

PLANT AND POLLUTION

0601–272. Ansari Abid Ali, Khan Fareed A (Dept Bot, Aligarh Muslim Univ, Aligarh 202002). **Growth responses of *Spirodela polyrrhiza* treatment with a detergent studied under varying temperature and pH conditions.** *Nature Env Polln Techno*, **5**(3) (2006), 399–404 [33 Ref].

The growth of a common duckweed namely *Spirodela polyrrhiza* treated with varying doses of a selected detergent under temperature and pH regimes showed a significant and strong relationship with the doses of detergent and environmental factors. The growth of duckweed increased with the concentrations of a commonly used detergent. The growth optima were recorded at 30°C. There was a negative and linear correlation between growth rate and pH levels of the detergent solutions.

0601–273. Arora Sangeeta, Chopra AK, Joshi N, Prasad G (Dept Environ Sci, Kanya Gurukula Mahavidyalaya, Hardwar 249404). **Physicochemical and bacteriological characteristics of Aachal Dairy mill effluent and its effects on seed germination of some agricultural crops.** *Nature Env Polln Techno*, **4**(3) (2005), 441–444 [14 Ref].

Paper deals with the organic pollution load of Aachal Dairy mill effluents in terms of physicochemical and bacteriological characteristics and their effects on seed germination of certain agricultural crops. The results revealed that effluent was highly polluted and carry high load of organic contents as evident by total absence of dissolved oxygen and enhanced value of total solids.

0601–274. Arora Sangeeta, Chopra AK*, Prasad G, Joshi N (*Dept Zoo Environ Sci, Gurukul Kangri Univ, Haridwar). **Characteristics of Mahalakshmi sugar mill effluent and its impact on seed germination on certain agricultural crops.** *J Appl Bio Sci*, **32**(1) (2006), 115–118 [15 Ref].

The physico-chemical analysis showed increased level of depletion in dissolved oxygen which was either nil or negligible along with high values of BOD (1311.66 mg/l), COD (1883 nmg/L), MPN (114250/100ml) and SPC (48.33×10^5 /ml). Variability was found on the impact of effluent on percentage of seed germination of agricultural crops. Maximum seed germination of *Solanum melongena* was found at 5% effluent. In case of *Lycopersicon esculentum* maximum percentage of seed germination was recorded at 100% effluent, which was equal to control set used in the study.

0601–275. Babu K, Uma Maheswari KC, (# 80, Vivekananda St, New Lakshmiapuram, Kolathur, Chennai 600099). **In vivo studies on the effect of *Ocimum sanctum* L. leaf extract in modifying the genotoxicity induced by chromium and mercury in *Allium* root meristems.** *J Environ Bio*, **27**(1) (2006), 93–95 [18 Ref].

In vivo cytogenetic assay in *Allium cepa* root tip cells has been carried out to detect the modifying effect of *Ocimum sanctum* aqueous leaf extract against chromium and mercury induced genotoxicity. It was observed that the root post-treated with the leaf extract showed highly significant ($p < 0.001$) recovery in mitotic index (MI) and chromosomal aberrations (CA) when compared to pre-treated (Cr/Hg) samples and the lower doses of the leaf extract were found to be more effective than bigger doses.

0601–276. Barik RN, Pradhan B, Patel RK (Dept Chem, Natl Inst Techno, Rourkela 769008). **A study of dust pollution around open cast coal mines of IB valley area, Brajaraj Nagar.** *J Indl Polln Contl*, **21**(2) (2005) 305–308 [4 Ref].

The tree species *Ficus religiosa*, *Ficus benghalensis*, *Psidium guyava*, *Ziziphus mauritina* and *Calotropis procera* plants were selected in the IB valley area to find out dust fall on the leaves in an open cast coal mine area. From the result, it is observed that *Psidium guyava* has the maximum dust trapping efficiency followed by *Ficus benghalensis*. At the same time *Ziziphus mauritina* has shown the minimum dust trapping efficiency.

