RESEARCH SUMMARY – WEED CONTROL IN TOMATOES (2004)

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04 TOM1
To determine the impact of potential new chemistry for weed management in processing tomato.

These tomato plants were tall and spindly at transplanting time. No injury was observed during the two weeks after transplanting. Subsequently, heavy rain and a hard wind blew most of the plants over such that the upper portion of the stem and often some leaves came in contact with the soil. This resulted in various levels of injury, plant stunting in some cases and a few plants dying. Overall the injury within many plots was variable. The severity of the injury can be gauged from the fact that the standard s-metolachlor (Dual Magnum) + metribuzin (Sencor) treatment resulted in almost 14% injury. At the lowest rate of each of sulfentrazone (Spartan), flumioxazin (Valor-USA trade name), or mesotrione (Callisto) the injury was higher than the standard but when tank mixed with the standard the injury generally was not increased over each of the treatments alone. Mesotrione at the 50 gm rate caused severe injury in the form of leaf chlorosis. Early grass control was acceptable only at the high rate of sulfentrazone and flumioxazin or with the tank mixes. All of the treatments provided excellent control of lambs-quarters, pigweed, hairy nightshade, and Eastern black nightshade. Sulfentrazone was the only new material that maintained grass control, while the low rate of flumioxazin or mesotrione allowed lambs-quarters to escape. The tank mixes of each of these materials with s-metolachlor + metribuzin provided slightly better nightshade control and the latter treatment alone. These plots were irrigated once in mid July but in general ample rain and lack of many hot days allowed good tomato growth and good weed growth later in the season if the chemical ran out or was weak on a particular species. Yield data is not yet available.

04TOM2
To determine the impact of tank mixes of thifensulfuron-methyl, rimsulfron, or metribuzin with azoxystrobin or pyrclostrobin on processing tomato.

These tomato plants were tall and spindly at transplanting time. No injury was observed during the two weeks after transplanting. Subsequently, heavy rain and a hard wind blew most of the plants over such that the upper portion of the stem and often some leaves came in contact with the soil. Overall the injury within many plots was variable with the plants just not growing as well as the weed free check. There was no injury that could be attributed to the application of azoxystrobin (Cabrio) or pyraclostrobin (Headline) in tank mixes with rimsulfuron (Elim) or metribuzin (Sencor) or thifensulfuron-methyl (Pinnacle). Excellent weed control was obtained with all treatments. Yield data not yet available.

04TOM3
To determine the effect of weed management programs with metribuzin, thinfensulfuron-methyl, and post emergence grass materials on processing tomato.

These tomato plants were tall and spindly at transplanting time. No injury was observed during the two weeks after transplanting. Subsequently, heavy rain and a hard wind blew most of the plants over such that the upper portion of the stem and often some leaves came in contact with the soil. Overall the injury within many plots was very slight. Mid July ratings indicated excellent weed control, even from treatments that normally provide only grass control. These plots were irrigated once in mid July but in general

ample rain and lack of many hot days allowed good tomato growth and good weed growth later in the season if the chemical ran out or was weak on a particular species. As might be expected, by mid August, trifluralin (Treflan), metribuzin (Sencor) or the tank mix were weak on Eastern black nightshade. Hairy nightshade control was marginal with these same treatments as well. Excellent grass and broadleaf weed control was obtained from all of the other tank mixes. Yield data not yet available.

0403TOM2
To determine the impact of postemergence application of s-metolachlor for Eastern black nightshade control in processing tomato.

These tomato plants were tall and spindly at transplanting time. No injury was observed during the two weeks after transplanting. Subsequently, heavy rain and a hard wind blew most of the plants over such that the upper portion of the stem and often some leaves came in contact with the soil. The mid July rating noted sporadic tomato injury in the form of a thin stand but it did not correspond to any particular treatment nor to the s-metolachlor (Dual Magnum). These plots were irrigated once in mid July but in general ample rain and lack of many hot days allowed good tomato growth and the stand reduction was not very evident by early August. Where the low rate of s-metolachlor was applied, the control of lambs-quarters and pigweed was less than acceptable by early August. Good to excellent control of Eastern black nightshade and hairy nightshade were obtained. Yield data is not yet available.

0400TOM5
To determine the tolerance of processing tomato to mesotrione applied preplant incorporated.

These tomato plants were tall and spindly at transplanting time. No injury was observed during the two weeks after transplanting. Subsequently, heavy rain and a hard wind blew most of the plants over such that the upper portion of the stem and often some leaves came in contact with the soil. The mid July rating noted sporadic tomato injury in the form of a thin stand particularly where a rate of 35 gm ai/ha of mesotrione (Callisto) had been applied. Crop tolerance at the 16 gm ai/ha rate was excellent given the weather conditions this year. Good to excellent control of Eastern black nightshade and hairy nightshade was obtained through to early August. Yield data is not yet available.

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