SPICES/CONDIMENTS

NPARR 3(1), 2012-072, Screening of selected Asian spices for anti obesity-related bioactivities

The potential health effects of 30 spices, commonly used for daily consumption, were submitted to bioactivity screening with several anti-obesity related bioassays: adenosine A1 receptor binding, cannabinoid CB1 receptor binding, TNF-α and 3T3-L1 adipocytes differentiation induction. Sesame seed and red chilli exhibited high binding activity to the adenosine A1 receptor and nutmeg, mace, black pepper and turmeric to the cannabinoid CB1 receptor, while piment and turmeric showed high inhibition of TNF-α accumulation. Black onion seed proved to be the only spice with high 3T3-L1 adipocyte differentiation induction activity. Several well known major compounds found in these active spices were tested with the respective bioassays but did not show activity. Thus, it appears that other minor compounds or the synergistic effects of different constituents are responsible for the observed activity [Nancy Dewi Yuliana, Muzamal Iqbal, Muhammad Jahangir, Christofora Hanny Wijaya, Henrie Korthout, Marijke Kottenhage, Hye Kyong Kim* and Robert Verpoorte (Dept. Pharmacognosy, Sect. Metabolomics, Institute of Biology, Leiden University, Einsteinweg 55 2300 RA, Leiden, The Netherlands), Food Chemistry, 2011, 126(4), 151724-1729].

NPARR 3(1), 2012-073, Coriandrum sativum: a daily use spice with great medicinal effect.

*Coriandrum sativum* Linn. has been credited with many medicinal properties. The green leaves of coriander are known as "asotu" in the Eastern Anatolian region or "cilantro" in the United States and are consumed as fresh herb. The essential oil obtained from its fruits at amounts ranging from approximately 0.5 to 2.5% is used both in flavours and in the manufacture of perfumes and soaps. The plant is grown widely all over the world for seed, as a spice, or for essential oil production. It is one of the earliest spices used by mankind. It has been used as a flavouring agent in food products, perfumes and cosmetics. It is used for various purposes such as for flavouring sweets, beverages, tobacco products and baked goods and as a basic ingredient for curry powder. It has been used as an analgesic, carminative, digestive, anti-rheumatic and antispasmodic agent [Poonam Mahendra and Shradha Bisht, Pharmacognosy Journal, 2011, 3(21), 84-88].

NPARR 3(1), 2012-074, Microwave drying characteristics of coriander (*Coriandrum sativum* L.) leaves

Effect of microwave power output on effective moisture diffusivity, colour parameters and rehydration characteristics of coriander leaves (*Coriandrum sativum* L.) was investigated by using a microwave drier. Within the range of microwave power values, 180–360 W, effective moisture diffusivities were found to be $6.3 \times 10^{-11} – 2.19 \times 10^{-10}$ m$^2$/s and the result could successfully be presented with the model suggested by Midilli et al. No significant differences in the colour parameters were obtained between the fresh and dried samples and the changes in their values were not dependent on the power outputs of the microwave drier. The highest rehydration capacity was recorded for the samples dried at 180 W and lowest at 900 W [Ayse Sarimeseli*(Department of Chemical Engineering, Inonu University, 44069 Malatya, Turkey), Energy Conversion and Management, 2011, 52(2), 1449-1453].

NPARR 3(1), 2012-075, Effect of vermicompost and chemical fertilizers on growth, yield and quality of coriander (*Coriandrum sativum* L.) in a semi-arid tropical climate.

Field experiments were conducted at Bangalore (semi-arid tropical climate) to study the influence of vermicompost and chemical fertilizers (NPK and sulphur) on growth, seed and oil yield and oil quality of coriander (*Coriandrum sativum* L.). The results of the study showed that application of vermicompost (7.5 t ha$^{-1}$) +25% recommended NPK (25:12.5:12.5 kg ha$^{-1}$) produced maximum biomass (28.2 q ha$^{-1}$), seed (10.82 q ha$^{-1}$) and oil yield (6.53 kg ha$^{-1}$) of coriander which was at par with other treatments except full organic manure and control which indicated that 75% NPK requirement can be supplemented through vermicompost without loss of yield. The oil content and quality were not influenced by the treatments

*NPARR* 3(1), 2012-076, **Fertigation studies on leaf NPK content in coriander** (*Coriandrum sativum* L.).

The present investigation was carried out to find the optimum level of fertigation for higher yield besides quality in coriander. Two genotypes (Co CR-4, CS 11) were used for this study. Drip fertigation with water soluble fertilizer at 75%, 100%, 125% RDF along with the recommended normal fertilizer applied to soil with furrow irrigation. The variety Co CR-4 (V₁) had maximum leaf N content than CS 11 (V₂). Regarding the interaction effect, the maximum leaf N content was recorded in Co CR-4 with 125 per cent of fertigation (T₁V₁) followed by T₁V₂ in both two seasons. Application of 125 per cent water soluble fertilizer registered the highest NPK content in leaf [Rajaraman, G.; Paramaguru, P.; Aruna, P.; Sudagar, I. P., *Asian Journal of Horticulture*, 2011, 6(1), 8-10].

*NPARR* 3(1), 2012-077, **Effect of foliar application of chemicals and growth regulator on growth and seed yield in coriander** (*Coriandrum sativum* L.).

The effect of foliar application of chemicals and growth regulator was studied on Coriander (*Coriandrum sativum* L.) cv. CO.3, under rainfed culture. Single spray of the chemicals and growth regulator was given to a field grown crop one month after sowing. Cycocel (250ppm) reduced the plant height and improved the field survival and crop stand. Cycocel also promoted the primary and secondary branching of the plants. Higher values for relative water content, chlorophyll stability and leaf proline were also obtained in this treatment. The spray has also promoted the yield contributing factors like umbel number, umbellet number and seed number. The 27.42 per cent seed yield increase was recorded [Vijaya Kumar A (Seed Science, Tamil Nadu Agricultural University, Coimbatore-641 003, Tamil Nadu), *Progressive Horticulture*, 2011, 43(2), 193-195].