0601–277. Baruha Debojit (Dept Bot, Lakhimpur Girls Coll, Khelmati 787031). **Effect of crude oil on soil, species number, biomass and productivity following an accident blowout of an oil well in a terrestrial ecosystem.** *Nature Env Polln Techno*, **5**(3) (2006), 477–482 [15 Ref].

The effect of crude oil pollution from an accidental blowout of an oil well on soil pH, temperature, crude oil content and its flora was studied. The oil pollution significantly affected the soil environment and reduced the number of plant species and vegetation productivity. Perennials are less affected than the annuals. About 84% of the plant species were wiped out in the highly oil contaminated site.

0601–278. Bhanumathi P, Ganesan M, Jayabalan N (Dept Plant Sci, Bharathidasan Univ, Tiruchirapalli 620024). **Physiological effect of organic mercury on the growth of peanut (*Arachis hypogaea* L.) seedlings.** *Plant Arch*, **5**(2) (2005), 665–669 [21 Ref].

The effect of mercuric acetate on seedling growth, total chlorophyll, chlorophyll - a and b, reducing, non reducing and total sugar content, protein content and lipid content was studied in peanut plant (*Arachis hypogaea*, L.) at 0.0001 mM and 0.001mM concentrations. Reduction in length was more in roots than in shoots. Chlorophyll-a, chlorophyll-b and total chlorophyll contents decreased significantly under mercuric acetate treatment.

0601–279. Bhargava AK, Bhargava Sonali (Dept Bot, Maharaj Singh Coll, Saharanpur 247001). **Effect of paper mill effluent on seed germination and seedling growth of *Vicia faba*.** *Adv Plant Sci*, **18**(2) (2005) 721–723 [7 Ref].

The results revealed that there is a considerable increase of growth and yield and decrease of growth and yield in lower and higher concentrations of the paper mill effluent. Effluent concentration promotes both seed germination and seedling growth at 5% concentration and higher concentration inhibit both seed germination and seedling growth. The observation also indicates organ specific differences in the growth of seedlings in presence of different concentrations of paper mill effluent.

0601–280. Deora GS, Suhalka Chandrakala (Bryology Lab, Dept Bot, BN (PG) Coll, Udaipur 313001) **Effect of heavy metal industrial toxic effluent on a moss *Hyophila involuta* (Hook.) Jaeg.** *Nature Env Polln Techno*, **5**(3) (2006), 451–454 [12 Ref].

A moss *Hyophila involuta* (Hook). Jaeg. showed high tolerance capacity against heavy metal industrial toxic effluent to two heavy metal industries of Rajasthan, i.e. Hindustan Zinc Smelter (Debari), Udaipur and Hindustan Copper Smelter (Khetri), Jhunjunu. Lower concentrations favoured ultimate regeneration, Higher concentrations of both Zn and Cu contaminated effluent delayed the regeneration. The maximum tolerance capacity was up to 70%. Above this concentration no gametophore formation was found.

0601–281. Faizan S, Khan AA (Dept Bot, Aligarh Muslim Univ, Aligarh 202002). **Effect of coal ash application on growth, productivity and biochemical characteristics of lentil (*Lens culinaris* L.).** *Cheml Environ Res*, **13**(3&4) (2004), 277–284 [23 Ref].

A greenhouse trial was conducted to evaluate the impact of the application of coal-ash on growth, yield and biochemical characteristics of lentil. Coal ash was applied to soil in seven doses i.e. 0, 5, 10, 25, 50, 75 and 100%v/v. The best performance was at 25% coal

ash level. Higher coal ash levels affected the crop adversely resulting in loss in growth and yield.

0601–282. Ghosh Apurba Ratan, Chakrabarti Padmanabha, Pal Sandipan (Dept Environ Sci, Univ Burdwan, Burdwan 713104). **Impact of diesel oil effluent in the mucosal surface of the alimentary canal of *Oreochromis nilotica* (Linnaeus): a scanning electron microscopic study.** *J Environ Bio.* **27**(1) (2006), 129–134 [17 Ref].

