



# Production of 6 Geno Types of Garlic (*Sesamum indicum* L.), Iguala, Guerrero, Mexico

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## Background

Synthetic fertilizers solved soil fertility problems, which increased yields per unit area, although they led to high economic, environmental and social costs.<sup>1,2</sup> Continue to be preferred by producers for plant growth, in more than 70% of agricultural lands with corn they apply nitrogen fertilizers, Guerrero is no exception, it is still using nitrogen fertilizers through out the State, however, it is frequently lost due to volatilization and erosion,<sup>3</sup> and has also caused pollution to the environment.

Agro ecosystems faced deterioration due to the constant use of synthetic fertilizers, there fore, it is important to resume peasant agriculture, in which small farmers appropriate innovations and transition to the production of foods free of agrotocics, as noted by Montoya.<sup>4</sup>

**Keywords:** Sesame, Chemical fertilization, Organic fertilizers, Iguala, Guerrero, Mexico

## Results and Discussion

Sesame seeds are important in human, live stock and industrial nutrition. The objective was to evaluate the response of 6 geno types of sesame (*Sesamum indicum* L.), Iguala, Guerrero, Mexico. The experimental design was in divided plots: chemical and

organic, with 4 blocks and 6 subplots distributed at random and 4 repetitions; The experimental plot had three 4m long furrows; The useful unit was the 2m central furrow, 1m was eliminated on both sides and the edge furrows. The distance between rows at 0.75m and distance between plants at 0.1m, the geno types were: Criolla Mazón, Negro Paraguay, Vara Verde, Tres Huesillos, Calentana and Canasta. 6 central furrow plants per geno type were labeled and evaluated. The study variables were: number of branches, number of capsules, seed weight and weight of 100 seeds. Analysis of variance and Tukey test with SAS Version 9.0. It turned out that between chemical and organic fertilization there was no significant difference, while the number of branches, number of capsules, seed weight and weight of 100 seeds, with R<sup>2</sup> of 78%, 72%, 65% and 59%, respectively, the Response variability is attributed to chemical and organic fertilization on the geno types. The Calentana variety surpassed the rest of the geno types in number of capsules, seed weight and weight of 100 seeds. It is concluded that chemical and organic fertilization had similar responses, while the Calentana variety out performed the other geno types.

## Conclusion

Chemical and organic fertilization showed similar results, so, in hybrid production, synthetic fertilizers will be gradually replaced by organic fertilizers and bio stimulants in sesame agro ecosystems.

Quick Response Code:



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## Conflicts of Interest

Regarding the publication of this article, the authors declare that they have no conflict of interest.

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