty, Rely |
| 14 | PPO Inhibitors | Salflufenacil | Sharpen, and component in Zidua PRO and Verdict |
| 15 | Very Long Chain Fatty Acid Inhibitors | Dimethenamid<br>Pyroxasulfone | Outlook, component in Armezon Pro and Verdict,<br>Zidua and Zidua Pro |
| 19 | Auxin Transport | Diflufenzopyr | Component in Distinct and Status |
| 26 | Lipid Synthesis Inhibitor | Quinclorac | Component in Facet L and Paramount |
| 27 | HPPD Inhibitors | Topramezone | Alite 27, Armezon and component in Armezon Pro |

## FRAC Fungicide Sites of Action (SOA)

| Code | Description | Active Ingredient | BASF Products |
|---|---|---|---|
| 3 | Sterol synthesis Inhibitor<br>(DMI / triazole) | Metconazole<br>Mefentrifluconazole | Caramba, Provysol, component in Revytek, Veltyma, Headline AMP, Revylok, Twinline fungicides, and Stamina F4 Cereals Seed Treatment |
| 4 | Nucleic acid synthesis inhibitor | Metalaxyl | Component in Obvius and Stamina F4 Cereals seed treatments |
| 7 | Respiration Inhibitor<br>(SDHI / carboxamide) | Fluxapyroxad | Endura and component in Revytek, Revylok, Priaxor (Xemium), Obvius, Stamina F4 Seed Treatment, Nexicor |
| 11 | Respiration Inhibitor<br>(QoI, strobilurin) | Pyraclostrobin | Headline SC, Headline EC, component in Revytek, Veltyma, Headline AMP, Twinline, Priaxor, Pristine, Merivon, Cabrio, Obvius, and Stamina F4 |
| M3 | Multi-Site<br>(dithiocarbamates) | Meriram | Component in Cabrio Plus |
| 44 | Lipid synthesis inhibitor<br>(microbial / *Bacillus* sp) | Bacillus Subtillis | Serifel, component in Vault HP |

# CORN Herbicides 2024 BASF Guide

| Product SOA | Timing | Rate/Acre | Additives | Comments |
|---|---|---|---|---|
| **Verdict** Powered by Kixor® Herbicide 14 15 | Preplant Burndown, Preemergence | Rate by Soil Type<br>Coarse 10-12 fl oz<br>Medium 13-15 fl oz<br>Fine 16-18 fl oz | MSO @ 1 gal/100 gal (minimum 16 fl oz/A) plus AMS @ 17 lbs/100 gal or UAN @ 2.5 gal/100 gal | Additives must be added for control of emerged broadleaf weeds. Glyphosate tank-mix partner also recommended for grass and broadleaf burndown. Include at least 0.5 lb/A atrazine for kochia burndown. **Labeled for Field corn, and Popcorn and Seed corn (see label for seed corn rates).** |
| **Sharpen** Powered by Kixor® Herbicide 14 | Preplant Burndown, Preemergence | Residual Rate by Soil Type<br>Coarse 2.0-2.5 fl oz<br>Medium 2.5-3.0 fl oz<br>Fine 3.0-3.5 fl oz | MSO @ 1 gal/100 gal (minimum 16 fl oz/A) plus AMS @ 17 lbs/100 gal or UAN @ to 2.5 gal/100 gal | Additives must be added for control of emerged broadleaf weeds. Glyphosate tank-mix partner also recommended for grass and broadleaf burndown. Include at least 0.5 lb/A atrazine for kochia burndown. **Labeled for Field corn, Popcorn, and Seed corn (see label for seed corn rates)** |
| **Zidua SC** Herbicide 15 | PPI, Preplant, Preemergence early POST (up to V8 corn) | Rate by Soil Type<br>Coarse 1.75-4.5 oz<br>Medium 2.5-5 oz<br>Fine 3.25-6.5 oz | None, unless required by a tank mix partner | Zidua does not control emerged weeds. Zidua may be applied up to 45 days before planting and impregnated and applied with dry fertilizer. **Labeled for Field corn, Popcorn, Seed corn, and Sweet corn.** |
| **Armezon PRO** Herbicide 15 27 | Preemergence to V8 | Soil Texture <3% OM<br>Coarse 16.0 fl oz<br>Medium 16-20 fl oz<br>Fine 16-20 fl oz | - With Clarity add NIS @ 0.25% v/v,<br>- With Atrazine: COC @ 1% v/v<br>- Without tank mix: MSO @ 1% v/v<br>plus<br>AMS @ 17 lbs/100 gal *or*<br>UAN @ 2.5 gal/100 gal | Include a minimum of 0.5 lb/A atrazine or 8 fl oz Clarity when possible. Can be applied sequentially after Verdict. Do not exceed more than 24 oz Outlook equivalent per season. **Labeled for Field corn, Popcorn, Seed corn, and Sweet corn.** |
| **Outlook** Herbicide 15 | PPI, Preplant, Preemergence POST (up to 36" tall corn) | Soil Texture <3% OM<br>Coarse 14.0 fl oz<br>Medium 14-18 fl oz<br>Fine 14-18 fl oz | None, unless required by a tank mix partner | Outlook does not control emerged weeds. Do NOT apply POST with Status herbicide. Do not exceed more than 24 fl oz Outlook per year for sequential applications. **Labeled for Field corn, Popcorn, Seed corn, and Sweet corn.** |
| **Prowl H2O** Herbicide 3 | Preemergence or POST (up to 30" tall or V8 corn) | 2 pts/acre | None, unless required by a tank mix partner | Planting depth must be at least 1.5" when applying preemerge. Prowl H2O does not control emerged weeds. **Labeled for Field corn, Popcorn, Seed corn, and Sweet corn.** |
| **Armezon** Herbicide 27 | POST (emergence to V8) | 0.75 fl oz | MSO or COC @ 1 gal/100 gal plus AMS @ 17 lbs/100 gal or UAN @ 2.5% gal/100 gal | **Include a minimum of 0.5 lb/A atrazine when possible**. Do not apply atrazine to corn >12" tall. Refer to supplemental labeling for weed heights and rotational restrictions for use rates of 0.5 fl oz/A and 1.0 fl oz/A. **Labeled for Field corn, Popcorn, Seed corn, and Sweet corn.** |
| **Clarity** Herbicide 4 | Preplant No-till only<br>Early POST Spike to (V5)<br>Late POST 8"-36" DROPS ONLY | 16 fl oz - Med/fine soils ≥ 2.5% OM, others 8 fl oz<br>Coarse 8 fl oz<br>Med/Fine 16 fl oz<br>8 fl oz | NIS @ 1 to 2 pints/100 gal plus AMS @ 2.5 lbs/A or UAN @ 2 to 4 qt/A | **Preplant in No-Till apply up to 8 oz on coarse soils or med-fine soils <2.5% OM**, and up to 16 oz on med-fine soils >2.5% OM. Early POST apply 16 oz (med/fine soils) or 8 oz (coarse soils) from spike to V5 or 8" tall corn. **Labeled for Field corn, Popcorn and Seed corn.** |
| **Status** Herbicide 4 19 | POST (V2 – V8) | 5-7 oz | MSO or COC @ 1 gal/100 gal or NIS @ 1 qt/100 gal plus AMS @ 5 to 17 lbs/100 gal | DO NOT spray < 4" (V2) tall corn. Use COC or MSO when weeds are stressed, or when glyphosate resistant weeds are present. DO NOT apply in tank mix with products containing dicamba, 2,4-D, clopyralid or EC chloroacetamides. **Labeled for Field Corn, Popcorn and Seed Corn.** |
| **Liberty** 10 | Preplant, Preemergence POST (LibertyLink only) | 32 fl oz | AMS @ 3 lbs/Ac | Apply when weeds are < 3in tall. The use of additional adjuvants may cause crop response. Apply POST only to LibertyLink corn varieties. DO NOT apply after V6. |

## Insecticides

| | | | |
|---|---|---|---|
| **Nurizma** Insecticide 30 | In-furrow | 1 fl oz: Corn rootworm, seedcorn maggot, white grubs, wireworms | Must be applied in-furrow via dosatron or similar unit. Dilute with minimum 5 gallons per acre of water. |
| **Fastac CS** Insecticide 3A | POST | 3.8 fl oz: Cutworms, Corn earworm, Western bean cut worms, Corn borer (European, Southwestern), Armyworms | Refer to label for other insect pests.<br>PHI 30 days for grain and 60 days for forage.<br>Do not exceed 11.4 fl oz/A per year. |

**This Quick Reference Guide is not a substitute for any product label. Always read and follow label directions. Atrazine is a restricted use product**

# CORN Fungicides 2024 BASF Guide

| Product SOA | Timing | Rate/Acre | Additives | Comments |
|---|---|---|---|---|
| **Headline** Fungicide 11 | In-furrow at planting | 3.5 to 6.9 fl oz (30" rows) | EC formulation can be applied with pop-up fertilizer (10-34-0) with good agitation. **Do NOT mix SC formulation with fertilizer**. | For Plant Health and *Rhizoctonia* control. See label for use rates on other row widths. Use a minimum of 2.5 gall/A with water or liquid fertilizer as carrier. |
| **Priaxor** Xemium® Brand Fungicide 7 11 | Optimum Timing: Pre-tassel corn (V5 to V8) | 4 fl oz | **Before V8 and After VT:** Ground: NIS @ 1 pint/100 gal Aerial: COC @ 1 pint/A or HSOC @ 0.5 pint/A *See comments for restrictions* | For disease control and Plant Health. **Adjuvants may only be used between V8 and VT if they have been approved as safe by their manufacturer.** Otherwise do not use adjuvants between V8 and VT. |
| **Headline AMP** Fungicide 3 11 | Optimum Timing: VT (full tassel) to R2 (blister stage) | 10 fl oz | | |
| **Veltyma** Fungicide 3 11 | Optimum Timing: VT (Full tassel) to R2 (blister stage) | 7 fl oz | | |
| **Revytek** Fungicide 3 7 11 | Optimum Timing: VT (Full tassel) to R2 (blister stage) | 8 fl oz. | | |

| Armezon PRO = Armezon + Outlook | | |
|---|---|---|
| 14 fl oz | 0.51fl oz | 12.3 fl oz |
| 16 fl oz | 0.59 fl oz | 14.0 fl oz |
| 18 fl oz | 0.66 fl oz | 15.8 fl oz |
| 20 fl oz | 0.73 fl oz | 17.6 fl oz |

| Verdict = Outlook + Sharpen | | |
|---|---|---|
| 10 fl oz | 8.4 fl oz | 2.0 fl oz |
| 12 fl oz | 10.1 fl oz | 2.4 fl oz |
| 13 fl oz | 10.9 fl oz | 2.6 fl oz |
| 15 fl oz | 12.6 fl oz | 3.0 fl oz |

| Priaxor = Headline + Sercadis® | | |
|---|---|---|
| 4 fl oz | 5.3 fl oz | 2.3 fl oz |
| **Headline AMP = Headline + Caramba** | | |
| 10 fl oz | 5.8 fl oz | 6.1 fl oz |
| **Veltyma = Headline + Revysol** | | |
| 10 fl oz | 4 fl oz | 5 fl oz |

## Seed Enhancements

| Product | Key Disease / Pest | Comments |
|---|---|---|
| **Poncho** Seed Treatment | Corn rootworm, corn flea beetle, black cutworm, corn leaf aphid, seedcorn maggot, white grubs, thrips, wireworm | Delivers immeditate insect efficacy to protect against damage from early season pests; Provides a consistent yield benefit across a wide range of geographies and environments. |
| **Poncho Votivo** Seed Treatment | Corn rootworm, corn flea beetle, black cutworm, corn leaf aphid, seedcorn maggot, white grubs, thrips, wireworm; Plant pathogenic nematodes | Delivers immediate insect efficacy to protect against damage from early season pests; Creates a living barrier that protec corn roots from damage from multiple generations of nematodes; Provides a consistent yield benefit across a wide range of geographies and environments. |
| **Poncho Votivo 2.0** Seed Treatment System | Corn rootworm, corn flea beetle, black cutworm, corn leaf aphid, seedcorn maggot, white grubs, thrips, wireworm; Plant pathogenic nematodes | Delivers immediate insect efficacy to protect against damage from early season pests; Creates a living barrier that protec corn roots from damage from multiple generations of nematodes; Provides a consistent yield benefit across a wide range of geographies and environments. Increases native soil microbial activity, leading to a healthier plant with higher yield potential. |