The study revealed irregular arrangement of the stratified epithelial cells along with fragmentation of the normal concentric pattern of microridges of the same cells in buccopharynx and oesophagus. The excessive secretion of mucus of buccopharynx and oesophagus were the salient changes caused by diesel oil pollution. It was concluded that chronic exposure of diesel oil may hamper the absorption of the nutrients through alimentary canal resulting into ill-growth and production of the fish.

0601–283. Gundi Gunesh, Sane RT, Mangaonkar Kiran, Shailajan Sumit, Menon Sasikumar, Banerjee Ananya (Analyt Chem Lab, Ramnarain Ruia Coll, Matunga, Mumbai 400019). **Heavy metal analysis of a medicinal plant *Scoparia dulcis* (L) using atomic absorption spectrometry,** *Nature Env Polln Techno*, **4**(3) (2005) 339–343 [15 Ref].

Scoparia dulcis Linn. has been used against various ailments of which anti-spasmodic, antiviral and jaundice are a few to name. Five common heavy metals viz. Pb, Zn, Cr, Fe and Cu were analysed by atomic absorption spectroscopy in whole plant powder of *Scoparia dulcis*, among which Fe showed maximum concentration while Zn showed lowest concentration.

0601–284. Gupta Anil Kumar, Roy Bishwas (Dept Bot, SBPG Coll, Baragaon, Varanasi 221204). **Effect of dyeing industry effluent on seed germination, development of seedling and chlorophyll content of *Withania somnifera*.** *Nature Env Polln Techno*, **4**(3) (2005), 405–408 [20 Ref].

Paper investigates the effect of effluent of a dyeing industry at Varanasi on the seed germination, seedling growth and chlorophyll content of *Withania somnifera*. The increasing concentration of the effluent induced gradual reduction in the germination percentage and seedling growth. Physico-chemical characteristic of the dyeing industry effluent were also analysed.

0601–285. Himabindu T, Jaganmohan Reddy K (Dept Bot, Kakatiya Univ, Warangal 506009). **Effect of paper board mill effluents on biochemical characteristics of rice (var. *Swarna mahsuri*).** *Nature Env Polln Techno*, **4**(4) (2005), 617–619 [19 Ref].

The effluents were analyzed physically and chemically. The nutrients like Mg, Ca, S, K and Cu were found to be higher in effluents which are useful in the synthesis of pigments. Chlorophyll-*a* and *b* were enhanced in effluent irrigated plant over the control. Significant increase in total chlorophyll and carotenoids was also recorded.

0601–286. Jena SK, Tiwari KN (Water Techno Cent Eastern Region, (ICAR), Chandrasekharpur, Bhubaneswar 751023). **Sensitivity analysis of agricultural non point source pollution model input parameters.** *Indian J Soil Conserv*, **33**(2) (2005), 104–109 [10 Ref].

Sensitivity analysis was done on input parameters of agricultural non point source (AGNPS) pollution model, which was applied to evaluate Tarafeni agricultural watershed. The results of sensitivity analysis indicted that runoff is sensitive to only curve number (CN). Since the runoff is calculated by CN technique and peak flow and sediment yield is also dependant on it, hence this parameter should be carefully calibrated for individual watershed before applying AGNPS model for runoff, peak flow or sediment simulations.

0601–287. Kapila Sumita, Kumar SS, Batra Poonam (Dept Bot, Panjab Univ, Chandigarh 160014). **Heavy metal content of some West Himalayan mosses.** *Nature Env Polln Techno*, **4**(4) (2005), 601–604 [22 Ref].

The taxa of mosses and their respective substrata were analysed for the content of heavy metals by atomic absorption spectrophotometer. The uptake capacity of all the studied moss was found to be maximum for Zn (6.20 to 47.30ppm) among the analysed elements. The accumulation of high contents of these heavy metals in the plant bodies of studied moss did not show any toxicity symptoms indicating the great potential of these plants to remove these otherwise toxic pollutants from the atmosphere.

