

Preplant and Pre-harrow Cyanazine (Bladex) Trials.

J.P. Chernicky, S. Heathman, K.C. Hamilton, B. Barstow.

ABSTRACT

Research was conducted at Maricopa, AZ in 1986 and 1987 to measure cotton and weed control response to preplant applications of cyanazine (Bladex) and prometryn (Caparol). Cyanazine was applied in combination with pendimethalin and trifluralin as either preplant incorporated or preharrow treatments. Neither cyanazine or prometryn significantly reduced cotton stands or yields.

METHODS

Two field trials were conducted at Maricopa, Az. in 1986 on a sandy clay loam soil to evaluate preplant combinations of cyanazine for controlling broadleaf weeds in cotton (*Gossypium hirsutum*). Herbicides were applied to PPI plots 13.3 ft wide by 40 ft long on April 8, 1986 and on March 19, 1987. These treatments were then incorporated by shallow discing, and beds were formed and shaped with a rotary mulcher. These same treatments were also applied preharrow (PH), ie. over shaped beds, and shallowly incorporated with a rolling cultivator (April 23, 1986 and April 8, 1987). In 1986, cotton variety DP 61 was planted on April 25, at a rate of 14 lbs/a. Cotton variety DP 90 was planted April 17, 1987. All herbicides were applied with a tractor mounted sprayer in 20 gallons of water per acre. Individual plots were 13.3 ft wide (4 rows), 40 ft long, and were arranged in a randomized complete block design with 4 replications. Parameters measured in each test included: cotton stand per 10 ft of row, wright groundcherry control (*Physalis wrightii*), palmer's amaranth control (*Amaranthus palmeri*) and seedcotton yield.

RESULTS

Neither cyanazine or prometryn significantly reduced cotton stands (table 1) when either preemergence herbicide was applied alone or when tank mixed with pendimethalin or trifluralin. Minor crop injury was visible within 7 days after the first post emergence irrigation when either cyanazine or prometryn were applied preharrow. Neither cyanazine or prometryn applications of 1.6 lb/a caused a significant yield reduction. Cyanazine (Bladex) applied preplant to cotton appears just as safe as prometryn, the herbicide most widely used for broadleaf weed control in Arizona cotton.

Table 1. Cotton response to preplant cyanazine and prometryn applications alone and in combination with trifluralin or pendimethalin.

HERBICIDE	RATE (lb/a)	STAND				SEEDCOTTON	
		4/29		5/8		YIELD	
		PPI	PH	PPI	PH	PPI	PH
		plants / 10 row ft.				-lbs./acre-	
Cyanazine	0.80	38	42	41	43	5210	4470
Cyanazine	1.60	49	51	50	54	4830	4810
Pendimethalin & cyanazine	0.75 1.60	33	49	35	50	5530	4870
Trifluralin & cyanazine	0.75 3.0	45	46	45	47	5450	4330
Pendimethalin & prometryn	0.75 1.6	35	47	35	50	5550	4650
Trifluralin & prometryn	0.75 1.6	46	46	47	45	5250	4720
Prometryn	1.60	41	52	41	54	5120	4940
Weedy Check	----	50	43	50	43	5310	4240
LSD (P = 0.05)		(20)	(12)	(22)	(14)	(1100)	(1130)