

**Table 1.** Potential herbicides and tank mixes for herbaceous chemical release of pine.

PINE SPECIES Crop Tree	INDIVIDUAL CHEMICAL <sup>1</sup> or Tank Mix	HERBICIDE TRADE NAMES	APPLICATION RATES <sup>2</sup> (minimum rate - course, sandy soils)	APPLICATION RATES (Maximum rate - fine, silty clay soils)	STAND AGE <sup>3,4</sup> (time after planting)	APPLICATION TIMING
Loblolly & Slash	<b>Imazapyr<sup>5</sup></b> Sulfometuron-methyl <sup>6</sup>	<b>Arsenal AC<sup>®</sup>, Polaris AC<sup>®</sup>, Imazapyr 4SL<sup>®</sup></b> Oust XP <sup>®</sup> , SFM 75 <sup>®</sup> , Spyder <sup>®</sup>	<b>4 ounces (per acre)</b> 2 ounces (per acre)	<b>6 - 8 ounces per acre</b> 4 ounces (per acre)	1 month - 3 years	early growing season (March-April)
	<b>Hexazinone<sup>7</sup></b> (use one of the three in bold font)	<b>Velpar<sup>®</sup>L,</b>	<b>4 pints</b> <b>5 pints</b>	<b>6 pints</b> <b>8 pints</b>	1st year trees established trees	post-emergent (spring - prior to conifer bud break/leaf expansion)
		<b>Velpar<sup>®</sup>DF</b>	<b>1.33 lbs</b> <b>1.66 lbs</b>	<b>2 lbs</b> <b>2.66 lbs</b>	1st year trees established trees	
		<b>Velossa<sup>®</sup></b>	<b>3.33 pints</b> <b>3.33 pints</b>	<b>5 pints</b> <b>6.66 pints</b>	1st year trees established trees	
	+sulfometuron-methyl	Oust XP <sup>®</sup> , SFM 75 <sup>®</sup> , Spyder <sup>®</sup>	1.6 oz.	3 oz.		
	Pre-mixed Hexazinone + sulfometuron-methyl	<b>Oustar<sup>®</sup></b>	<b>10 oz.</b> <b>12 oz.</b>	<b>19 oz.</b> <b>24 oz.</b>	1st year trees established trees	pre-emergent; early post - emergent
	<b>Imazapyr</b> metsulfuron-methyl	<b>Arsenal AC<sup>®</sup>, Polaris AC<sup>®</sup>, Imazapyr 4SL<sup>®</sup></b> Escort XP <sup>®</sup> , MSM 60 <sup>®</sup>	<b>4 oz.</b> 1/2 oz.	<b>6 - 8 oz</b> 1 oz	1 month - 3 years	late growing season (after July 15)
	Pre-mixed Imazapyr + metsulfuron-methyl	<b>Lineage<sup>®</sup>, Clearstand<sup>®</sup></b>	<b>9 oz.</b>	<b>16 oz</b>	1st year - loblolly 2 - 5 years (other pine)	late growing season
	<b>Hexazinone</b> metsulfuron-methyl	<b>Velpar<sup>®</sup> products or Velossa<sup>®</sup></b> Escort XP <sup>®</sup> , MSM 60 <sup>®</sup>	<b>see rates above</b> 1/2 oz	<b>see rates above</b> 1 oz.	1 month - 3 years	same as previously mentioned
	<b>Imazapyr</b> sulfometuron + metsulfuron	<b>same products as above</b> Oust Extra, Spyder Extra, SFM Extra	<b>4 oz</b> 2 oz.	<b>6 - 8 oz</b> 4 oz.	1 month - 3 years	early growing season
	<b>Clopyralid</b>	Transline <sup>®</sup> , Clean Slate <sup>®</sup> , Sonora <sup>®</sup>	4 oz.	21 oz.	1 month - 3 years	late growing season
<b>fluroxypyr</b>	Vista XRT <sup>®</sup> , Flagstaff <sup>®</sup>	6 oz	23 oz	1 month - 3 years	early post emergence (when weeds are growing but less than 6" tall)	
<b>Indaziflam</b> (may be mixed with most above - refer to label)	Espalante F <sup>®</sup>	3.5 oz.	7 oz.	1 month - 3 years	pre-emergent (February - March; prior to weed germination)	
Longleaf	All of the above herbicides can be used at the lower rates for herbaceous release except herbicides containing <b>metsulfuron-methyl</b>				allow at least 2 months to pass after planting	<b>follow timings above for particular herbicides</b>
	<b>Imazapyr</b>	<b>same products as above</b>	<b>4 oz</b>	<b>6 oz.</b>	2 months - 3 years	early growing season
	<b>Aminopyralid</b>	<b>Milestone<sup>®</sup></b>	<b>4 oz.</b>	<b>7 oz.</b>	(March - April)  2 months	early post emergence (when weeds are growing but less than 6" tall)
	<b>Hexazinone<sup>8</sup></b>	same products as above	same as for loblolly	same as for loblolly	same as for loblolly	same as for loblolly