0601–288. Kumar Suresh (Dept Bot, Ramjas Coll, Delhi Univ, Delhi 110007), **Impact of paper mill effluent on seed germination and seedling growth of *Phaseolus aureus* C.V. Pant M-4.** *Flora Fauna*, **11**(2) (2005), 189–193 [12 Ref].

The study was carried out to see the impact of paper mill effluent on germination percentage and seedling growth of *Phaseolus aureus* with different concentrations of effluent. The results showed that lower concentration was in favour of germination and seedling growth while there was gradual decrease in germination and seedling growth on higher concentration. The maximum inhibition both in seed germination and seedling growth was found in pure effluent.

0601–289. Kumar Suresh (Dept Bot, PG Std Res, MMH Coll, Ghaziabad, UP). **Effect of the steel factory effluent on the seed germination and seedling growth of *Phaseolus mungo* CV.T-9.** *Adv Plant Sci*, **17**(1) (2006), 277–283 [19 Ref].

Studies on the effect of steel factory effluent on seed germination and seedling, growth of *Phaseolus mungo* cv. T-9, shows that increasing concentration of effluent induced a gradual decrease in germination percentage. The maximum seedling growth occurred in 25% concentration of effluent and minimum at 100%.

0601–290. Malla Luna, Mohanty BK (PG Dept Bot Biotechno, Khallikote Autonomous Coll, Berhampur 760001). **Effect of paper mill effluent on germination of green gram (*Phaseolus aureus* Roxb.) and growth behaviour of its seedlings.** *J Environ Bio*, **26**(2 Suppl) (2005), 379–382 [18 Ref].

The effluent significantly inhibited germination of root and shoot length. The biochemical injury does not appear spontaneously but with the increase in effluent treatment there is reduction in observed biochemical parameters which are negatively correlated. The shoots of the seedlings were found to be resistant; whereas roots of the seedlings were susceptible to paper mill effluent treatment.

0601–291. Mandal Madhumanjari (Dept Bot, Scottish Church Coll, 1&3 Urquhart Squire, Kolkata 700006). **Physiological changes in certain test plant under automobile exhaust pollution.** *J Env Bio*, **27**(1) (2006), 43–47 [16 Ref].

Roadside plant can easily avoid the effects of air pollution by altering their physiological pathways pertaining to photosynthesis and respiration. Stomatal closure in *Boerhaavia*, *Amaranthus*, *Cephalandra* and stomatal clogging in *Nerium* and *Tabernaemontana* help these plant in preventing the entry of poisonous gases. The increased activity of the enzyme Phosphoenol Pyruvate Carboxylase (PEPCase) belonging to C₄ pathway helps *Nerium* and *Boerhaavia* (both C₃ plants) in carbon fixation under stress condition.

0601–292. Manivasagaperumal R, Vijayarengan P (Dept Bot (DDE), Annamalai Univ, Annamalai Nagar, 608002). **Effect of copper on biochemical changes in *Vigna radiata* (L.) Wilczek.** *Plant Arch*, **5**(2) (2005), 245–248 [27 Ref].

Copper was applied to the soil in the form of copper sulphate in different concentrations which the *Vigna radiata* plants were grown. The results after 45 days indicated that low level of copper concentration (50 mg kg^{-1}) showed a significant increase in the chlorophyll, sugar, starch, amino acid, protein, where as inhibitory nature was observed beyond these concentrations (100 to 250 mg kg^{-1}). At the same time reversible trend was observed for proline content.

0601–293. Nath Susanta, Halder P (Dept Zoo, Darjeeling Govt Coll, Darjeeling 734101). **Effect of heavy metals on population dynamics of an acridid, *Oedaleus abruptus*.** *J Env Sociobio*, **2**(1&2) (2005), 67–70 [11 Ref].

Communication deals with the effect of heavy metals pollution on the population fluctuation of an acridid, *Oedaleus abruptus*. The amount of lead, cadmium and copper crossed the recommended limit and tolerance limit in the industrial area. The study showed that toxic metal pollution has a significant role in population fluctuation of *Oedaleus abruptus*.

