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晚秋温度对苜蓿地上部游离脯氨酸、可溶性糖和POD活性的影响

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摘要：

通过对9个不同苜蓿Medicago sativa品种地上部游离脯氨酸、可溶性糖和POD活性的研究，揭示晚秋温度变化对上述指标变化的影响，结果表明：9月10日-10月10日，随着温度的降低，3种不同秋眠类型的苜蓿地上部游离脯氨酸含量都呈上升趋势，其中高度秋眠类型苜蓿的变化幅度最大；不同秋眠类型苜蓿地上部可溶性糖变化趋势有所不同，低度和高度秋眠类型苜蓿变化幅度比较剧烈，说明在贮藏类营养物质方面，低度和高度秋眠类型苜蓿更为敏感，二者变化趋势恰好相反，中度秋眠类型苜蓿介于二者之间；不同秋眠类型苜蓿地上部过氧化物酶（POD）活性都经历逐步上升的趋势，中度和高度秋眠类型苜蓿POD活性变幅相对于低度秋眠类型大，说明中度和高度秋眠类型苜蓿地上部对于气温的变化更敏感。

关键词： 苜蓿；晚秋温度；游离脯氨酸；可溶性糖；过氧化物酶

Effect of temperature in late autumn on free proline, soluble sugar and POD in alfalfa

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Abstract:

The effect of temperature in late autumn on free proline, soluble sugar and POD in 9 alfalfa varieties with different fall dormancy was conducted. The result showed that the contents of free proline in 3 different fall dormancy types of alfalfa showed an increasing trend from 10th Sep. to 10 th Oct., and the contents increased with the temperature, in which, the variation extend of free proline in high fall dormancy alfalfa was the largest. The contents of soluble sugar in high and low fall dormancy alfalfa greatly fluctuated and the trends were opposite. This suggested that they were more sensitive to the storage nutrients. Meanwhile, the variation of moderate fall dormancy alfalfa was in the middle. The POD activity showed an increasing trend for different fall dormancy types of alfalfa and the fluctuation of the moderate and high fall dormancy types was greater than the low fall dormancy ones, this suggested that the varieties with moderate and high dormancy were more sensitive to the aboveground temperature.

Keywords: alfalfa temperature in late autumn free proline soluble sugar

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