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# DRY BEANS — Herbicides — 2024 BASF Guide

| Product | SOA | Timing | Rate/Acre | Additives | Comments |
|---|---|---|---|---|---|
| **Outlook®** Herbicide | 15 | PREPLANT,PPI,PRE POST (1st to 3rd trifoliate) | 14 fl oz | None unless required by a tankmix partner | Foxtails, panicum, crabgrass, barnyardgrass, yellow nutsedge, pigweed species, nightshade, waterhemp. Does not control emerged weeds. |
| **Poast®** Herbicide | 1 | POST | 16 – 32 fl oz | 2 pt/A COC or 1.5 pt/A MSO UAN may be added to increase control | Barnyardgrass, foxtails, wild proso millet, annual ryegrass, sandbur, shattercane, volunteer cereals*. * Use 2pt/A for control of volunteer cereals. |
| **Prowl H2O®** Herbicide | 3 | PPI, PRE (up to 4 day after planting, follow with 0.5 inch sprinkler irrigation) | 2.0 pints | None unless required by a tankmix partner | Barnyardgrass, crabgrass, sandbur, foxtails, Broadleaf activity on pigweed, waterhemp, lambsquarters, and velvetleaf. Does not control emerged weeds. Use screens no finer than 50 mesh. |
| **Pursuit®** Herbicide | 2 | PPI, PRE, POST (after 1st fully expanded trifoliate and prior to flowering) Target 1-3 inch weeds | 3 fl oz Always add Basagran 5L at 1.6 pints | 1% v/v COC or 1% v/v MSO or 0.25% v/v NIS *plus* 2.5 lb/A AMS *or* 2 qt/A UAN | Cocklebur, nightshade, sunflower, ragweed, smartweed, mustards, lambsquarters. **Always substitute 0.25% v/v NIS for COC or MSO in cool wet growing conditions.** |
| **Beyond® Xtra** Herbicide | 2 | POST (after 1st fully expanded trifoliate and prior to flowering) Target 1-3 inch weeds | 4 fl oz Always add Basagran 5L at 1.2 - 1.6 pints | 1% v/v COC or 1% v/v MSO or 0.25% v/v NIS *plus* 2.5 lb/A AMS *or* 2 qt/A UAN | Lambsquarters, velvetleaf, cocklebur, sunflower, nightshade, foxtail, panicum. **Always substitute 0.25% v/v NIS for COC or MSO in cool wet growing conditions.** |
| **Varisto®** Herbicide | 2 6 | POST (after 1st fully expanded trifoliate and prior to flowering) Target 1-3 inch weeds | 21 fl oz Add 8 fl oz Basagran 5L for heavy weed pressure | 1% v/v COC or 1% v/v MSO or 0.25% v/v NIS *plus* 2.5 lb/A AMS or 2 qt/A UAN | Lambsquarters, velvetleaf, cocklebur, sunflower, nightshade, foxtail, panicum. **Always substitute NIS for COC or MSO in cold wet growing conditions.** |
| **Basagran® 5L** Herbicide | 6 | POST (after 1st fully expanded trifoliate and prior to flowering) | 1.6 pts | 1% v/v COC or 1% v/v MSO or 0.25% v/v NIS *plus* 2.5 lb/A AMS *or* 2 qt/A UAN | **Always substitute 0.25% v/v NIS for COC or MSO in cool wet growing conditions.** |
| **Sharpen®** Powered by **Kixor®** Herbicide | 14 | **Desiccation/Harvest Aid Only** | 2.0 fl oz | MSO @ 1 pt/A *plus* AMS @ 8.5 to 17 lb/100 gal or UAN @ 1qt/A | Use for Harvest Aid/Desiccation only. Use a minimum spray volume of 15 gal/A for ground and 5 gal/A for aerial application. Do not use on beans grown for seed. PHI - 2 days |
| **Insecticides** | | | | | |
| **Fastac® CS** Insecticide | 3 | Postemergence | 3.8 fl oz | None, unless required by a tankmix partner | PHI 21 days. Do not apply < 5 days apart. Fastac is labeled in many other crops and controls numerous pests. Consult label for additional information. |
| **Fungicides** | | | | | |
| **Veltyma™** Fungicide | 3 11 | Apply at beginning of flowering and before disease development | 7 fl oz | Ground: NIS @ 1 pint/100 gal Aerial: COC @ 1 pint/A or HSOC @ 0.5 pint/A | Controls Anthracnose, Ascochyta blight, Mycosphaerella blight, Powdery mildew, Rust. |
| **Priaxor™** Xemium® Brand Fungicide | 7 11 | | 4 to 8 fl oz | | Controls Anthracnose, Ascochyta blight, Mycosphaerella blight, Powdery mildew, Rust. Do not make more than 2 consecutive applications of Priaxor or apply more than 16 fl oz per season. |
| **Revytek™** Fungicide | 3 7 11 | | 8 fl oz | | For disease control and Plant Health. Diseases controlled: Alternaria leaf spot, Anthracnose, Asian soybean rust, Brown spot, Cercospora blight, Frogeye leaf spot, Pod and stem blight, Rhizoctonia aerial blight, and Target spot. |
| **Endura®** Fungicide | 7 | | 8 to 11 oz | | Controls white mold, Botryrtis gray mold, Ascochyta blight |

| Varisto | = | Raptor | + | Basagran 5L |
|---|---|---|---|---|
| 21 fl oz | | 3.9 fl oz | | 17 fl oz |

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# Dry Bean Seed Enhancement

| Product | Crop | Rate | Comments |
|---|---|---|---|
| **Obvius® Plus** Fungicide Seed Treatment 1 7 11 4 | Dried shelled peas and beans | 1.53 fl oz/cwt | Premix of thiophanate, pyraclostrobin, Xemium, and metalaxyl. Controls *Fusarium, Pythium, Rhizoctonia,* and *Aschochyta* seedling blights. On-farm and commercial seed treating. |
| **Systiva® XS** Xemium® Brand Fungicide 7 | Dried shelled peas and beans | 0.24 to 0.47 fl oz/cwt | Seed and seedling disease (damping-off) caused by Rhizoctonia solani and Fusarium solani. Suppresssion of seed and seedling disease caused by Fusarium spp. Suppression of seedborne infection of lentils by Ascochyta lentis and Ascochyta rabiei |
| **Flo Rite® 1706** Plantability Polymer | Dry shelled peas and beans | 1 oz/cwt | Flo Rite 1706 preserves value of seed treatments by keeping treatments on the seed where they belong |

# ALFALFA Herbicides 2024 BASF Guide

| Product SOA | Timing | Rate/Acre | Additives | Comments |
|---|---|---|---|---|
| **Prowl H20®** Herbicide 3 | Seedling alfalfa at least 2-trifoliates<br>Established alfalfa prior to 6" of regrowth | Seedling 2 pints<br>Established 2 to 8 pints | None, unless required by a tank mix partner | Does not control emerged weeds.<br>PHI = 14 days for forage and hay<br>Use screens no finer than 50 mesh. |
| **Sharpen®** Powered by Kixor® Herbicide 14 | Established alfalfa 90 days before 1st cutting (KS,CO,WY,NE)<br>75 days before 1st cutting (OK,NM,TX) | 2 fl oz | MSO @ 1 gal/100 gal (minimum 16 fl oz/A) plus AMS @ 17 lbs/100 gal or UAN @ 2.5 gal/100 gal | Apply only to dormant alfalfa. Controls ALS resistant flixweed. Can be applied by ground or air. Do not chemigate. PHI - 28 days |
| **Beyond® Xtra** Herbicide 2 | POST to seedling (at least 2-trifoliate) or established alfalfa (< 3" regrowth) when weeds are 1 to 3" tall | 5 to 6 fl oz | NIS @ 1 qt/100 gal or COC or MSO @ 1.25 gal/100 gal plus UAN @ 2 qts/A | MSO is recommended for best control. May cause temporary yellowing or stunting, especially in cool conditions. Do not apply with OP insecticides. 60 day timing interval if Beyond Xtra fb pursuit or Pursuit fb Beyond Xtra. PHI - 0 days |
| **Pursuit®** Herbicide 2 | POST to seedling (at least 2-trifoliate) or established alfalfa (< 3" regrowth) when weeds are 1 to 3" tall | 4 to 6 fl oz | COC or MSO at 1.25 gal/100 gal plus UAN @ 2 qts/A | MSO is recommended for best control. May cause temporary yellowing or stunting, especially in cool conditions. Do not apply with OP insecticides. Does not control Palmer amaranth. 60 day timing interval if Pursuit fb Raptor or Raptor fb Pursuit. PHI - 30 days |

## Fungicides

| | | | | |
|---|---|---|---|---|
| **Headline®** Fungicide 11 | 4" to 8" tall alfalfa | 6 fl oz (9 fl oz for heavy disease) | Ground: NIS @ 1 pint/100 gal<br>Aerial: COC @ 1 pint/A or HSCOC @ 0.5 pint/A | For Plant Health and disease control. Controls spring and summer black stem, rust, leaf spot, and powdery mildew. PHI - 14 days. Do not make more than 3 applications per season. |
| **Priaxor™** Xemium® Brand Fungicide 7 11 | | 4 fl oz | | |
| **Veltyma™** Fungicide 3 11 | | 7 fl oz (10 fl oz for heavy disease) | | |
| **Revytek™** Fungicide 3 7 11 | | 8 fl oz | | |

## Insecticides

| | | | |
|---|---|---|---|
| **Fastac® CS** Insecticide 3A | Post | 3.8 fl oz: Alfalfa weevil, cutworms, aphids, alfalfa caterpillar, alfalfa looper, webworm, potato leafhopper, green cloverworm, armyworm, grasshopper, Lygus, stink bugs | Maximum of 3.8 fl oz per cutting and 11.4 fl oz per season. PHI = 3 days. Do not use cypermethrin or zeta-cypermethrin in the same crop season. |
| **Sefina™** Inscalis® Insecticide 9D | Post | 3-6 oz/acre for Aphids including cowpea aphid, pea aphid and spotted alfalfa aphid, 6 oz/acre for Blue alfalfa aphid, 6-10 oz/acre for leaf hopper control. | Do not make more then 2 sequential applications of Sefina Inscalis before using an effective alternate MOA. PHI = 0 days |

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# Cowpea/Southern Pea Herbicides 2024 BASF Guide

| Product | Timing | Rate/Acre | Additives | Comments |
|---|---|---|---|---|
| **Prowl H2O** Herbicide 3 | Pre Plant<br>Pre Plant incorporated | 2 pts/A | None unless required by tank mix partner | Apply within 60 days before planting. Does not control emerged weeds. |
| **Basagran 5L** Herbicide 6 | Post<br>Must have at least 3 pairs of leaves. Apply before flower buds appear. | 1.6 pt | NIS at 0.25% v/v plus 2.5 lb/A AMS or 2 qt/A UAN | Use 1.6 pt as a standalone treatment or tank mix with Raptor. |
| **Varisto** Herbicide 2 6 | Post<br>Must have at least 3 pairs of leaves. Apply before flower buds appear. | 21 fl oz | COC at 1% v/v plus 2.5 lb/A AMS or 2 qt/A UAN | Lambsquarters, velvetleaf, cocklebur, sunflower, nightshade, foxtail, panicum. |
| **Beyond Xtra** Herbicide 2 | Post<br>Must have at least 3 pairs of leaves. Apply before flower buds appear. | 4 fl oz<br>Always add<br>1.6 pts Basagran 5L | COC at 1% v/v<br>plus 2.5 lb/A AMS or 2 qt/A UAN | AMS or UAN is required for optimum burndown. Do not apply when pea foliage is wet. Nightshade, pennycress, tansymustard, field pepperweed, london rocket, shepherd's purse, common lambsquarter, redroot pigweed. |
| **Pursuit** Herbicide 2 | Pre Plant incorporated<br>Pre Emergence - Up to 3 days following planting<br>Post (height at least 3" | 4 fl oz | NIS at 0.25% v/v<br>plus<br>AMS at 12-15 lbs/100 gal<br>or<br>UAN at 1.25% v/v | Nightshade, pennycress, tansymustard, common purslain, puncturvine, shepherd's purse, red root pigweed, foxtail |
| **Fungicides** | | | | |
| **Priaxor** Xemium® Brand Fungicide 7 11 | Prior to disease development | 6 fl oz | NIS at 0.25% v/v | Ascochyta blight, powdery mildew, rust, anthracnose, Alternaria leaf & pod spot<br>PLANT HEALTH – Increase plant growth efficiency, improve stress tolerance, control disease. |
| **Provysol** Fungicide 3 | Prior to disease development | 3.5 - 5 fl oz | NIS at 0.25% v/v | Ascochyta blight, powdery mildew, rust, anthracnose, Alternaria leaf & pod spot<br>PLANT HEALTH – Increase plant growth efficiency, improve stress tolerance, control disease. |
| **Veltyma** Fungicide 3 11 | Prior to disease development | 7-10 fl oz | NIS at 0.25% v/v | Ascochyta blight, powdery mildew, rust, anthracnose, Alternaria leaf & pod spot<br>PLANT HEALTH – Increase plant growth efficiency, improve stress tolerance, control disease. |
| **Revytek** Fungicide 3 7 11 | Prior to disease development | 8 fl oz | NIS at 0.25% v/v | Ascochyta blight, powdery mildew, rust, anthracnose, Alternaria leaf & pod spot<br>PLANT HEALTH – Increase plant growth efficiency, improve stress tolerance, control disease. |
| **Insecticides** | | | | |
| **Fastac CS** Insecticide 3A | Apply at economic threshold | 3.8 oz/A (pest dependent) | None required | Army worm, Bean leaf beetle, Blister beetle, Colorado Potato beetle, Flea beetle, Leaf hopper spp. SEE LABEL for a complete list of species controlled |

