

THE CO₂ INFLUENCE ON THE GROWTH OF *CHAMAECYPARIS LAWSONIANA STEWARTII* PLANTS

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SUMMARY

This paper presents an experiment regarding the influence of CO₂ on the growth of *Chamaecyparis Lawsoniana* plants. Increasing the CO₂ content in solariums, from 0.07% to 0.1% has a result in increasing the growth rate. In this experiment were used *Chamaecyparis lawsoniana Stewartii* plants. The plant is very valuable through his decorative effect, has slow growing, 4-5 m high (Iliescu, 1998). *Chamaecyparis lawsoniana Stewartii* is not very used in our country because of the absence of the plant material as a result of the slow growing and the low rate of multiplication.

The experiment had two variants: V1 – control; V2 – CO₂ treatment. Each variant was 100m² surfaces and contained 400 plants of *Chamaecyparis lawsoniana Stewartii*. The planting was made in the middle of the April, in containers. The administration of CO₂ begun 1 hour after sun rising and it stopped 2 hours before sun set. 1 liter of CO₂, on pressure of 1 atm. and temperature of 20°C, has 2 grams weight. To obtain 0.1% CO₂ concentration in the air, where used 6 grams of CO₂/hour/m². The uniform assessment of CO₂ was made by using polietilen tubs, 30 m length, penetrated on each meter. The CO₂ was administrated between first of April and 10th of September.

Comparing the plants growth in 2002/2006 it is shown that the high of the stem is 9 cm higher on the plants of Variant 2, with very distinct meaningful difference as the control. The difference is the result of high content of CO₂ (0.1%) in the solarium of V2 plants. (Table1)

Table 1

The growth of *Chamaecyparis lawsoniana Stewartii* plants cultivated in experimental culture

Variants	Plants growth		± D	The meaning of the difference
	Absolute (cm)	Relative (cm)		
V1 – control	26	100	-	-
V2 – CO ₂ treatment	39	150	13	xxx

DL 5% - 3.4; DL 1% - 5.4 ; DL 0.1% - 8.7

Increasing the CO₂ content has a result in increasing the potential of the growth of *Chamaecyparis lawsoniana Stewartii* plants. Increasing the CO₂ content in solariums, from 0.07% to 0.1% has a result in increasing the growth rate (28-50%), but only when the conditions of temperature, light, water and soil are proper. The CO₂ administration begun 1 hour after sun rising and it stopped 2 hours before sun set.

REFERENCES

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