

Herbicide damage guide for cotton

Photographs & material by:

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Herbicide: **simazine**
Rate: **1.5 kg a.i./ha**
% of typical field rate **50%**
Date of exposure: **13th Jan**
(12 weeks post-emergence)
Growth stage at exposure: **17 nodes**

<p><u>Damage key:</u> Leaf loss Leaf distortion Petiole distortion Plant stunting Square shedding Boll shedding</p>
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Herbicidal action

Herbicide group: C
Translocation: readily absorbed by roots and translocated to shoots
Mode of action: inhibits photosynthesis
Residual activity: prolonged residual activity. Plant-back period may be up to 1 year depending on rate, soil moisture, soil Ph and temperature
Soil half-life: 55 - 186 days. Breakdown is slower in dry, alkaline and cold soils



Simazine granules 900 WG were applied broadcast at 1.65 kg/ha to 17 node cotton. Photo taken on 20th Jan, 7 days after exposure.

No symptoms of simazine damage were apparent at any stage.



Simazine granules 900 WG were applied broadcast at 1.65 kg/ha to 17 node cotton. Photo taken on 5th Feb, 23 days after exposure.

No symptoms of simazine damage were apparent at any stage.



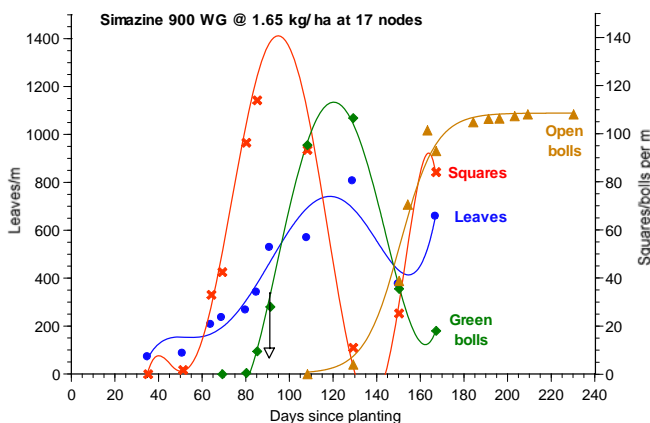
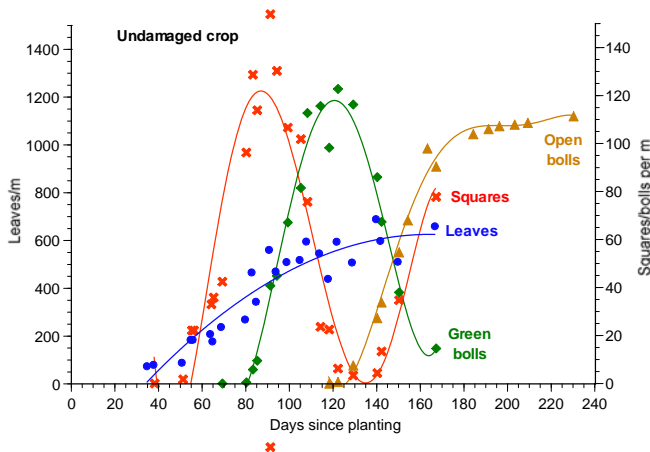
Simazine granules 900 WG were applied broadcast at 1.65 kg/ha to 17 node cotton. Photo taken on 10th Feb, 28 days after exposure.

No symptoms of simazine damage were apparent at any stage.



Simazine granules 900 WG were applied broadcast at 1.65 kg/ha to 17 node cotton. Photo taken on 11th Mar, 57 days after exposure.

No symptoms of simazine damage were apparent at any stage.



Impact on plant growth

Plants: exposure to simazine at 17 nodes caused no reduction in plant size.

Leaves: there was no obvious damage to the foliage and no effect on the number of leaves or leaf area as the last observation.

Squares: there was no noticeable effect on square production.

Bolls: the herbicide exposure had no obvious effect on boll production, the pattern of boll retention, the average weight of the open bolls or average crop maturity. There was a 5% reduction in the proportion of bolls open at picking.

Lint: ginning turnout was unaffected by the herbicide damage, but the cotton fell below base grade with 11.4% short fibres and a staple length of 1.112". Lint yield was reduced by 11%.

Final plant count data		
	undamaged	simazine
Nodes/plant	30.9	31.3
Leaves/m*	657	658
Leaf area (cm²/m)*	21196	20459
Reduction in leaf area*		3%
Bolls/m	132	130
Boll weight (g/open boll)	5.3	5.1
Retention in posit's 1-3[^]	95%	96%
Nodes carrying >80% bolls[#]	7 - 18	7 - 18
Days to 50% open bolls	157	151
Maturity delay (days)		-
% Open bolls at picking	85%	80%
Lint yield/ha	2380	2123

Exposure to 50% of a typical field rate of simazine at 17 nodes caused no obvious damage to the plants.

The herbicide exposure did not affect the number of retained bolls, the pattern of boll retention, boll size or crop maturity, but reduced the proportion of bolls open at picking and fibre quality. Lint yield was reduced by 11%.

Note* These parameters were last recorded 167 days after planting.

Note[^] Percentage of retained bolls in positions 1 – 3.

Note[#] The spread of nodes carrying more than 80% of open bolls.