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# DRY FIELD PEAS — Herbicides — 2024 BASF Guide

| Product | SOA | Timing | Rate/Acre | Additives | Comments |
|---|---|---|---|---|---|
| **Optill** Powered by Kixor® Herbicide | 2 14 | Pre Plant<br>Pre Plant incorporated<br>Pre Emergence<br>Up to 3 days after planting | 1.5 oz | MSO @ 1 pt/A<br>plus<br>AMS @ 8.5 to 17 lb/100 gal or UAN @ 1qt/A | **MUST** include MSO + AMS / UAN.<br>Add glyphosate for optimum burndown.<br>12.5 gal/acre minimum carrier. Do not use Raptor or Pursuit as POST treatments. |
| **Pursuit** Herbicide | 2 | Pre Plant incorporated<br>Pre Emergence<br>Up to 3 days following planting<br><br>Post (height at least 3") | 3 fl oz | NIS @ 0.25% v/v<br>plus<br>AMS @ 12-15 lbs/100 gal<br>or<br>UAN @ 1.25% v/v | Nightshade, pennycress, tansymustard, field pepperweed, london rocket, shepherd's purse, redroot pigweed |
| **Sharpen** Powered by Kixor® Herbicide | 14 | Pre Plant<br>Pre Plant incorporated<br>Pre Emergence -<br>(Prior to cracking stage) | 1 to 2 fl oz | MSO @ 1 pt/A<br>plus<br>AMS @ 8.5 to 17 lb/100 gal or UAN @ 1qt/A | For dry on dry field pea including Austrian winter pea.<br>**MUST** include MSO + AMS / UAN.<br>Add glyphosate for optimum burndown. |
| **Beyond® Xtra** Herbicide | 2 | POST<br>After 3 pairs of leaves (4 nodes) are present and prior to flowering | 4 fl oz<br>Always add<br>Basagran 5L at<br>1.2 - 1.6 pints/A | NIS @ 0.25% v/v<br>plus<br>AMS @ 2.5 lba/A<br>*or* UAN @ 2 qts/A | AMS or UAN is required for optimum burndown. Do not apply when pea foliage is wet. Nightshade, penny-cress, tansymustard, field pepperweed, shepherd's purse, common lambsquarter, redroot pigweed. |
| **Varisto** Herbicide | 2 6 | POST<br>After 3 pairs of leaves (4 nodes) are present and prior to flowering | 16 to 21 fl oz<br>Always add<br>Basagran 5L at<br>0.8 pints/A | NIS @ 0.25% v/v<br>plus<br>AMS @ 2.5 lba/A<br>*or* UAN @ 2 qts/A | AMS or UAN is required for optimum burndown. Do not apply when pea foliage is wet. Nightshade, penny-cress, tansymustard, field pepperweed, shepherd's purse, common lambsquarter, redroot pigweed. |
| **Basagran® 5L** Herbicide | 6 | POST<br>After 3 pairs of leaves (4 nodes) are present and prior to flowering | 1.6 pints | NIS @ 0.25% v/v<br>plus<br>AMS @ 2.5 lba/A<br>*or* UAN @ 2 qts/A | For use on field, garden, English, and southern peas. |
| **Poast** Herbicide | 1 | 2 to 8 inch weeds | 1 to 2.5 pints | 2 pt/A COC or 1.5 pt/A MSO<br>UAN may be added to increase control | Barnyardgrass, foxtails, wild proso millet, annual rye, field sandbur, shattercane, volunteer cereals*.<br><br>* Use 2pt/A for control of volunteer cereals. |
| **Prowl H20®** Herbicide | 3 | Pre Plant,<br>Pre Plant incorporated | Rate by Soil Type<br>Coarse 1.5 pints<br>Medium 2.0 pints | None unless required by tank mix partner | May be applied up to 60 days prior to planting up to immediately before planting. **DO NOT** apply to peas forage, pea hay or peas straw grown for livestock feed |

## Fungicides

| | | | | |
|---|---|---|---|---|
| **Priaxor** Xemium® Brand Fungicide 7 11 | Prior to disease development (14 day intervals if conditions are favorable) | 4 fl oz | NIS @ 0.25% v/v | Ascochyta blight, powdery mildew, rust, anthracnose, alternaria leaf & pod spot<br>PLANT HEALTH – Increase plant growth efficiency, improve stress tolerance, control disease. |

## Insecticides

| | | | | |
|---|---|---|---|---|
| **Fastac® CS** Insecticide 3 | Apply at economic threshold | 3.8 oz/A | None required | Army worm, Bean leaf beetle, Blister beetle, Colorado Potato beetle, Flea beetle, Leaf hopper spp. SEE LABEL for a complete list of species controlled. PHI - 1 day |

## Seed Enhancement

| Product | Timing | Rate | Comments |
|---|---|---|---|
| **Obvius®** Fungicide Seed Treatment 7 11 4 | On-farm or commercial seed treatment | 4.6 fl oz/cwt | Premix of pyraclostrobin, Xemium, and metalaxyl. Controls *Fusarium, Pythium, Rhizoctonia,* and *Aschochyta* seedling blights. On-farm and commercial seed treating. |
| **Nodulator®** Inoculant **Liquid** | *Rhizobia* liquid formulation for on-farm planter box or bulk seed treatment | 2.5 fl oz per 60 lbs of seed | OMRI Listed. Package size is 4 x 1.2 gal. |
| **Nodulator®** Inoculant **Peat** | *Rhizobia* sterile peat formulation for on-farm planter box seed treatment | | Self sticking peat provides uniform seed coverage. No additional sticking agent required. Package size is 5 x 2.65 lb. |
| **Flo Rite®** Plantability Polymer **1706** | Add directly into the fungicide/ insecticide treatment | 1 oz/cwt | Flo Rite 1706 is a colored polymer to reduce dust off of active ingredients, improve seed flow and reduce bridging. |

**This Quick Reference Guide is not a substitute for any product label. Always read and follow label directions. Fastac is a restricted use pesticide.**

# Garbanzo Beans Herbicides 2024 BASF Guide

| Product | Timing | Rate/Acre | Additives | Comments |
|---|---|---|---|---|
| Zidua SC Herbicide 15 | Pre Plant<br>Pre Emergence | 2.5 oz<br>DO NOT USE ON COARSE SOILS | None unless required by a tankmix partner | May be applied Pre Plant or Pre Emergence of garbanzo bean. Does not control emerged weeds. Do not spray on emerged garbanzo beans. |
| Pursuit Herbicide 2 | Pre Plant incorporated<br>Pre Emergence<br>Up to 3 days following planting | 3 fl oz | NIS @ 0.25% v/v<br>plus<br>AMS @ 12-15 lbs/100 gal<br>or<br>UAN @ 1.25% v/v | Nightshade, pennycress, tansymustard, field pepperweed, london rocket, shepherd's purse, redroot Pigweed, Do not spray garbanzo beans post emergence. |
| Sharpen Powered by Kixor Herbicide 14 | Pre Plant<br>Pre Plant incorporated<br>Pre Emergence -<br>(Prior to cracking stage) | 2 fl oz | MSO @ 1 pt/A<br>plus<br>AMS @ 8.5 to 17 lb/100 gal or UAN @ 1qt/A | If burn down is required— **MUST** include MSO + AMS / UAN, Add glyphosate for optimum burndown.<br>**DO NOT** apply with other products containing **Group 14/Group E** herbicides as a tank mix partner or sequential application. |
| Outlook Herbicide 15 | Pre Plant Surface, Pre Emergence | 12 fl oz | None unless required by a tankmix partner | Foxtails, panicum, crabgrass, barnyardgrass, yellow nutsedge, pigweed species, nightshade, waterhemp. Does not control emerged weeds. |
| Poast Herbicide 1 | 2 to 8 inch weeds | 1 to 2.5 pints | 2 pt/A COC or 1.5 pt/A MSO<br>UAN may be added to increase control | Barnyardgrass, foxtails, wild proso millet, annual rye, field sandbur, shattercane, volunteer cereals*.<br>* Use 2pt/A for control of volunteer cereals. |
| Prowl H2O Herbicide 3 | Pre Plant Surface | 2.0 pints | None unless required by tank mix partner | May be applied up to 60 days prior to planting up to immediately before planting. **DO NOT** apply to peas forage, pea hay or peas straw grown for livestock feed |
| **Fungicides** | | | | |
| Priaxor Xemium Brand Fungicide 7 11 | Prior to disease development<br>(14 day intervals if conditions are favorable) | 4 –8 fl oz | NIS @ 0.25% v/v | Ascochyta blight, powdery mildew, rust, anthracnose, alternaria leaf & pod spot<br>PLANT HEALTH – Increase plant growth efficiency, improve stress tolerance, control disease. |
| Veltyma Fungicide 3 11 | POST<br>Prior to disease development | 7 fl oz | NIS @ 0.25% v/v | Ascochyta blight, powdery mildew, rust, anthracnose, alternaria leaf & pod spot<br>PLANT HEALTH – Increase plant growth efficiency, improve stress tolerance, control disease. |
| Provysol Fungicide 3 | POST<br>Prior to disease development | 5 fl oz | NIS @ 0.25% v/v | Ascochyta blight, powdery mildew, rust, anthracnose, alternaria leaf & pod spot<br>PLANT HEALTH – Increase plant growth efficiency, improve stress tolerance, control disease. |
| **Insecticides** | | | | |
| Fastac CS Insecticide 3 | Apply at economic threshold | 3.8 oz/A | None required | Army worm, Bean leaf beetle, Blister beetle, Colorado Potato beetle, Flea beetle, Leaf hopper spp. SEE LABEL for a complete list of species controlled. PHI - 5 days |

## Seed Enhancement

| | | | |
|---|---|---|---|
| Obvius Fungicide Seed Treatment 7 11 4 | On-farm or commercial seed treatment | 4.6 fl oz/cwt | Premix of pyraclostrobin, Xemium, and metalaxyl. Controls *Fusarium, Pythium, Rhizoctonia,* and *Aschochyta* seedling blights. On-farm and commercial seed treating. |
| Nodulator Granular Inoculant | *Granular* formulation for in furrow at planting | 5 lbs/acre | Contains Mesorhizobium Cicer, Package size is 50 lb bag. |
| Flo Rite Plantability Polymer 1706 | Add directly into the fungicide/ insecticide seed treatment | 1 oz/cwt | Flo Rite 1706 is a colored polymer to reduce dust off of active ingredients, improve seed flow and reduce bridging. |

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# GRAIN SORGHUM Herbicides 2024 BASF Guide

| Product SOA | Timing | Rate/Acre | Additives | Comments |
|---|---|---|---|---|
| **Sharpen**® Powered by **Kixor**® Herbicide 14 | Preplant or PRE | 1 to 2 fl oz | MSO @ 1 gal/100 gal (min 1 pint/A) plus AMS @ 8.5 to 17 lbs/100 gal OR UAN @ 2.5% v/v | Additives **MUST** be included (MSO + AMS / UAN). Glyphosate tank mix partner also recommended for optimum burndown performance. Include at least 0.5 lb/A atrazine for kochia burndown |
| **Verdict**® Powered by **Kixor**® Herbicide 14 15 | Preplant or PRE | 10 fl oz | MSO @ 1 gal/100 gal (min 1 pint/A) plus AMS @ 8.5 to 17 lbs/100 gal OR UAN @ 2.5% v/v | Additional Outlook required with Verdict on grain sorghum. Do not exceed the maximum amount of Outlook per soil type. Include glyphosate for optimum burndown. Include at least 0.5 lb/A atrazine for kochia burndown. **For use on chloroacetemide safened seed only.** |
| **Outlook**® Herbicide 15 | Preplant, PPI, PRE, POST up to 12" sorghum | Soil Texture / <3% OM<br>Coarse 12-14 fl oz<br>Medium 14-18 fl oz<br>Fine 14-18 fl oz | None unless required by tankmix partner. | **For use on chloroacetemide safened seed only.** Sequential applications of Outlook can be made if applications are separated by 14 or more days. Do not exceed 21 fl oz/A Outlook equivalent per crop season. |
| **Facet**® **L** Herbicide 4 26 | PRE or POST up to 12" sorghum | 22 fl oz (PRE)<br>22 – 32 fl oz (POST) | MSO* at 1 to 2 pts/A plus UAN at 2 to 4 qts/A or AMS at 2.5 lbs/A | *Substitute NIS for MSO for certain tank mixtures. See label for details. For best annual grass control, add 0.5-1.0 lbs/A atrazine. Weeds should be treated when 2" or less. |
| **Clarity**® Herbicide 4 | >15 days preplant, POST (spike to 8" tall) | 8 fl oz | NIS at 0.25% v/v plus AMS at 2.5 lbs/A | For POST applications, apply when the sorghum is in the 3-5 leaf stage and when weeds are less than 3" tall. **Do NOT apply later than 25 days after planting.** |
| **Fungicides** | | | | |
| **Priaxor**™ Xemium® Brand Fungicide 7 11 | Boot to 50% head emergence | 4 fl oz | NIS @ 1 pint/100 gal | For disease control and Plant Health. 21 day PHI. |
| **Nexicor**™ Fungicide 3 7 11 | Boot to 50% head emergence | 7 to 13 fl oz | NIS @ 1 pint/100 gal | For disease control and Plant Health. 21 day PHI. |
| **Insecticides** | | | | |
| **Fastac**® **CS** Insecticide 3 | Post | 3.8 fl oz: Corn earworm (headworm), Armyworms (Southern, true, yellow-striped, fall), Corn borer (European, south-western), Stink bug, Cutworms, Sorghum midge, Chinch bugs, Aphids, False chinch bugs | | Do not make applications less than 10 days apart. Maximum of 11.4 fl oz per season. 14 day PHI for grain and stover. See label for additional pests controlled. |
| **Sefina**™ **Inscalis**® Insecticide 9D | Post | 6 oz/acre for aphids including corn leaf aphid, white sugarcane aphid and yellow sugarcane aphid | | PHI = 7 days for forage, 14 days for grain or stover |