0601–294. Neelima P, Jaganmohan Reddy K (Dept Bot, Kakatiya Univ, Warangal 506009). ***In vitro* callus induction and regeneration with effect of some heavy metals in *Solanum melongena* L.** *Adv Plant Sci*, **18**(2) (2005), 457–466 [24 Ref].

Callus induction and regeneration was studied by incorporation of some heavy metals both individually and in some of their combination at different concentrations in MS media supplemented with 2 mg/l NAA and IAA+BA ($0.5+3 \text{ mg/l}$). The study was carried out to see the variation in induction, nature and growth callus and number of shoots produced in relation to metals. The overall effect of metals *in vitro* in relation to their concentrations on induction of callus and regeneration has been discussed in detail.

0601–295. Neelima P, Jaganmohan Reddy K (Dept Bot, Kakatiya Univ, Warangal 506009). **Bioabsorption of some heavy metals in different plant species.** *Nature Env Polln Techno*, **5**(1) (2006), 53–56 [15 Ref].

Paper presents the phytoaccumulation of some heavy metals in different parts of some cultivated plant species grown in soil incorporated with heavy metals at low and high concentrations. In general, plants grown in higher concentrations showed more absorption than the plant grown in soil with low concentrations of heavy metals. The screening of the plants and their significance in bioremediation of polluted soil at one hand and their exploitation of cultivation on other hands has been discussed.

0601–296. Pandey SN (Dept Bot, Lucknow Univ, Lucknow 226007). **Effect of brewery effluent on seedlings of *Cajanus cajan* and *Vigna mungo*.** *J Appl Biosci*, **32**(1) (2006), 199–122 [23 Ref].

Physico-chemical characteristics of a brewery effluent (Mohan Meakin's brewery, Lucknow) were analysed. Brewery effluent treated seedlings of *Cajanus cajan* (Linn.) and *Vigna mungo* (Linn.) showed reduced seed germination, radicle length and plumule length. Use of diluted effluent (50% with distilled water) produced less severe effects. The study revealed that brewery effluent without proper treatment induced phytotoxic effects in plants.

0601–297. Pandey SN (Bot Dept, Lucknow Univ, Lucknow 226007). **Accumulation of heavy metals (Cd, Cr, Cu, Ni and Zn) in *Raphanus sativus* L. and *Spinacia oleracea* L. plants irrigated with industrial effluents.** *J Environ Bio*, **27**(2 Supplement) (2006), 381–384 [27 Ref].

Plants of *S. oleracea* and *R. sativus* were raised in uncontaminated alluvial soil of Lucknow by soil pot culture method and irrigated with effluent from electro plating industry showed visual toxic symptoms like stunted growth, necrosis followed by chlorosis in leaves and finally death of the plants. Severity of toxicity was less in plants treated with diluted effluent (50%).

0601–298. Rajeswari M, Kalaicheivi K, Manian S, Jayashree Indramuthu (Dept Bot, Vellalar Coll Women, Erode-9). **Irrigational impact of dye house effluent on plant growth and soil characteristics.** *J Indl Polln Contl*, **21**(2) (2005), 299–304 [17 Ref].

Study reports effects of effluents from a medium sized dye house on plant growth and soil characteristics, Diluted effluent enhanced the plant growth while deleterious effects were noted at higher levels. Accumulation of various substances was also formed in the soil. In general the effluent was not suitable for irrigation.

0601–299. Rani Mamta, Pal Naresh, Sharma RK (Bot Dept, SSV (PG) Coll, Hapur 245101). **Effect of railway engines emission on the micromorphology of some field plants.** *J Environ Bio*, **27**(2 Supplement) 2006, 373–376 [20 Ref].

The plants selected for the present studies included *Croton bonplandianum*, *Cannabis sativa* and *Calotropis procera* growing very close to the railway tracks. The studies on these field plants revealed that diesel engines emission caused appreciable changes in the number of epidermal cells and stomata per unit area.

