

Rice Seeding Rate Recommendations for Arkansas

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Optimal rice seeding rates are important in the establishment of a uniform stand with an adequate plant population. Stand densities above the optimum density may increase disease, plant height and lodging and do not result in higher yield. Stand densities below the optimum are capable of producing high yields provided plant distribution is uniform. Most varieties compensate for low seedling population by increasing the number of grains per panicle and tillering. Finding the optimal rate allows for reduced risk from overpopulation while minimizing risk of insufficient stand density.

Recommended Seeding Rate

Under favorable conditions, 30 seeds per square foot drilled are sufficient for obtaining the desired stand of 15 to 20 plants per square foot. Many factors influence stand establishment including variety, seeding method, seeding date, soil properties, seedbed condition, seed treatments, environment and geographic location.

A computer program called RICESEED is available for determining precise seeding rate. This program is available at the local county Extension office or from the University of Arkansas Division of Agriculture web site at <http://www.aragriculture.org>.

Adjustments to Recommended Seeding Rate

Generally, seeding rates should be increased by 10 percent if seeded early, plus 20 percent for broadcast seeding, clay soil or poor seedbed preparation, or plus 30 percent for water seeding or late planting. The percent increase in Table 1 is additive. However, the cumulative increase of these factors will cease at 85 percent. Seeding rates 85 percent greater than normal should be sufficient to produce an adequate stand of rice under most environments and soil conditions. Excessive stands should be avoided.

Table 1. Additive Factors Increasing Optimum Seeding Rate

Variable	% Added
Seeding Method	
Dry seeded – drilled	0
Dry seeded – broadcast	20
Water seeded – broadcast	30
Soil Type	
Sand	0
Silt	0
Clay	20
Seedbed Preparation	
Good	0
Fair	10
Poor	20
Seeding Date	
Early	
Before April 5 (South Arkansas)	10
Before April 10 (Central Arkansas)	10
Before April 15 (North Arkansas)	10
Optimum	0
Late	
After June 1	30

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Calculations

Calculations can be made utilizing the information in Tables 1 and 2 to determine the seeds per square foot, seeds per linear row foot, pounds of seed per acre and bushels of seed per acre. The following equations may be useful:

Equation 1

Seeds per square foot = (optimum number of seeds per sq ft) x (1 + decimal % increase from Table 1)

Example: (30) x (1.20) = 36 seeds per square foot

Equation 2

Seeds per row foot = (seeds per sq ft) x (drill row spacing in inches)/12

Example: (30) x (7.5) = 225/12 = 18.8 seeds per row foot

Equation 3

Pounds of seed per acre = (seeds per sq ft x 43,560 sq ft per acre)/seed per lb from Table 2

Example: (30 x 43,560) = 1,306,800/18,016 = 72.5 pounds of seed per acre

Equation 4

Bushels of seed per acre = (lb seed per acre)/45

Example: 72.5/45 = 1.61 bushels of seed per acre

Table 3. Seed Per Row Foot

seed/sq ft	Row Spacing in Inches			
	7.5	8	9.5	10
30	18.8	20	23.8	25.0
33	20.6	22	26.1	27.5
36	22.5	24	28.5	30.0
39	24.4	26	30.9	32.5
42	26.3	28	33.3	35.0
45	28.1	30	35.6	37.5
48	30.0	32	38.0	40.0
51	31.9	34	40.4	42.5
55.5	34.7	37	43.9	46.3

For more information on rice seeding rates or other rice management topics, contact your local county Extension office or visit our web page at www.aragriculture.org.

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Table 2. Seeds Per Pound and Optimum¹ and Maximum Seeding Rates for Rice Varieties

Variety	Seed Weight seed/lb	Seeding Rate							
		Optimum		Maximum		Optimum		Maximum	
		seed/sq ft		lb/acre		bu/acre			
Bengal	16,331	30	55.5	80.0	148.0	1.78	3.29		
Bowman	18,306	30	55.5	71.4	132.1	1.59	2.93		
Catahoula	18,531	30	55.5	70.5	130.5	1.57	2.90		
Cheniere	19,947	30	55.5	65.5	121.2	1.46	2.69		
CL 131	21,315	30	55.5	61.3	113.4	1.36	2.52		
CL 151	19,485	30	55.5	67.1	124.1	1.49	2.76		
CL 161	20,636	30	55.5	63.3	117.2	1.41	2.60		
CL 171	19,739	30	55.5	66.2	122.5	1.47	2.72		
Cocodrie	20,636	30	55.5	63.3	117.2	1.41	2.60		
Cybonnet	18,683	30	55.5	69.9	129.4	1.55	2.88		
Cypress	19,156	30	55.5	68.2	126.2	1.52	2.80		
Drew	19,825	30	55.5	65.9	121.9	1.46	2.71		
Francis	19,956	30	55.5	65.5	121.1	1.46	2.69		
Jazzman	18,016	30	55.5	72.5	134.2	1.61	2.98		
Jupiter	17,068	30	55.5	76.6	141.6	1.70	3.15		
LaGrue	18,088	30	55.5	72.2	133.7	1.61	2.97		
Medark	15,930	30	55.5	82.0	151.8	1.82	3.37		
Neptune	17,597	30	55.5	74.3	137.4	1.65	3.05		
Pirogue	16,630	30	55.5	78.6	145.4	1.75	3.23		
Spring	20,826	30	55.5	62.7	116.1	1.39	2.58		
Taggart	16,569	30	55.5	78.9	145.9	1.75	3.24		
Templeton	20,000	30	55.5	65.3	120.9	1.45	2.69		
Trenasse	17,874	30	55.5	73.1	135.3	1.62	3.01		
Wells	18,016	30	55.5	72.5	134.2	1.61	2.98		

¹Assumes good seedbed, drill seeded, silt loam, optimum planting date and conventional tilled.

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