This Quick Reference Guide is not a substitute for any product label. Always read and follow label directions. Engenia and Fastac are restricted use pesticides

# Cool Season Perennial Grass Grown for Seed — 2024 BASF Guide

| Product | Timing | Rate/Acre | Additives | Comments |
|---|---|---|---|---|
| **Prowl H2O®** Herbicide 3 | Established (6 or more tillers per plant) | 2.1 - 4.2 qrts May be applied in two split applications | None unless required by tank mix partner | Apply only to established grass stands. PHI for seed is 90 days, 0 days for grass forage, hay or livestock grazing |
| **Outlook®** Herbicide 15 | Established for at least one year or had a least one seed crop harvested | 14 - 21 fl oz | None unless required by tank mix partner | Apply only to established grass stands. Forage and hay may be grazed by or fed to livestock 60 days after application |
| **Sharpen®** Powered by **Kixor®** Herbicide 14 | Establishment seedling (After 1st tiller)<br><br>Established grass seed fields (Dormant, nondormant up to 1 week before boot stage) | 1 - 2 fl oz | MSO at 1% v/v plus AMS @ 17lbs/100 gl Do not add nitrogen containing fertilizers when applying to seedling or established stands post dormancy | Sharpen may be applied in a split application in established perennial grass stands. Applications must be separated by 14 days and not exceed a cumulative of 2 oz of Sharpen. PHI for seed = 50 days, 0 days for forage, hay or grazing, Do not apply sharpen to bahiagrass, buffalograss or switchgrass |
| **Clarity®** Herbicide 4 | Seedling Grass (Begin @ 3-5 tillers)<br>---<br>Established (up to prior to joint stage) | 8-16 fl oz<br>---<br>Up to 16 fl oz | COC at 1% v/v plus 2.5 lb/A AMS or 2 qt/A UAN | Apply Clarity when weeds are in the 2 –4 leaf stage and rosettes are less than 2 inches across. 7 day PHI for grazing, 37 days for hay for lactating dairy animals, 0 days for all other grazing animals |
| **Fungicides** | | | | |
| **Priaxor™** Xemium® Brand Fungicide 7 11 | Prior to disease development | 4-6 fl oz | NIS at 0.25% v/v | Powdery mildew, Rust Do not apply more than 10 oz per acre per application Apply at 14 day to 21 day intervals. Use higher rates and shorter intervals when disease pressure is high. 14 day PHI |
| **Revylok™** Fungicide 3 7 | Prior to disease development | 4.5 - 6.5 fl oz | NIS at 0.25% v/v | Powdery mildew, Rust Do not apply more than 6.5 oz per acre per application Apply at 14 day to 21 day intervals. Use higher rates and shorter intervals when disease pressure is high. 0 day PHI |
| **Revytek™** Fungicide 3 7 11 | Prior to disease development | 8-13 fl oz | NIS at 0.25% v/v | Powdery mildew, Rust Do not apply more than 10 oz per acre per application Apply at 14 day to 21 day intervals. 14 day PHI |
| **Veltyma™** Fungicide 3 11 | Prior to disease development | 7-10 fl oz | NIS at 0.25% v/v | Powdery mildew, Rust Do not apply more than 10 oz per acre per application Apply at 14 day to 21 day intervals. 0 day PHI |
| **Insecticides** | | | | |
| **Sefina™** **Inscalis®** Insecticide 9D | Post | 5-6 fl oz | None required | Pea aphid, Blue aphid, leafhopper. Make applications at the first sign of pest presence and before the population increases to damaging levels. |

# Malt Barley Herbicides 2024 BASF Guide

| Product SOA | Timing | Rate/Acre | Additives | Comments |
|---|---|---|---|---|
| **Sharpen** Powered by Kixor® Herbicide 14 | Preplant Only | 2 fl oz | MSO @ 1 gal/100 gal (minimum 16 fl oz/A) plus AMS @ 17 lbs/100 gal or UAN @ 2.5 gal/100 gal | Additives must be added for control of emerged broadleaf weeds. Glyphosate tank-mix partner also recommended for grass and broadleaf burndown. **For use in Barley, wheat, Triticale** |
| **Fungicides** | | | | |
| **Priaxor** Xemium® Brand Fungicide 7 11 | Fall (3 leaf);Spring greenup prior to jointing (Feekes 4-5); No later than the beginning of flowering (Feekes 10.5.1) | 2 to 4 fl oz | NIS @ 1 pint/100 gal | Early season disease control and Plant Health (Feekes 4-5): Apply Priaxor @ 2 to 4 fl oz/A. Can be tank-mixed with labeled herbicides. Special mixing instructions exist when UAN exceeds 30% v/v of carrier. |
| **Nexicor** Fungicide 3 7 11 | Spring greenup prior to jointing (Feekes 4-5); | 3.5 to 7 fl oz | NIS @ 1 pint/100 gal | Early season Plant Health and control of tan spot and Septoria. Suppression of rust until heading. |
| | Full flag leaf emergence to the beginning of flowering(Feekes 10.5.1) | 7 fl oz | NIS @ 1 pint/100 gal | For Plant Health and control of key foliar diseases through grain fill. |
| **Headline** Fungicide 11 | Fall (3 leaf);Spring greenup prior to jointing (Feekes 4-5); No later than the beginning of flowering (Feekes 10.5.1) | 3-to 6 fl oz | NIS @ 1 pint/100 gal. May use MSO with Beyond on Clearfield Plus | Early season disease control and Plant Health (Feekes 4-5): Apply Headline @ 3-6 fl oz/A. Can be tank-mixed with labeled herbicides. Special mixing instructions exist when UAN exceeds 30% v/v of carrier. |
| **Seed Enhancements** | | | | |
| **Stamina® F4 Cereals** Fungicide Seed Treatment 3 7 11 4 | For on-farm and commercial seed treatment | 4.6 fl oz/cwt | | Premix of pyraclastrobrin, triticonazole, and metalaxyl. Controls loose smut, common bunt, dry seed decay, *Pythium* damping off, seedling blights, and *Rhizoctonia* root rot |
| **Stamina® F4** Fungicide Seed Treatment 11 | For on-farm and commercial seed | 0.4 to 0.8 fl oz/cwt | | Suppression of common rot, pythium, fusarium, rhizoctonia (crop dependent), dry seed decay, and common bunt. |
| **Teraxxa™ F4** Seed Treatment 3 7 11 4 30 | For on-farm and commercial seed | 4.6 fl oz/cwt | | 5 MoA seed treatment for wireworm and broad-spectrum disease control including loose smut, common bunt, dry seed decay, *Pythium* damping off, seedling blights, and *Rhyzoctonia* root rot. |
| **Teraxxa®** Seed Treatment 30 | For on-farm and commercial seed | 0.26 fl oz/cwt | | Insecticide seed treatment for control of wireworms in wheat (all types), barley, oats, rye, triticale. |

# SOYBEANS Herbicides 2024 BASF Guide

| Product SOA | Timing | Rate/Acre | Additives | Comments |
|---|---|---|---|---|
| **Alite 27** Herbicide GT27 Only | Preplant, Preemerge | PRE OM: Coarse <1.5% (oz) 1.5, >1.5% (oz) 2.0; Med 2.0, 2.5; Fine 2.5, 3.0 (See label for Early Preplant rates) | None, unless required by a tank mix partner | For use only on GT27 or isoxaflutole-resistant soybeans. Refer to label for state and county use restrictions. Do not apply more than 3 oz per growing season. Do not apply through chemigation or aerially. |
| **Zidua PRO** Herbicide 2 14 15 | Preplant Burndown, Preplant, Preemergence* (see comments) | 6 fl oz | MSO @ 1 gal/100 gal (minimum 16 fl oz/A) plus AMS @ 8.5 to 17 lbs/100 gal or UAN @ 2.5 gal/100 gal | Additives must be added for control of emerged broadleaf weeds. Glyphosate tank-mix partner also recommended for grass and broadleaf burndown. ***For coarse soils less than 2% OM, a 30-day pre-plant interval is required.** |
| **Sharpen** Powered by Kixor Herbicide 14 | Preplant Burndown, Preplant, Preemergence* (see comments) | 1 to 2 fl oz (see preplant intervals in comments for coarse soils and rates > 1 fl oz) | MSO @ 1 gal/100 gal (minimum 16 fl oz/A) plus AMS @ 8.5 to 17 lbs/100 gal or UAN @ 2.5 gal/100 gal | ***Preplant Intervals (days)**<br>Rate (fl oz/A) / Soil Type<br>Sharpen: 1, 1.5, 2<br>Verdict: 5, 7.5, 10<br>*Coarse ≤ 2% OM: 30, 30, 44<br>Other: 0, 14, 30<br>Include Outlook or Zidua with Verdict for residual grass and pigweed control. |
| **Verdict** Powered by Kixor Herbicide 14 15 | | 5 to 10 fl oz/A (see preplant intervals in comments for coarse soils and rates > 5 fl oz) | | |
| **Zidua SC** Herbicide 15 | Preplant, PPI, Preemerge, POST (1st to 6th trifoliate) | 3.25 fl oz. | None, unless required by a tank mix partner | DO NOT apply at cracking through unifoliate stage. Maximum seasonal use rate on coarse soils is 3.5 oz and 5 oz for all other soils. |
| **Engenia** Herbicide DT Only | Preplant, Preemerge, POST (DT only, through R1) | 12.8 fl oz. | See www.engeniatankmix.com for approved tank mixtures. Do NOT tank-mix with products containing ammonium salts such as AMS or UAN. | Requires annual training. See label. Do not spray if wind is blowing toward neighboring sensitive crops. Additional state restrictions may apply. Must use approved pH buffering agent such as AEGOS. |
| **Liberty** 10 | Preplant, Preemergence POST (LibertyLink only) | 32 fl oz | AMS @ 3 lbs/A | Apply when weeds are < 3in tall. The use of additional adjuvants may cause crop response. Applications can be made up to bloom or R1. Apply POST only to LibertyLink soybean varieties. |
| **Outlook** Herbicide 15 | PPI, Preplant, Preemergence, POST (cracking to 5th trifoliate) | 14 fl oz | None, unless required by a tank mix partner | Outlook does not control emerged weeds. Split applications may be required for extended control of glyphosate resistant pigweeds. Up to 24 fl oz Outlook may be applied per season if sequential applications are separated by at least 14 days. |
| **Prowl H2O** Herbicide 3 | PPI, Preplant, Preemergence (no more than 2 days after planting) | < 3% OM: Coarse Preplant (pints) 1.5, PRE (pints) 1.5; Med 2.5, 2.0; Fine 3.0, 2.0 | None, unless required by a tank mix partner | Apply up to 15 days before planting in spring with no incorporation required. Apply preplant incorporated up to 60 days before planting. Preemerge applications must be made within 2 days of planting. Prowl $H_2O$ does not control emerged weeds. |
| **Beyond Xtra** Herbicide 2 | POST (emergence to just before bloom) | 4 to 5 fl oz | COC or MSO @ 1 gal/100 gal plus AMS @ 12 to 15 lb/100 gal or UAN @ 1.25 to 2.5 gal/100 gal | Tank mix with diphenyl-ether (PPO) herbicide for waterhemp control or FirstRate® for ragweed control |
| **Varisto** Herbicide 2 6 | Post emergence but before crop bloom | 21– 27 fl oz | 1% v/v COC or 1% v/v MSO or 0.25% v/v NIS *plus* 2.5 lb/A AMS or 2 qt/A UAN | Lambsquarters, velvetleaf, cocklebur, sunflower, nightshade, foxtail, panicum. |
| **Sharpen** Powered by Kixor Herbicide 14 | Harvest Aid / Desiccation | 2 fl oz | MSO @ 1 pint/A plus AMS @ 17 lb/100 gall | Apply when indeterminate soybeans have greater than 65% brown pods and greater than 70% leaf drop or when seed moisture is 30% or less. PHI = 3 days. Minimum 5 GPA carrier by air. |
| **Seed Enhancements** | | | | |
| **Vault HP** Biological Seed Treatment | Up to 125 days before planting | 2 fl oz/cwt | Cool, clean, non-chlorinated water | Vault is a *Rhizobia* inoculant plus feeding stimulant. Integral is a biofungicide that suppresses *Fusarium* and *Rhizoctonia*. |
| **Flo Rite 1706** Plantability Polymer | Added directly to treatment | 1 fl oz/cwt | None | Flo Rite 1706 is a colored polymer to improve seed flow and reduce bridging. |
| **Obvius Plus** Fungicide Seed Treatment | On-farm and commercial seed treatment | 1.53 fl oz/cwt | None | Premix of thiophanate, pyraclostrobin, Xemium, and metalaxyl. Controls *Fusarium, Pythium, Rhizoctonia,* and *Aschochyta* seedling blights. On-farm and commercial seed treating. |

