

**Plastic Color Influences Yield and Quality
of 'Greensleeves' Slicing Cucumber**
Ron Goldy and Virginia Wendzel

OBJECTIVES:

To evaluate influence of plastic mulch color on yield and quality of 'Greensleeves' slicing cucumber.

SUMMARY:

Color of plastic mulch influenced yield of number one fruit and total fruit yield for 'Greensleeves' cucumber. Black plastic gave the highest total and number one yield when analyzed for early (first four harvests) and season-long yields. Red and blue gave lowest yields, but also allowed for the greatest amount of weed growth under the plastic.

METHODS:

Fertilizer: Prior to planting, 0-0-60, 33-0-0, Solubor and 90% Sulfur were broadcast and incorporated at 200, 150, 10 and 20 pounds/acre, respectively. After planting 4-0-8-2(Ca) was applied through the drip irrigation at 1-pound nitrogen/acre/day. Application of 4-0-8-2 began on 14 June and continued through 5 August 2004.

Weed Control: When needed, weeds between rows were controlled through cultivation and hand hoeing.

Planting: Direct seeding was done 18 May in raised, plastic mulched beds, 6" high and 24" wide. Beds were spaced on 5.5' centers, in row spacing was 18" and plants were established at two plants/hill (10,560 plants/acre). The trial was planted and analyzed as a completely randomized design with four replications, 30-foot/replication (40 plants). Each plot was bordered by two hills of guard plants.

Harvest and data collection: Harvest was conducted 11 times, 12 July through 9 August. Fruit was graded at each harvest into number 1, number 2 and cull fruit. Weights were converted into Bushels/a (bu/a)

RESULTS:

Total yield of 'Greensleeves' slicing cucumber grown on the six plastic mulches ranged from 1070 to 1297 bu/a (Table 1). Highest yield came from black followed by olive, dark gray, light gray, blue and red. Only blue and red had statistically different total yield from black. Red and blue were also the two colors allowing the most weed growth under the plastic. Yield of number one fruit also found black to be highest (591 bu/a). Again, red and blue mulch produced statistically different yields of number one fruit at 460 and 466 bu/a, respectively. Dark gray at 487 bu/a was also statistically different from black.

A separate analysis of the first four harvests was conducted to determine if any mulch contributed significantly to early yield. Differences between treatments were found with black again being highest at 530 bu/a. Light gray was lowest at 405 bu/a. Only light gray was statistically different than black, all others were similar, ranging between 436 and 530 bu/a. Just as in combined yields, difference was due solely to yield of number one fruit. Number two and cull fruit was again not statistically different.

Table 1. Yield in 1-1/9 bushels of 'Greensleeves' slicing cucumber as influenced by plastic mulch color at the Southwest Michigan Research and Extension Center in 2004.

Color	Total Yield	Yield No 1	% Total	Yield No 2	% Total	Yield Cull	% Total
Black	1297a	591a	46	314	24	391	30
Olive	1220ab	517ab	43	318	26	385	31
Dark Gray	1172abc	487b	42	311	26	374	32
Light Gray	1167abc	512ab	44	275	24	381	32
Blue	1103cb	466b	42	284	26	353	32
Red	1070c	460b	43	293	27	317	30
	150	84	NS	NS	NS	NS	NS