0601–300. Reshu (Dept Bot, MS Coll, Saharanpur, UP). **Effect of automobile exhausts on some biochemical characteristics of road side *Triticum aestivum* L.** *Adv Plant Sci*, **18**(2) (2005) 713–716 [8 Ref].

Paper summarizes the effect of air pollution on road side wheat crop particularly through automobile exhausts discharged by high traffic density on the main Bhagwanpur road of Saharanpur. The results show great variation in the development and number of spikelets in wheat plants present at 20 m distance away from road side as compared to crop present at 200 m distance away from road side.

0601–301. Sharma Sandhya, Johri RM, Snehlata (Dept Bot, MM HPGD Coll, Ghaziabad 201001). **Effect of paper mill industry effluent on chlorophyll content of same medicinal plants.** *Adv Plant Sci*, **18**(2) (2005), 691–692 [7 Ref].

The chlorophyll content showed a decreasing trend in the selected plants *Colotropis procera* R. Br. and *Solanum xanthocarpum* Schard & Wendl. growing around the industry, under the impact of paper mill effluent as compared to plant irrigated with normal water. The effluent was found to be acidic in nature (pH 3.6) with higher B.O.D. & C.O.D.

0601–302. Shukla OP, Rai UN, Pal Amit (Ecotoxic Bioremediation Gr, Natl Botl Res Inst, Lucknow 226001). **Accumulation of chromium and its phytotoxic effects on *Bacopa monnieri* L.** *J Ecophysio Occupl Hlth*, **5**(3&4) (2005), 165–169 [18 Ref].

Plants of *Bacopa monnieri* acclimatized in 10% nutrient medium under laboratory condition were subjected to six different concentrations of chromium. It was observed that *B. monnieri* accumulated different concentration of Cr and exhibited phytotoxic

responses. Thus the plant can be of great use in planning, monitoring and phytoremediation strategies of heavy metals polluted water bodies.

0601–303. Singh AK, Misra P, Tandon PK (Dept Bot, Univ Lucknow, Lucknow 226007), **Cadmium induced metabolic disorders in Pea (*Pisum sativum* L.).** *J Ecophysico Occupl Hlth*, **5**(3&4) (2005), 185–188 [29 Ref].

The effect of cadmium on the growth and metabolism of pea (*Pisum sativum* L.), plants was studied in sand culture. Growth in terms of shoot length and axillary branching were decreased at increasing doses of cadmium. Metabolic parameters such as chlorophyll and sugar content were found to be reduced at increasing doses of same metal. The increased activities of anti-oxidative enzymes were in response to generation of reactive oxygen species.

0601–304. Singh Prabhakar Pratap, Mall Manisha, Singh Jaswant (Dept Environ Sci, Dr RML Avadh Univ, Faizabad 224001). **Impact of fertilizer factory effluent on seed germination, seedling growth and chlorophyll content of gram (*Cicer arietinum*).** *J Environ Bio*, **27**(1) (2006), 153–156 [19 Ref].

The germination percentage of seed, seedling growth and chlorophyll content showed a gradual decline with increase in effluent concentration. However, at higher concentrations of the effluent toxic effects were observed at 21 days. The study suggests that the effluent can be used safely for *Cicer arietinum* cultivation, only after proper treatment and dilution.

0601–305. Singh Vivek Kumar, Singh Jaswant (Dept Environ Sci, Dr. RML Avadh Univ, Faizabad 224001). **Toxicity of industrial wastewater to the aquatic plant *Lemna minor* L.** *J Environ Bio*, **27**(2 Supplement) (2006), 385–390 [24 Ref].

Toxicity evaluation of industrial wastewater has been done by using bioassay system of an aquatic plant *Lemna minor* at different time intervals. Results of fresh and dry weight indicate significant decrease in industrial wastewater and sewage wastewater during the different seasons of the year. At 72 and 96 hr of industrial wastewater exposure, decrease in chlorophyll content was significant in comparison to control.