# Seed Enhancements (cont.)

| Product | Key Diseases / Pest | Comments |
|---|---|---|
| Relenya® Seed Treatment | Fusarium, rhizoctonia | Innovative cutting-edge protection built on new Revysol technology; Adds to base foundation to boost disease protection under Fusarium and Rhizoctonia pressure; Partners with a base package to boost yield potential under varied levels of disease pressure. |
| Vault® IP Plus Seed Treatment | Dual strain biofungicide, Inoculant | Proven Bradyrhizobium Japonicum rhizobial strain produced fresh each season. New EPA registered dual strain biofungicide, Lowest application rate in its class at 1.1 fl oz/cwt |
| ILEVO® Seed Treatment | Sudden Death Syndrome, nematodes | Proven protection against above– and below-ground phases of SDS; Broad spectrum protection against multiple species of nematodes, including Soybean Cyst, Root-Knot and Reniform nematodes; |
| Poncho® XC Seed Treatment | Aphids, bean leaf beetle, leafhopper, seedcorn maggot, thrips, white grub, wireworm | Delivers immediate insect efficacy to protect against damage from early season insects; Highest activity at the CNI receptor in chemical class; Systemic mode of action protects the entire plant, supporting healthier plant establishment. |
| Poncho® Votivo® Seed Treatment | Aphids, bean leaf beetle, leafhopper, seedcorn maggot, thrips, white grub, wireworm; nematodes | Delivers immediate insect efficacy to protect against damage from early season insects; Creates a living barrier that protects soybean roots from damage from multiple generations of nematodes; Provides a consistent yield benefit across a wide range of geographies and environments. |

# SOYBEANS Fungicides & Insecticides 2024 BASF Guide

| Product | Timing | Rate/Acre | Additives | Comments |
|---|---|---|---|---|
| Headline® Fungicide 11 | R3 (Beginning Pod) | 6 fl oz | Ground: NIS @ 1 pint/100 gal<br>Aerial: COC @ 1 pint/A or HSOC @ 0.5 pint/A | For disease control and Plant Health. Diseases controlled: Alternaria leaf spot, anthracnose, Asian soybean rust, brown spot, Cercospora blight, Frogeye leaf spot, pod and stem blight. |
| Priaxor™ Xemium® Brand Fungicide 7 11 | In-furrow at planting | 2.0 to 7.0 fl oz (30" rows) | **Do NOT mix with starter fertilizer.** | For Plant Health and *Rhizoctonia* control. See label for use rate per 1000 row feet. Use a minimum of 2.5 gal/A water as carrier. |
| | R3 (Beginning Pod) | 4 fl oz | Ground: NIS @ 1 pint/100 gal<br>Aerial: COC @ 1 pint/A or HSOC @ 0.5 pint/A | For disease control and Plant Health. Diseases controlled: Alternaria leaf spot, anthracnose, Asian soybean rust, brown spot, Cercospora blight, Frogeye leaf spot, pod and stem blight. |
| Revytek™ Fungicide 3 7 11 | R3 (Beginning Pod) | 8 fl oz | Ground: NIS @ 1 pint/100 gal<br>Aerial: COC @ 1 pint/A or HSOC @ 0.5 pint/A | For disease control and Plant Health. Diseases controlled: Alternaria leaf spot, Anthracnose, Asian soybean rust, Brown spot, Cercospora blight, Frogeye leaf spot, Pod and stem blight, Rhizoctonia aerial blight, and Target spot. |
| Veltyma™ Fungicide 3 11 | R3 (Beginning Pod) | 7 fl oz | Ground: NIS @ 1 pint/100 gal<br>Aerial: COC @ 1 pint/A or HSOC @ 0.5 pint/A | For disease control and Plant Health. Diseases controlled: Alternaria leaf spot, Anthracnose, Asian soybean rust, Brown spot, Cercospora blight/Purple seed stain, Frogeye leaf spot, Pod and stem blight, Rhizoctonia aerial blight . |
| Revylok™ Fungicide 3 7 | R3 (Beginning Pod) | 6 fl oz | Ground: NIS @ 1 pint/100 gal<br>Aerial: COC @ 1 pint/A or HSOC @ 0.5 pint/A | For disease control. Diseases controlled: Alternaria leaf spot, Anthracnose, Asian soybean rust, Brown spot, Cercospora blight/Purple seed stain, Frogeye leaf spot, Pod and stem blight, Rhizoctonia aerial blight, target spot . |
| Fastac® CS Insecticide 3A | POST | 1.3—3.8 fl oz: Cutworms<br>2.8—3.8 fl oz: Armyworm (Southern, true, yellow-striped), Bean leaf beetle, Corn earworm, Soybean aphid, Webworms, Japanese beetle<br>3.2—3.8 fl oz: Armyworm (beet, fall), Loopers, Stink bugs, Thrips | | 21 day PHI. Do not graze or harvest treated soybean forage, stray, or hay for livestock feed. See label for additional pests. |
| Sefina™ Inscalis® Insecticide 9D | POST | 3 fl oz | Soybean Aphid | 7 day PHI. Do not graze or harvest treated soybean forage, stray, or hay for livestock feed. |

# POTATOES Fungicides 2024 BASF Guide

| Product SOA | Timing | Rate/Acre | Additives | Comments |
|---|---|---|---|---|
| **Priaxor**™ Xemium® Brand Fungicide 7 11 | In-furrow | Rate per 1000 row ft<br>0.48 fl oz for ≤ 34" rows<br>0.60 fl oz for ≥ 36" rows | Minimum of 5 GPA carrier.<br>**Do not mix with fertilizer.** | For *Rhizoctonia*. Apply a 4-8 inch band over the seed piece prior to being covered by soil. |
| | POST | 4 – 8 fl oz | 0.25% v/v NIS may be added | Control of black dot, brown spot, early blight, powdery mildew and suppression of Botrytis gray mold, late blight and white mold. Begin applications prior to disease development. |
| **Provysol**™ Fungicide 3 | POST | 5 fl oz | 0.25% v/v NIS may be added | Control of black dot, brown spot, and early blight. Do not apply more than 15 fl oz per season. PHI 7 days. |
| **Endura**® Fungicide 7 | POST | 3.5 – 10 oz | 0.25% v/v NIS may be added | Control of white mold, early blight and suppression of gray mold *(Botrytis cinerea)*. For white mold and gray mold, begin applications within 7 days after row closure at 5.5-10 oz/A starting prior to the onset of disease. For early blight, apply 3.5-5.5 oz starting prior to onset of disease. |
| **Veltyma**™ Fungicide 3 11 | POST | 8-10 oz | 0.25% v/v NIS may be added | Control of black dot, early blight, late blight, powdery mildew. Rate varies by disease target. Excellent resistance management fungicide. Coverage of foliage is critical. Use > 20 GPA by ground and > 5 GPA by air. Chemigate at less than 0.3 inch water. |
| **Serifel**® Biofungicide 44 | POST | 4 — 8 oz | None required. | Biofungicide. Aides in control of early blight. Maintain constant agitation. Use nozzle and in-line screens no finer than 50 mesh. PHI = 0 days. |
| **Zampro**® Fungicide 45 40 | POST | 11 – 14 fl oz | 0.25% v/v NIS | Control of late blight. Apply preventatively by ground, air or chemigation. May be applied after vine kill. Coverage of foliage is critical. Use > 20 GPA by ground and > 5 GPA by air. |
| **Forum**® Fungicide 40 | POST | 4 – 6 fl oz | 0.25% v/v NIS | Control of late blight. Apply preventatively by ground, air or chemigation. May be applied after vine kill. Coverage of foliage is critical. Use > 20 GPA by ground and > 5 GPA by air. |
| **Herbicides** | | | | |
| **Outlook**® Herbicide 15 | PRE | By soil type<br>Coarse 14 – 18 fl oz<br>Med-Fine 18 – 21 fl oz | None unless required by a tankmix partner | Does not control germinated weeds. Must be incorporated mechanically or with irrigation/rainfall (0.33-0.5 in.) for maximum weed control. |
| **Prowl H2O**® Herbicide 3 | PRE<br>Early POST<br>(up to 6") | By soil type<br>Coarse 1.5 pint<br>Medium 2.0 pint<br>Fine 3.0 pint | None unless required by a tankmix partner | Do not apply prior to planting crop. Apply before weed emergence and before potatoes are 6 inches tall. Rate depends on soil texture and % O.M. Use screens no finer than 50 mesh. |
| **Poast**® Herbicide 1 | 2 to 8 inch weeds | 24 to 32 fl oz | 2 pt/A COC or 1.5 pt/A MSO UAN may be added to increase control | Barnyardgrass, foxtails, wild proso millet, annual rye, field sandbur, shattercane, volunteer cereals*.<br>* Use 32 fl oz/A for control of volunteer cereals. |
| **Zidua**® SC Herbicide 15 | Pre Emerge | 2.5 to 3.25 fl oz | None unless required by a tankmix partner | Apply after planting but before emergence. Do not apply more than 2.5 fl oz on coarse soils. |
| **Insecticides** | | | | |
| **Fastac**® CS Insecticide 3 | Apply as required by scouting | 1.3 – 3.8 fl oz<br>(pest dependent) | None, unless required by a tank mix partner | Cutworm species, Colorado potato beetle, grasshopper, potato leafhopper, aphid spp., armyworm (beet, yellow-striped), flea beetle and others. Minimum application interval - 4 days. PHI 1 day |
| **Sefina**™ **Inscalis**® Insecticide 9D | Apply at first sign of infestation | 3.0 fl oz | 0.25% v/v NIS | For control of aphids (including): green peach and potato aphid. Minimum retreatment interval is 7 days. 7 day PHI. |
| **Regent**® **4 SC** Insecticide 2B | Infurrow | 0.184 – 0.22 fl oz<br>per 1000 row feet<br>Do not exceed 3.2 oz/A | None | Controls wireworms.<br>Do Not use T-banding over the top of a closed furrow. |

# SUGARBEETS Herbicides 2024 BASF Guide

| Product | Timing | Rate/Acre | Additives | Comments |
|---|---|---|---|---|
| Liberty 10 | Preplant burndown | 32 fl oz | MSO @ 1 gal/100 gal plus AMS @ 3 lbs / ac | Apply to actively growing weeds <3 in tall. Tank-mix with glyphosate for additional control of grasses. Refer to label for crop rotation restrictions. |
| Outlook Herbicide 15 | 2 to 12 leaf stage | 14 fl oz (2 to 12 leaf)<br>OR<br>12 fl oz at 2 - 6 leaf<br>fb<br>12 fl oz two wks later | None required | Foxtails, panicum, crabgrass, seedling John-songrass, barnyardgrass, yellow nutsedge, pigweed species, nightshade, waterhemp.<br>Does not control emerged weeds. |
| Poast Herbicide 1 | 2 to 8 inch weeds | 24 - 32 fl oz | 2 pt/A COC or 1.5 pt/A MSO<br>UAN may be added to increase control | Barnyardgrass, foxtails, wild proso millet, annual rye, field sandbur, shattercane, volunteer cereals*.<br>* Use 2pt/A for control of volunteer cereals. |
| **Fungicides** | | | | |
| Provysol Fungicide 3 | POST<br>Prior to disease | 5 fl oz | NIS | For control of cercospora leaf spot. Apply at 14-day intervals. Do not apply more than 10 fl oz per season. PHI = 21 days |
| Veltyma Fungicide 3 11 | POST<br>Prior to disease | 10 fl oz | NIS | For control of cercospora leaf spot. Apply at 14-day intervals.<br>Plant Health—Increase plant growth efficiency, improve stress tolerance, control disease. |
| Priaxor Xemium® Brand Fungicide 7 11 | POST<br>Prior to disease | 6 - 8 fl oz<br>(8 fl oz for *Rhizoc*) | None required | Cercospora leaf spot, powdery mildew, suppression of Rhizoctonia.<br>PLANT HEALTH – Increase plant growth efficiency, improve stress tolerance, control disease. |
| Caramba Fungicide 3 | POST<br>Prior to disease | 9 – 14 fl oz | None required | Powdery mildew.<br>May be applied in a tankmix with Headline. |
| **Insecticides** | | | | |
| Fastac CS Insecticide 3A | Apply at economic threshold | 3.8 fl oz<br>(pest dependent) | None required | Cutworm species, Flea Beetle, Grasshopper. Minimum application interval - 4 days. PHI - 50 dyas |

