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AEGINETTA INDICA L. VAR. GRACILIS NAKAI

Kyushu Nogyo Kenkyu (Association of Kyushu Agricultural Research, No. 18, 1956, p. 43-44 S. Ouchiyama and M. Seko

The existence of <u>Namban giseru</u> /"Southern Barbarians' pipe"; no common English equivalent/ as a plant harmful to sugar cane has long been recognized in Southern Asia, but no reports on it have been encountered in our country. No cases of damage by <u>Namban Giseru</u> were previously reported even in Taneshima, but an invaded canefield was discovered in 1955, and since we had the opportunity to investigate the conditions there, we herewith present a general outline for general reference. We wish to express our thanks to Dr. Oi Jisaburo of the National Science Museum for his troubles in evaluating the basic species and to Sakamoto Shigeru and Messrs. Shibatei and Hidaka (Yoshinori) for their cooperation in the research.

The Properties of Namban Giseru

<u>Namban giseru</u> is an annual parasitic grass of the Orobanchacae family. It is a parasite to Japanesepampas grass (<u>Miscanthus sinensis</u>), sugar cane, <u>Zingiber mioga</u>, etc. Its stem is short and hardly emerges above the ground. It branches out producing a few narrow triangular ramenta 5 to 10 mm long with four or five straight spikelets. It is banded red, "hairless," slightly fleshy and produces a single light, redviolet flower 3-5 cm long. The calyx is keel shaped and 2-3 cm long. The tube of the corolla is long and the lobes are somewhat fleshy and elliptical. The capsule is 1-1.5 cm long with several thousand seeds per capsule. The parent species, <u>Taiwan giseru</u>, is larger and grows in the Ryukyus, Taiwan, India and Malaysia.

- 1 -

Damage condition of sugar cane

The area studied was a field with dimensions 1 tan 2 mo-ho, slightly inclined eastward of Haru no Oda, Anno aza, Nishinoura-cho, Kumage-gun, Kagoshima Prefecture. The type was 2725 POJ. They were new plants, grown 3 x 1 shaku apart. The farmer, Michio Nakasono, reports that the attack began in the first third of September, but he did not know the route of invasion. Damage was extensive in the eastern sector, and the northwest corner of the field when observed at the end of November which was the beginning of t ripening period for the sugar cane. Almost no growth of Namban gisery securred in the southwest sector. On November 22, two areas were selected -- one an area in which namban giseru was not growing and the other an area in which its growth had occurred. 15 strains were planted in each area on 30 sugar canes. The state of growth of Namban giseru and the results of investigation of the attacked sugar cane are shown below in the table. Several withered stems which had sustained especially severe damage were observed.

Conclusion

1: 11

Owing to the parasitic attachment of Nemban gigeru, the stalk and stem diameter of sugar cane decreases, and the decrease in the number of living leaves and sweetness is marked ? Kine influence of this species on sugar cane cultivation is especially great, so special attention must be focused on how it grows and how to eliminate it. According to Kiriu Chijiro, the methods of elimination are as follows: (1) flooding one week prior to emergence above ground; (2) collection and burning or burial before blooming; (3) prohibition of transplants from affected cane fields; (4) early harvest; (5) burning of withered leaves and capsules after harvest.

References

Taiwan Noka Benkan (Taiwan Agricultural Handbook) No. 6, 1944, p. 1016 Hayashi, Takematsu

Tono Benkan (Sugar Ferming Handbook) 1942, p. 395, 01 Jisaburo Nihon Shokubutau shi (Japan Plant Journal) 1955, 1062, Makino Tomitaro Nihon Shokututsu Zukan (Plant Atlas of Japan) 1948, p. 130, Sasaki Shun'ichi

Taiwan Shokubutau Mei'i (Taiwan Plant Names) 1928, 371 Sonohara et. al. Okinswa Shokubutsushi (Okinawa Plant Journal 1952, 142.

- 2 -

Table l

	Ramban g	lseru on 30	sugar	canes	j.	owth and s	veetness (of sugar	Canes		
Iten	Ro. sur-	No. of	Total	No.	Stalks	Length	No. of	Ster	diamete:		
	BULALA	vithered		per canc		of stem	living leaves	Top	Center	Bottom	Brix
					B	륀		Ø	Ĝ	5	
All	0	G	0	0	170.6	109.5	6.74	2.56	2.87	2.93	07 . LT
Juj Lean					+2.068	±1.552	±0.098	+0.029	+0.027	+0.026	±0.243
Demaged portion	48	76	145	4°8	151.1	106.4	2.86	2.21	2.64	2.84	7.43
•					600 T		101.01	+0.020	+0,025	±0.028	+0.169
Difference	9 6	:	•	ł	19.5	3.1	, 3 . 88	0.35	0.23	60°0	4.36
					<u>+</u> 2.787	±2.344	171.01	±0.035	±0,037	<u>+</u> 0.038	+0.296

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