0601–306. Suthar Surendra S, Sharma Sandeep, Verma Pooja, Sharma Saruchi, Sunder Shyam, Pareek Gopesh (Environ Bio Lab, Dept Zoo, MD (PG) Coll, Sri Ganganagar

335001). **Impact of distillery effluent on seed germination and seedling growth of some plants.** *Nature Env Polln Techno*, **4**(3) (2005), 413–418 [10 Ref].

The percent of seed germination in *Vigna radiata*, *Cyamopsis tetragonoloba*, *Vigna aconitifolia* and *Trigonella foenum-graecum* was found maximum with treatment of 60% ($P < 0.001$), 80% ($P < 0.005$), 40% ($P < 0.0005$) and 100% ($P < 0.005$) respectively as compared to control. Similarly, root length and shoot height also showed maximum values with the range of 20-40% distillery effluent concentration as compared to control ($P < 0.001$). Nevertheless, increased concentration of distillery effluent significantly inhibited the plant development.

0601–307. Swain Trilochan (MGM Coll Edn Techno, Bhubaneswar). **The effect of climate on the growth of paddy.** *Asian J Water Env Polln*, **3**(1) (2006), 141–142.

There is no doubt that climate has effected our agricultural system and the growth of plant in different fields. The presence of pollutants in our atmosphere is increasing the global warming which directly effects the change of climate. Article discusses the change of climate affects the paddy in their growth.

0601–308. Taranath TC, Ratageri RH, Mulgund GS, Giryaparavar BS (Environ Bio Lab, PG Dept Bot, Karnataka Univ, Pavatenagar, Dharwad 580003). ***Cynodon dactylon* a phytotool to monitor heavy metal pollution in roadside environment.** *Nature Env Polln Techno*, **4**(3) (2005), 367–371 [7 Ref].

The heavy metals content in roadside grass, *Cynodon dactylon* Pers. and soil from six sampling sites on National Highway No. 4 were determined by atomic absorption spectrometry. Results showed that both soil and grass contained elevated levels of the metals examined. The increased circulation of toxic metals in soils and grasses may result in the inevitable buildup of such toxins in food chains.

0601–309. Tyagi Kavita, Lata Sneha, Johri RM (Dept Bot, MMH Coll, Ghaziabad 201001). **Impact of Magnum paper mill industry effluent on germination and early growth performance of *Achyranthes aspera* Linn. and *Ricinus communis* Linn.** *Adv Plant Sci*, **18**(2) (2005), 675–677 [7 Ref].

The germination was completely inhibited at 25% dilution in *Ricinus communis* whereas it was delayed upto 7th day of treatment in *Achyranthes aspera*. The root length was greatly inhibited in 50% and 100% dilution. The study revealed that in general amongst treated sets the shoot length and root length, fresh wt. and dry wt. of the selected medicinal plant were maximum in 50% on 5th, 7th and 9th day but less than control.

0601–310. Wath ND, Shukla Poonam V, Tambe Sarika B, Ingle ST* (*Sch Environ Earth Sci, North Maharashtra Univ, Jalgaon 425001). **Biological monitoring of roadside plants exposed to vehicular pollution in Jalgaon city.** *J Environ Bio*, **27**(2 Supplement) (2006), 419–421 [16 Ref].

It was observed that vegetation at roadside with heavy traffic and markets was much affected by vehicular emission. Significant decrease in total chlorophyll and protein content was observed with reduced leaf area. It is concluded that plants can be used as indicators for urban air pollution, and there is need to protect the roadside plants from air pollution.

0601–311. Wanmare DJ, Deshpande Jayashree (Dept Bot, Vivekanand Coll, Aurangabad 431002). **Effect of gaseous pollutants on spore germination of phyllosphere mycoflora.** *Bioinfontet*, **2**(3) (2005), 197–198 [2 Ref].

The effect SO_2 on spore germination of 14 fungal species from the phyllosphere of different ornamental plants was studied. There was a drastic reduction in spore germination of different fungal species under SO_2 environment. Similarly effect of H_2S was also studied on spore germination of 14 phyllosphere fungi, most of which were highly affected.