# FALLOW / POST HARVEST Herbicides 2024 BASF Guide

| Product | Timing | Rate/Acre | Additives | Comments |
|---|---|---|---|---|
| Distinct Herbicide 4 19 | Fall burndown / Fallow / Post harvest to actively growing weeds | 2 to 6 oz | COC or MSO @ 1 to 2 pints/A plus AMS @ 5 to 17 lbs/100 gal OR UAN @ 1.25% v/v | Include 8 to 16 oz Clarity for added kochia control. See crop rotation information for rainfall and waiting intervals required before planting certain crops. |
| Sharpen Powered by Kixor® Herbicide 14 | Fall burndown / Fallow / Post harvest to actively growing weeds | 1.5 to 2 fl oz | MSO at 1 pint/A plus AMS @ 8.5 to 17 lbs/100 gal OR UAN @ 2.5% v/v | Additives **MUST** be included (MSO + AMS / UAN). Glyphosate tank mix partner also recommended for optimum burndown. |
| Prowl H20 Herbicide 3 | Fallow / Prior to weed gerrmination | 2 to 3 pints | None, unless required by a tank mix partner | Prowl H2O does not control emerged weeds. Do not apply after July 1 if corn or sorghum will be planted the following spring. Wheat may be planted 4 months after application. Use screens no finer than 50 mesh. |
| Clarity Herbicide 4 | Fall burndown / Fallow / Post harvest to actively growing weeds | 8 to 16 fl oz | COC or MSO @ 1 to 2 pt/A plus AMS @ 5 to 17 lb/100 gal or UAN @ 1.25% v/v | Use 16 fl oz of Clarity for added residual kochia control. Do not plant wheat for 44 days following a fallow application of Clarity. |
| Armezon Herbicide 27 | Fall burndown / Fallow / Post harvest to actively growing weeds | 0.5 to 1.0 fl oz. | MSO @ 1%v/v | Include 0.5 lb/A Atrazine where allowed. |
| Facet L Herbicide 4 26 | Fall burndown / Fallow / Post harvest to actively growing weeds | 22 fl oz | MSO at 2 pt/A plus AMS @ 2.5 lb/A or UAN @ 4 qt/A | Tank mix with glyphosate for optimum control of grasses. Refer to label for crop rotation restrictions. |
| Liberty 10 | Fall burndown / Fallow / Post harvest to actively growing weeds | 32 fl oz | MSO @ 1 gal/100 gal plus AMS @ 3 lbs/A | Apply to actively growing weeds <3 in tall. Refer to label for crop rotation restrictions. |
| Zidua SC Herbicide 15 | Will not control emerged weeds | 3.25 fl oz | None, unless required by a tank mix partner | Apply as a broadcast spray, Sequential applications can be made with a 30 minimum days between applications. |

**This Quick Reference Guide is not a substitute for any product label. Always read and follow label directions.**

# SUNFLOWERS Herbicides 2024 BASF Guide

| Product | Timing | Rate/Acre | Additives | Comments |
|---|---|---|---|---|
| **Beyond® Xtra** Herbicide<br>Clearfield® Production System<br>2 | 2-8 leaf stage sunflower<br><br>Clearfield and Clearfield Plus hybrids only | **Clearfield**<br>4 fl oz<br><br>**Clearfield Plus**<br>4 to 6 fl oz | **Clearfield**<br>NIS @ 0.25% v/v + UAN @ 2.5% v/v *or* AMS @ 12-15 lbs/100 gall<br>**Clearfield Plus**<br>MSO or COC @ 1% v/v<br>UAN or AMS still required<br>Use NIS if tank-mix partner prohibits the use of oil adjuvants | **Do not use MSO or COC on Clearfield hybrids.**<br>Do not tank-mix with organophosphate insecticides.<br>For best weed control, apply in a sequential program after Prowl H20. |
| **Prowl H20®** Herbicide<br>3 | PPI, Preplant, Preemerge (up to 2 days after planting) | 2.5 - 3.0 pts | None unless required by tank mix partner | Plant sunflowers 1½ to 2" deep and completely cover with soil. Does not control emerged weeds. Use screens no finer than 50 mesh. |
| **Sharpen®** Powered by **Kixor®** Herbicide<br>14 | **Desiccation** (after plant maturity, seed moisture <36%) | 2 fl oz | MSO at 1 pint/A plus AMS @ 8.5 to 17 lb/100 gal | Can be applied on oilseed or confections.<br>Do not apply after multiple minor frosts or a significant single frost. Do not use on sunflowers grown for seed production. 7 day PHI. Minimum 5 GPA carrier by air. |
| **Zidua® SC** Herbicide<br>15 | Preplant, Preemerge, early POST (V1 - V8) | < 3% OM: Coarse 1.75 –2.5 (fl oz), EPOST 1.75-2.5 (fl oz); Med 2.5 – 5.0, 1.75-3.25; Fine 5.0 – 6.5, 1.75-3.25 | None, unless required by a tank mix partner | Sequential applications must be separated by at least 14 days. Do not apply preplant incorporated. Do not apply at cracking or cotyledon stage. Do not apply in tank mix with Beyond unless Clearfield Plus variety. 60 day PHI |

## Fungicides

| | | | | |
|---|---|---|---|---|
| **Priaxor™** Xemium® Brand Fungicide<br>7 11 | In-furrow at planting | 3.5 to 7.0 fl oz (30" rows) | Do NOT mix with starter fertilizer | For Plant Health and *Rhizoctonia* control. See label for use rate per 1000 row feet. Use a minimum of 2.5 gall/A water as carrier. |
| | R2 to R4 (prior to disease) | 4 fl oz | NIS @ 0.25% v/v | Control of Alternaria, Cercospora, powdery mildew, rust and Septoria. 21 day PHI. |
| **Revytek™** Fungicide<br>3 7 11 | R2-R4 (Prior to disease) | 8 fl oz | NIS @ 0.25% v/v | For disease control and Plant Health. Diseases controlled: Alternaria leaf spot, Anthracnose, Asian soybean rust, Brown spot, Cercospora blight, Frogeye leaf spot, Pod and stem blight, Rhizoctonia aerial blight, and Target spot. |

# Range and Pasture Herbicides 2024 BASF Guide

| Product | Crop | Timing | Rate/Acre | Additives | Comments |
|---|---|---|---|---|---|
| **Distinct®** Herbicide<br>4 19 | Established perennial warm and cool season grass | Postemerge | 2 to 4 oz | COC or MSO @ 1 to 2 pints/A plus AMS @ 5 to 17 lbs/100 gal OR UAN @ 1.25% v/v | Do not apply Distinct to small grains grown for pasture or to newly seeded grass. May be used alone or in combination with other pasture labeled herbicides. 0 day PHI for grazing. |
| **Sharpen®** Powered by **Kixor®** Herbicide<br>14 | Established perennial warm and cool season grass | Dormant | 1 to 2 fl oz | MSO at 1 pint/A plus AMS @ 8.5 to 17 lbs/100 gal OR UAN @ 2.5% v/v, | For Control of leafy spurge tam mix with 4-6 oz/a of Plateau herbicide. Do not exceed 1 oz/a per season on Bermudagrass. 0 day PHI for harvest or grazing. |
| | | In-Season | | MSO at 1 pint/A<br>Do NOT add nitrogen fertilizer | Do not apply in season postemergence to Bahiagrass, buffalograss and switchgrass. 0 day PHI for harvest or grazing. |
| **Prowl H20®** Herbicide<br>3 | Established perennial warm and cool season grasses and mixed alfalfa stands | Fall, winter, spring, in-season between cuttings | 2.2 to 8.4 pints | None unless required by tank-mix partner | Do not apply more than 8.4 pints per year. 0 day PHI for harvest or grazing for grass forage. 14 day PHI for harvest and grazing for mixed alfalfa stands. |
| **Clarity®** Herbicide<br>4 | Established perennial warm and cool season grass | Postemerge | 12 to 16 fl oz | COC @ 1 to 2 pt/A plus AMS @ 5 to 17 lb/100 gal or UAN @ 1.25% v/v | Postemergence applications may be made after seedling grasses exceed the 3 leaf stage. 0 day PHI for grazing animals other than lactating dairy animals, 7 day PHI for lactating dairy animals for rates up to 16 fl oz . |
| **Facet® L** Herbicide<br>4 26 | Established perennial warm and cool season grass | Postemerge | 22 to 32 fl oz | COC or MSO @ 1 to 2 pints/A plus AMS @ 8.5 to 17 lbs/100 gal OR UAN @ 1.25% v/v | See label for list of cool and warm season pasture grass list. FAcel L may be tank mixed with other herbicides labeled for use in pasture and rangeland unless prohibited. 0 day PHI for grazing, 7 day PHI for hay. |

**This Quick Reference Guide is not a substitute for any product label. Always read and follow label directions. Engenia is a restricted use pesticide.**

# WHEAT/SMALL GRAINS — Herbicides — 2024 BASF Guide

| Product | SOA | Timing | Rate/Acre | Additives | Comments |
|---|---|---|---|---|---|
| **Beyond® Xtra** Herbicide<br>**Clearfield®** Production System | 2 | Clearfield (1-gene)<br>Tiller initiation up to jointing<br><br>Clearfield Plus<br>2 leaf (NIS only)<br>Tiller initiation up to 2nd node | 4 fl oz<br>Fall applied<br>*followed by*<br>4 fl oz<br>Spring applied<br>—*OR*—<br>6 fl oz<br>Spring applied | Adjuvant by Wheat Growth Stage<br>Variety: 2 Leaf / Tiller Initiation / 1st Node<br>Clearfield: - / NIS @ 0.25% v/v + UAN / -<br>Clearfield Plus: NIS @ 0.25% v/v + UAN / MSO @ 1% v/v + UAN or NIS @ 1% v/v + UAN Only NIS with tank-mixes that prohibit oils<br>Always include UAN @ 20% - 50% v/v or 3 - 5 gal/A | Apply in fall or spring to actively growing weeds, and when broadleaf weeds are ≤ 3" and grass weeds are ≤ 4-5 leaves. **DO NOT** apply during periods of extreme cold. Highs should be >40° F and lows >25° F for 2 days before and after application. For best feral rye suppression, apply prior to tillering of feral rye. **DO NOT apply more than 50% total carrier volume as N fertilizer. Do NOT use MSO with tank-mixes that prohibit oil adjuvants. Use in Clearfield wheat Only** |
| **Sharpen®** Powered by **Kixor®** Herbicide | 14 | Preplant burndown, Preplant, Preemergence Harvest aid | 2 fl oz | MSO @ 1 gal/100 gal (minimum 16 fl oz/A) plus AMS @ 17 lbs/100 gal or UAN @ 2.5 gal/100 gal | Additives must be used for control of emerged broadleaf weeds. Glyphosate tank-mix partner also recommended for grass and broadleaf burndown. For harvest aid apply at maturity (hard dough, <30% moisture). **For use in barley, wheat, triticale** |
| **Prowl H2O®** Herbicide | 3 | POST—1-leaf stage to flag leaf emergence | Soil Type: pints<br>Coarse: 1.5<br>Medium: 1.5-2.5<br>Fine: 2.0-3.0 | None, unless required by a tank mix partner | Applications of Prowl H2O will not control emerged weeds. Prowl H2O can be tank-mixed with labeled wheat herbicides to control emerged weeds. See label for mixing instructions with liquid fertilizers. Use screens no finer than 50 mesh. **For use in wheat, Triticale** |
| **Zidua® SC** Herbicide | 15 | Delayed PRE* (see comments) | Soil Type: oz<br>Coarse: 1.25-1.75<br>Medium: 1.75-2.5<br>Fine: 1.75-3.25 | None, unless required by a tank mix partner | *Delayed PRE timing – 80% of germinated wheat seeds have a shoot at least ½ inch long until wheat spiking. Do not apply preplant or PRE. Does not control emerged weeds. Do not apply more than 4 oz/A per cropping season. **For use in wheat** |
| | | POST<br>Spike to 4 tillers | 1.25 to 4 fl oz | | |
| **Clarity®** Herbicide | 4 | POST<br>(spike to joint stage) | 4 fl oz | NIS @ 0.25% v/v plus AMS @ 2.5 lbs/A or UAN @ 2 to 4 qts/A | Always include a labeled tankmix partner. |
| **Facet® L** Herbicide | 4 26 | Preplant | 22 fl oz | MSO at 2 pt/A plus AMS @ 2.5 lb/A or UAN @ 4 qt/A | To manage field bindweed prior to planting wheat. Include glyphosate to burndown existing weeds. Plant wheat seed at least 1" deep. **Use in wheat** |
| **Priaxor™** Xemium® Brand Fungicide | 7 11 | Fall (3 leaf); Spring greenup prior to jointing (Feekes 4-5); No later than the beginning of flowering (Feekes 10.5.1) | 2 to 4 fl oz | NIS @ 1 pint/100 gal<br>May use MSO with Beyond on Clearfield Plus | Early season disease control and Plant Health (Feekes 4-5): Apply Priaxor @ 2 to 4 fl oz/A. Can be tank-mixed with labeled herbicides. Special mixing instructions exist when UAN exceeds 30% v/v of carrier. |
| **Nexicor™** Fungicide | 3 7 11 | Spring greenup prior to jointing (Feekes 4-5); | 3.5 to 7 fl oz | NIS @ 1 pint/100 gal<br>May use MSO with Beyond on Clearfield Plus | Early season Plant Health and control of tan spot and Septoria. Suppression of rust until heading. |
| | | Full flag leaf emergence to the beginning of flowering (Feekes 10.5.1) | 7 fl oz | NIS @ 1 pint/100 gal | For Plant Health and control of key foliar diseases through grain fill. |
| **Sphaerex™** Fungicide | 3 3 | Prior to disease development and at least 30 days prior to harvest | 7.3 fl oz | Applications with EC formulated products can increase risk of phytotoxicity | For optimum *Fusarium* head scab suppression, apply at the beginning of flowering (Feekes 10.5.1). Apply with minimum 5 GPA aerially. |

## Insecticides

| | | | | |
|---|---|---|---|---|
| **Fastac® CS** Insecticide | 3A | Post | 3.8 fl oz: Cutworms (including army cutworm), Armyworms (Southern, true, yellow-striped), Aphids, Greenbugs, Grasshoppers | Do not make applications less than 14 days apart. 14 day PHI for grain, forage, and hay. See label for additional pests controlled. |

## Seed Enhancements

| | | | |
|---|---|---|---|
| **Stamina® F4 Cereals** Fungicide Seed Treatment | 3 7 11 4 | For on-farm and commercial seed treatment | 4.6 fl oz/cwt | Premix of pyraclastrobrin, triticonazole, and metalaxyl. Controls loose smut, common bunt, dry seed decay, *Pythium* damping off, seedling blights, and *Rhizoctonia* root rot |
| **Teraxxa™ F4** Seed Treatment | | For on-farm and commercial seed | 4.6 fl oz/cwt | 5 MoA seed treatment for wireworm and broad-spectrum disease control including loose smut, common bunt, dry seed decay, *Pythium* damping off, seedling blights, and *Rhyzoctonia* root rot. |

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# 2024 BASF Guide — Product Specifications

| Product | Formulation | Rainfast | Pre-harvest Interval (PHI) | REI | Minimum Storage Temp | Grazing Restriction | Bulk Product Density | Spray Droplet Size |
|---|---|---|---|---|---|---|---|---|
| **Alite 27** | **SC** | - | 70-day | 12 hrs | 32º F | Do not feed forage or hay from treated soybeans to livestock | 10.01 lbs/gal | Medium to Coarse |
| **Armezon** | **SC** | 1 hr | 45-day | 12 hrs | 25º F | Do not graze for at least 45 days after application | 9.43 lbs/gal | Medium to Coarse |
| **Armezon PRO** | **EC** | 1 hr | 45-day | 12 hrs | None | Do not graze for at least 45 days after application | 9.38 lbs/gal | Medium to Coarse |
| **Basagran 5L** | **SL** | 4 hrs | 30-day dry beans, peas | 48 hrs | 41º F | Soybean grazing, forage, or hay = 30 days<br>Sorghum grazing = 12 days | 10.25 lbs/gal | Medium to Coarse |
| **Beyond Xtra** | **AS** | 1 hr | 0-day | 4 hrs | 32º F | No grazing or feeding restrictions on labeled crops | 8.75 lbs/gal | Medium to Coarse |
| **Caramba** | **EC** | When dry | 30-day cereals<br>14-day sugar beets | 12 hrs | 36º F | No grazing or feeding restrictions on labeled crops | 8.72 lbs/gal | Fine to Medium |
| **Clarity** | **SL** | 4 hrs | 7 day wheat<br>See label for other crops | 24 hrs | None | Cereal and sorghum pasture = 7 days for lactating dairy<br>0 days for all other grazing animals<br>See label for other crops | 10.26 lbs/gal | Coarse to Ultra Coarse |
| **Distinct** | **WDG** | 4 hrs | 32 day for forage<br>72d for grain or stover | 24 hrs | None | 0 day for range and pasture | 38.09 lbs/ft$^3$ | Coarse to Ultra Coarse |
| **Endura** | **WG** | When dry | 21 day soybean | 12 hrs | None | Do not feed peanut hay to livestock | 29.34—37.46 lbs/ft$^3$ | Fine to Medium |
| **Engenia** | **SL** | 4 hrs | 7 day wheat<br>See label for other crops | 24 hrs | None | Cereal and sorghum pasture = 7 days for lactating dairy<br>0 days for all other grazing animals<br>See label for other crops | 10.38 lbs/gal | Coarse to Ultra Corase |
| **Facet L** | **SL** | 6 hrs | 7 days for hay | 12 hrs | None | 0 days for range and pasture | 9.44 lbs/gal | Coarse to Ultra Coarse |
| **Fastac CS** | **CS** | 1 hr | 3-day alfalfa, sweet corn<br>14-day wheat, sorghum<br>21-day soybean<br>30-day corn | 12 hrs | 32º F | Crop dependent –See label | 8.43 lbs/gal | Fine to Medium |
| **Headline SC** | **SC** | When dry | 7-day corn (all types)<br>21-day soybean<br>14-day alfalfa<br>Wheat – Feekes 10.5.1 | 12 hrs | 32º F | No grazing or feeding restrictions on labeled crops | 8.93 lbs/gal | Fine to Medium |
| **Headline AMP** | **SC** | When dry | 20-day grain & stover<br>7-day forage/silage | 12 hrs | None | No grazing or feeding restrictions on labeled crops | 8.85 lbs/gal | Fine to Medium |
| **Liberty** | **SL** | 4 hr | 70-day soybean, corn grain & fodder, cotton; 60-day corn forage; 65-day canola | 12 hrs | 32º F | Do not graze or cut for hay—soybeans & canola | 9.6 lbs/gal | Medium to Coarse |
| **Nexicor** | **EC** | When dry | 21-day for sorghum. Wheat - no later than beginning of flowering.<br>Barley/Oats/Rye - no later than 50% head emergence | 12 hrs | none | Wheat - 7 days, Sorghum - 30 days | 8.92 lbs/gal | Fine to Medium |

| Product | Formulation | Rainfast | Pre-harvest Interval (PHI) | REI | Minimum Storage Temp | Grazing Restriction | Bulk Product Density | Spray Droplet Size |
|---|---|---|---|---|---|---|---|---|
| **Nurizma** | **SC** | - | - | 12 hrs | | - | 9.67 lbs/gal | In-furrow |
| **Outlook** | **EC** | - | 40-day corn | 12 hrs | None | Corn – 40 days, Sorghum – 80 days, Soybean – Do not graze | 9.41 lbs/gal | Medium to Ultra Coarse |
| **Poast** | **EC** | 1 hr | See label. | 12 hrs | 32º F | Alfalfa—no restrictions; Soybean—do not graze, only dry hay may be fed | 7.77 lbs/gal | Medium |
| **Priaxor** | **SC** | When dry | 21-day corn grain<br>7-day corn silage<br>7 day sweet corn<br>21 day soybean | 12 hrs | 32º F | Soybeans —14 days for forage, 21 days for hay; Wheat, Rye, Triticale — 14 days for hay and forage; Corn — 7 days for forage | 9.68 lbs/gal | Fine to Medium |
| **Prowl H2O** | **ME** | - | See label | 24 hrs | None | Grass pasture—0 day,<br>Mixed grass and alfalfa—14 days | 9.81 lbs/gal | Medium to Ultra Coarse |
| **Provysol** | **SC** | When dry | 21-day sugarbeet | 12 hrs | 32º F | 21 days | 9.60 lbs/gal | Finer to Medium |
| **Pursuit** | **AS** | 1 hr | 30-day alfalfa<br>85-day soybean | 4 hrs | 32º F | Alfalfa – 30 days; Soybeans – do not graze | 9.20 lbs/gal | Medium to Coarse |
| **Revylok** | **SC** | When dry | | 12 hrs | | 21 days | 9.59 lbs/gal | Fine to Medium |
| **Revytek** | **SC** | When dry | 21-day corn; soybean | 12 hrs | 32º F | 21 days | 9.51 lbs/gal | Fine to Medium |
| **Sefina** | **DC** | 1 hr | 7 day for cotton and soybean | 12 hrs | 14º F | DO NOT graze or feed soybean forage | 8.51 lbs/gal | Medium to coarse |
| **Sharpen** | **SC** | 1 hr | See label. | 12 hrs | None | Crop dependent – See label | 9.57 lbs/gal | Medium to Coarse |
| **Sphaerex** | | When Dry | 30-day | 12 hrs | 32º F | - | 8.59 lbs/gal | Fine to Medium |
| **Status** | **WDG** | 4 hrs | 32-day corn forage, 72-day corn grain | 24 hrs | None | No livestock feeding restrictions on labeled crops | 44.76 lbs/ft$^3$ | Coarse to Ultra Coarse |
| **Varisto** | **SL** | 4 hrs | 30 days (dry beans & Peas) | 48 hrs | 32º F | 36 days | 9.93 lbs/gal | Medium to Coarse |
| **Veltyma** | | When dry | 21-day corn; soybean; sorghum | 12 hrs | 32º F | 21 days | 9.51 lbs/gal | Fine to Medium |
| **Verdict** | **EC** | 1 hr | Corn forage and silage 80-day | 12 hrs | None | Corn – 80 days; Sorghum – 70 days; Soybeans – Do not graze | 9.10 lbs/gal | Medium to Coarse |
| **Zidua** | **SC** | - | 37-day sweet corn<br>7-day field corn | 12 hrs | 32º F | Corn—7 days | 10.03 lbs/ft$^3$ | Medium to Ultra Coarse |
| **Zidua PRO** | **SC** | 1 hr | 85-day soybean grain | | 23º F | Do not graze or feed treated soybean forage, hay, or straw | 9.93 lbs/gal | Medium to Coarse |

| Product | Rotational Restrictions (See label for details) | | |
|---|---|---|---|
| Alite 27 Herbicide | No Minimum Precipitation<br>Corn, GT27 soybeans and isoxaflutole-resistant soybeans = 0 months<br>Wheat, Triticale, cereal rye = 4 months | No Minimum Precipitation:<br>Soybeans (all non isoxaflutole-resistant soybeans), barley, sweet corn, popcorn, potatoes, grain sorghum, oats, rye, sunflower = 6 months | 15 in. of cumulative precipitation following app:<br>Alfalfa, cotton, rice, sugarbeets (East of the Mississippi River) = 10 months<br>Peanut = 11 months<br>Sugarbeets (West of the Mississippi River), all other crops = 18 months |
| Armezon™ Herbicide | Use Rate of 0.75 fl oz:<br>Corn (all types) = Anytime<br>Wheat, Barley, Oats, Rye = 3 months<br>Alfalfa, cotton, potato, sorghum, soybean, sunflower, dry bean, canola = 9 months<br>All other crops = 18 months | Use Rate of 0.5 fl oz:<br>Dry bean, snap bean = 9 months (CO, NE west of Hwy 83)<br>All other crops = use 0.75 fl oz rotational restrictions | Use Rate of 1.0 fl oz:<br>Corn (all types) = Anytime<br>Wheat, Barley, Oats, Rye = 3 months<br>Alfalfa, cotton, potato, sorghum, soybean, sunflower = 9 months<br>All other crops (including canola) = 18 months |
| Armezon® PRO Herbicide | Use Rate up to 28 fl oz:<br>Corn (all types) = Anytime<br>Cereals = 4 months<br>alfalfa, cotton, grain sorghum, potato, soybean, sunflower = 9 months<br>Canola = 18 months<br>See label for additional crops | Use Rate <16 fl oz:<br>Dry beans, peas, canola, snap bean = 9 months<br>Sugarbeet = 18 months for CO, WY, NE west of Hwy 83; 9 months for KS | Use Rate 16 to 20 fl oz:<br>Dry beans, canola, peas, and snap bean = 9 months<br>Sugarbeet = 18 months for CO, WY, NE west of Hwy 83; 9 months for KS |
| Beyond® Xtra Herbicide | Field Corn = 8.5 months<br>Wheat (non CL) = 3 months<br>Soybean, Dry beans = Anytime | Alfalfa = 3 months<br>Cotton, Oat = 9 months<br>Potato = 18 months<br>Canola (non CL) = 18-26 months (region dependent) | Sorghum, Sunflower (non CL) = 9 months<br>CL Corn, CL Sunflower, CL Wheat,<br>CL Canola = Anytime |
| Basagran® 5L Herbicide | No rotational restrictions to any crop | | |
| Caramba® Fungicide | Wheat, Canola, Corn, Soybeans, Barley, Oats, Rye,<br>Triticale, Sugar beets, Dry beans, Sorghum, Sunflower = Anytime | Leafy brassica & leafy vegetables = 30 days | 120 days for all other crops |
| Clarity® Herbicide | Use Rate of 24 fl oz or less:<br>Barley, Oats, Wheat = 22 days per 8 fl oz<br>All other crops = 120 days | Use Rate of 24 to 64 fl oz:<br>Barley, Oats, Wheat = 45 days per 16 fl oz<br>All other crops = 180 days | See label for specific preplant use directions for corn, sorghum, soybeans, and cotton |
| Distinct® Herbicide | Field Corn = 7 days for 2 – 6 oz<br>Cereals, Grain sorghum, Alfalfa = minimum 30 days AFTER 1" rainfall for 4 oz or less | Soybeans, Cotton = minimum 30 days AFTER 1" rainfall for 2 – 4 oz. Do NOT make preplant applications of Distinct in geographic areas with less than 25" annual rainfall. | All other crops = 120 days |
| Engenia® Herbicide | Corn, DT Cotton, DT Soybeans = anytime | (12.8 fl oz.) Sorghum, Non-DT soybeans, grasses (more than 30 in annual precip.) = 28 days | (12.8 fl oz.) non-DT cotton, grasses (less than 30 in. annual precip.) = 42 days. All other crops 120 days. |
| Facet® L Herbicide | Spring wheat, winter wheat, grain sorghum = Anytime | Alfalfa, carrots, dry beans, sugarbeets = 24 months with bioassay | All other crops (Canola, Cotton, Soybeans)= 10 months |
| Fastac® CS Insecticide | See Crop Specific Label | | |
| Headline® Fungicide | All crops listed on Headline, Pristine, and Cabrio labels = Anytime | All other crops = 14 days | |
| Headline AMP® Fungicide | Corn, Barley, Canola, Cotton, Oats, Peanuts, Rye, Soybeans, Sugar beets, Triticale, Wheat, Dry beans, Sorghum, Sunflower = Anytime | Leafy vegetables and Brassica leafy vegetables = 30 days | All other crops = 120 days |
| Liberty® | Canola, Corn, Soybean, Cotton, and Sugarbeets = Anytime | Root and Tuber veg, Leafy veg, Brassica leafy veg, Small Grains = 70 days | All other crops = 120 days |
| Nexicor™ Fungicide | Barley, Beans (dry and succulent), Canola, Soybeans, Corn, Oat, Peanut, Rye,<br>Sorghum, sugar beet, triticale, wheat = Anytime. | Rice = 14 days following last application | All other crops 365 days after last application (Alfalfa 75 days, Cotton, Sunflower, Potato 105 days) |
| Nurizma™ Insecticide | Immediate plantback for all crops except leafy veg (60 days) | | |
| Outlook® Herbicide | Corn, Dry bean, Grain sorghum, Soybean = Anytime | Fall seeded cereals = 4 months | Sunflower, Cotton, Potatoes, Sugar beet, Alfalfa = next spring following the application |
| Poast® Herbicide | Soybeans, sunflowers, canola, alfalfa, dry beans, dry peas, potatoes, sugarbeet, and other registered crops = Anytime | All other crops = 30 days | |

| Product | Rotational Restrictions (See label for details) | | |
|---|---|---|---|
| **Priaxor™**<br>Xemium® Brand Fungicide | All labeled crops can be replanted immediately following the last application. | Rice = 14 days following last application | All other crops 365 days after last application |
| **Pristine®**<br>Fungicide | Alfalfa, barley, carrots, corn, cotton, cucurbits, dry beans, oats, onions, sunflower, sorghum, soybean, sugarbeets, potatoes, wheat = anytime | Crops not listed on the Pristine, Cabrio EG, Endura or Headline labels = 14 days | |
| **Provysol™**<br>Fungicide | Cereal Grains, Leafy veg, Legume veg, Potato, Canola, Sorghum, Millet, Sugarbeet = nytime | Root and tuber veg except potato and sugarbeet = 12 months | All other crops intended for food or feed = Rotation prohibited |
| **Prowl H20®**<br>Herbicide | Rates ≤ 4.0 pt/acre = Anytime for crops labeled for Preplant Incorporated, including Soybeans and Sunflowers; all other crops (except Wheat & Barley) = next year following application | Rates > 4.0 pt/acre = only crops labeled for Preplant Incorporated may be planted the following year; all other crops = 24 months | Wheat, Barley (rates ≤ 3.2 pt/a) = 4 months in KS, CO, WY, NE<br>Wheat, Barley (rates > 3.2 but ≤ 4.0 pt/a) = 4 months IF >12" rainfall/irrigation is received; otherwise see label. |
| **Pursuit®**<br>Herbicide | Field Corn = 8.5 months<br>CL Corn = Anytime<br>Wheat (CL & non CL) = 4 months<br>Soybean = 0 months | Alfalfa = 4 months<br>Cotton, Oats, Sorghum, Sunflower (CL and non CL) = 18 months | Dry beans = 4 months<br>CL Canola = next season<br>Rye = 4 months<br>Potatoes = 26 months<br>Non-Clearfield Canola, sugarbeets = 40 months |
| **Revylok™**<br>Fungicide | Cereals (wheat, rye, triticale), corn, sorghum, legume vegetables including soybean, grass and non-grass animal feeds, potato and sugar beet = anytime | | |
| **Revytek™**<br>Fungicide | Cereal Grains, Leafy veg, Legume veg, Potato, Canola, Sorghum, Millet, Sugarbeet = anytime | Root and tuber veg except potato and sugarbeet = 12 months | All other crops, check label for most recent rotation updates. |
| **Sharpen®**<br>Powered by **Kixor®** Herbicide | Corn = 0 months<br>Sorghum = 0 months (1-4 oz)<br>1 months (5-6 oz)<br>Soybean = 0 to 3 months (1-3 oz)<br>(see label for details)<br>4 months (4 oz)<br>6 months (5-6 oz) | Small grains = 0 months (1-4 oz), 3 months (5-6 oz)<br>Dry pea, chickpea = 0 months (1-2 oz), 2 months (3 oz), 4 months(4 oz), 6 months(5-6 oz)<br>Cotton = 1.5 months (1 oz), 3 months (2 oz), 4 months (3 oz), 6 months (4-5 oz)<br>Sugar beet, sunflower, canola, other crops = 4 months (1 oz), 5 months (2 oz), 6 months (3 oz),<br>7 months (4 oz), 8 months (5 oz), 9 months (6 oz) | |
| **Sphaerex™**<br>Fungicide | Barley, canola, corn, cotton, dry beans and peas, oats, rye, soybeans, sugarbeets, triticale, wheat = 0 month | Brassica leafy vegetables, sorghum, sunflower, potatoes = 30 days | All other crops = 120 days |
| **Status®**<br>Herbicide | Soybeans, Cereals, Grain sorghum, Alfalfa, cotton = 30 days AFTER 1" rainfall | In case of crop failure, Corn can be replanted 7 days after application. | All other crops = 120 days |
| **Varisto®**<br>Herbicide | Field Corn = 8.5 months<br>CL Corn = Anytime<br>Wheat (non CL) = 3 months<br>Soybean, Dry beans = Anytime | Alfalfa = 3 months<br>Cotton, Oat = 9 months<br>Potato = 18 months<br>Canola (non CL) =18-26 months (region dependent) | Grain sorghum, Sunflower (non CL) = 9 months<br>CL Sunflower, CL Wheat, CL Canola = 1 month |
| **Veltyma™**<br>Fungicide | Cereal Grains, Leafy veg, Legume veg, Potato, Canola, Sorghum, Millet, Sugarbeet = anytime | Root and tuber veg except potato and sugarbeet = 12 months | All other crops, check label for most recent rotation updates. |
| **Verdict®**<br>Powered by **Kixor®** Herbicide | Field Corn, Popcorn, and Grain sorghum may be planted after crop failure<br>Sugarbeet, sunflower = 9 months<br>Canola = following season | Soybeans (rates ≥ 10 fl oz) = 1-4 months (rate dependent, see label for details) | Fall seeded cereals = 4 months<br>No rotational restrictions for the spring following the previous year's application |
| **Zidua® SC**<br>Herbicide | Corn = Anytime<br>Soybeans = 0 months (≤3 oz),<br>4 months (4 oz)<br>Potato = 4 months<br>Alfalfa = 10 months<br>Dry beans = 11 months<br>Sugar beet = 12 months (1-2 oz)<br>15 months (3-4 oz) | Canola = 12 months (1-2 oz), 15 months (3 oz), 18 months (4 oz)<br>Cotton = 0 months (1 oz), 2 months (2 oz), 4 months (3-4 oz)<br>Grain sorghum = 6 months (1-2 oz), 10 months (3 oz), 12 months (4 oz)<br>Wheat = 0 months (1 oz), 1 month (2 oz), 4 months (3 oz), 6 months (4 oz)<br>Dry peas = 1 month (1-3 oz), 2 months (4 oz)<br>Small grains other than wheat = 11 months (1-3 oz), 18 months (4 oz)<br>Other crops = 18 months | |
| **Zidua® PRO**<br>Herbicide | Field corn = 8.5 months<br>CL Corn = 0 months<br>Soybeans = 0 to 1 month (coarse soils)<br>Wheat (CL & non-CL) = 4 months<br>CL sunflower = 9.5 months | Alfalfa = 10 months<br>Field pea, lentil = 6 months<br>Edible beans (dry, succulent), millet, rye, barley = 11 months<br>Clearfield canola = 12 months | Cotton, oats, popcorn, sorghum, sunflower, sweet corn = 18 months<br>Potatoes = 26 months<br>All other crops (including canola) = 40 months |

# 2024 BASF Product Reference Guide — Product Mixing

## Mixing Order

**Fill tank 1/2 full with water and begin to agitate**

**Add compatibility or defoaming agents if known issues exist**

### Pesticides in this order:

1. Products in PVC bags **(not very common).**
2. Wettable Powders and Dry Flowables **(WP, DF) Distinct® .**
3. Water Dispersible Granular **(WDG) Status®, Endura®.**
4. Add **Ammonium Sulfate**
5. Agitate
6. Water Dispersible Products **(SC, F, ME) Priaxor®, Armezon®, Sharpen®, Prowl $H_2O$®, Headline AMP®,Fastac CS, Zidua SC, Zidua PRO, Provysol, Veltyma, Revytek, atrazine.**
7. Water Soluble Products **(L, SL) Pursuit®, Engenia®, Liberty, Basagran 5L® Glyphosate.**
8. Emulsifiable Concentrates **(EC) Outlook®, Verdict®, Fastac™, Caramba®, Armezon PRO®, Nexicor®, Poast®, Prowl® 3.3 EC·**
9. Agitate

## Best Practices for Mixing

1. **Fill tank 1/2 to 3/4 full with 28% or 32%**
2. **Begin agitation and maintain throughout mixing**
3. **Add any needed nitrogen stabilizer products**
4. **Add any needed compatibility agents**
5. **Pre-slurry each herbicide in water at a 2:1 water to herbicide ratio**
6. **Add herbicide slurry to spray tank and allow time for agitation in the following order**
    a. Suspension Concentrate formulations (**Sharpen®,** atrazine)
    b. Water soluble products (glyphosate, 2,4-D)
    c. Emulsifiable Concentrates (**Verdict®, Outlook®**)
7. **DO NOT pour slurry on top of tank mixture**
8. **Use an inductor if possible, it is best to induce one chemical at a time in the correct order. DO NOT put them all in the inductor at the same time**
9. **Finish filling the tank with 28% or 32% to desired fill level**
10. **Continue agitation throughout transport and application**

**ALWAYS READ AND FOLLOW LABEL DIRECTIONS.** Distinct, Status, Zidua, Endura, Priaxor, Armezon, Sharpen, Prowl H2O, Headline AMP, Fastac, Ziuda PRO, Provysol, Veltyma, Revytek, Pursuit, Engenia, Liberty, Basagran, Outlook, Caramba, Armezon PRO, Nexicor, Poast and Verdict are registered trademarks of BASF Corporation. ©BASF Corporation 2024.

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